

# Single-Point Mini Hydrostatic Sensor for Double-Wall Sumps

## Installation Guide

# Notice

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## **DAMAGE CLAIMS / LOST EQUIPMENT**

Thoroughly examine all components and units as soon as they are received. If any cartons are damaged or missing, write a complete and detailed description of the damage or shortage on the face of the freight bill. The carrier's agent must verify the inspection and sign the description. Refuse only the damaged product, not the entire shipment.

## **VEEDER-ROOT'S PREFERRED CARRIER**

1. Contact VR Customer Service at 800-873-3313 with the specific part numbers and quantities that were missing or received damaged.
2. Fax signed Bill of Lading (BOL) to VR Customer Service at 800-234-5350.
3. VR will file the claim with the carrier and replace the damaged/missing product at no charge to the customer. Customer Service will work with production facility to have the replacement product shipped as soon as possible.

## **CUSTOMER'S PREFERRED CARRIER**

1. It is the customer's responsibility to file a claim with their carrier.
2. Customer may submit a replacement purchase order. Customer is responsible for all charges and freight associated with replacement order. Customer Service will work with production facility to have the replacement product shipped as soon as possible.
3. If "lost" equipment is delivered at a later date and is not needed, VR will allow a Return to Stock without a restocking fee.
4. VR will NOT be responsible for any compensation when a customer chooses their own carrier.

## **RETURN SHIPPING**

For the parts return procedure, please follow the appropriate instructions in the "General Returned Goods Policy" and "Parts Return" pages in the "Policies and Literature" section of the Veeder-Root **North American Environmental Products** price list.

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## Introduction

This manual contains procedures to install the Veeder-Root Single-Point Mini Hydrostatic Sensor for double-walled sumps. This manual assumes all preliminary site preparation is completed, and that wiring from the TLS Console to the sensor junction box in the sump is in place.

If this is a new installation or site preparation is necessary, refer to the appropriate Site Preparation and Installation manual, or contact your Veeder-Root representative for assistance.

## Contractor Certification Requirements

Veeder-Root requires the following minimum training certifications for contractors who will install and setup the equipment discussed in this manual:

**Level 1** Contractors holding valid Level 1 Certification are approved to perform wiring and conduit routing, equipment mounting, probe and sensor installation, tank and line preparation, and line leak detector installation.

**Level 2/3** Contractors holding valid Level 2 or 3 Certifications are approved to perform installation checkout, startup, programming and operations training, troubleshooting and servicing for all Veeder-Root Tank Monitoring Systems, including Line Leak Detection and associated accessories.





**Warranty Registrations** may only be submitted by selected Distributors.






## Related Manuals

- 576013-879 TLS-3XX Site Prep and Installation Manual
- 577013-879 TLS-4XX Console Site Prep and Installation Manual
- 576013-623 TLS-3XX Series System Setup Manual

## Safety Precautions


The following safety symbols are used throughout this manual to alert you to important safety hazards and precautions.




 <p><b>EXPLOSIVE</b> Fuels and their vapors are extremely explosive if ignited.</p>	 <p><b>FLAMMABLE</b> Fuels and their vapors are extremely flammable.</p>
 <p><b>TURN POWER OFF</b> Live power to a device creates a potential shock hazard. Turn Off power to the device and associated accessories when servicing the unit.</p>	 <p><b>TURN POWER OFF</b> Live power to a device creates a potential shock hazard. Turn Off power to the device and associated accessories when servicing the unit.</p>

 <div>USE SAFETY BARRICADES Unauthorized people or vehicles in the work area are dangerous. Always use safety cones or barricades, safety tape, and your vehicle to block the work area.</div>	 <div>READ ALL RELATED MANUALS Knowledge of all related procedures before you begin work is important. Read and understand all manuals thoroughly. If you do not understand a procedure, ask someone who does.</div>
 <div>WEAR EYE PROTECTION Fuel spray from residual pressure in the lines can cause serious eye injuries. Always wear eye protection.</div>	 <div>INJURY Careless or improper handling of materials can result in bodily injury.</div>
 <div>GLOVES Wear gloves to protect hands from irritation or injury.</div>	

Before You Begin

To protect yourself and your equipment, observe the following warnings and important information:

**WARNING**



This product is to be installed and operated in the highly combustible environment of a gasoline storage tank where flammable liquids and explosive vapors may be present.

1. Improper installation may result in fire or explosion causing serious injury or death.
2. Leaking underground tanks can create serious environmental and health hazards. It is your responsibility to install this product in accordance with the instructions and warnings found in this manual. Failure to do so could result in undetected potential environmental and health hazards.
3. Failure to install this product in accordance with its instructions and warnings will result in voiding of all warranties connected with this product.

System Description

The Veeder-Root Single-Point Mini Hydrostatic Sensor monitors the level of liquid in the interstitial space of a double-wall sump. When liquid in the sump's interstitial brine reservoir drops below a certain level, the sensor sends an alarm signal to the TLS Console. The console's visual and audible built-in alarm indicators immediately tell you where the problem is, so you can quickly take action to help prevent environmental problems.

Required Components







- Single-Point Mini Hydrostatic Sensor and install kit for double-wall sumps - P/N 794380-304

**Operating Capabilities**

- Operating temperature Range: -25°C to +50°C. Rests in salt brine solution of up to 30% calcium chloride.
- Storage Temperature Range: -40° C to + 60° C.
- Dimensions: 2.5" high, 1.50" diameter
- Cable length: 8 feet
- Minimum (alarm) operating liquid depth: 0.8"

## Installation

### Safety Warnings

 <b>WARNING</b>	
    	<p>This device is installed in equipment where potentially lethal voltages may exist and where product spillage could create serious environmental and safety hazards.</p> <p>The following hazards exist:</p> <ol style="list-style-type: none"><li>1. Electrical shock resulting in serious injury or death may result if power is on during installation and the device is improperly installed.</li><li>2. Product leakage could cause severe environmental damage or explosion resulting in death, serious personal injury, property loss and equipment damage,</li></ol> <p>Observe the following precautions:</p> <ol style="list-style-type: none"><li>1. Read and follow all instructions in this manual, including all safety warnings.</li><li>2. Comply with all applicable codes including: the National Electrical Code; federal, state, and local codes; and other applicable safety codes.</li><li>3. Before installing this device, turn off power to the system, including console and submersible pumps.</li><li>4. To protect yourself and others from being struck by vehicles, block off your work area during installation or service.</li><li>5. Substitution of components may impair intrinsic safety.</li></ol>

### Field Wiring Requirements

You must consult your console's latest Site Prep manual for required connection diagrams and wiring type, gauge, length, etc., needed for field wiring the sensor to the console.

### Installing Sensor



1. Turn OFF power to the console.
2. Make sure liquid is present in the sump's interstitial liquid reservoir. Important! Do not install the sensor if there is less than 0.8" of liquid in the reservoir. Failure to comply will lead to an alarm.
3. Lower the float switch assembly into the reservoir until it sits on the bottom of the reservoir as shown in the installation example in Figure 1. Note: the actual reservoir type and location will vary between sump manufacturers.

The sensor housing should not be suspended by the cable. Do not use more cable than necessary between the sensor and junction box to avoid excess cable being damaged when replacing the sump lid. Route and tie off the cable so that it can not be damaged by sump component installation or maintenance.

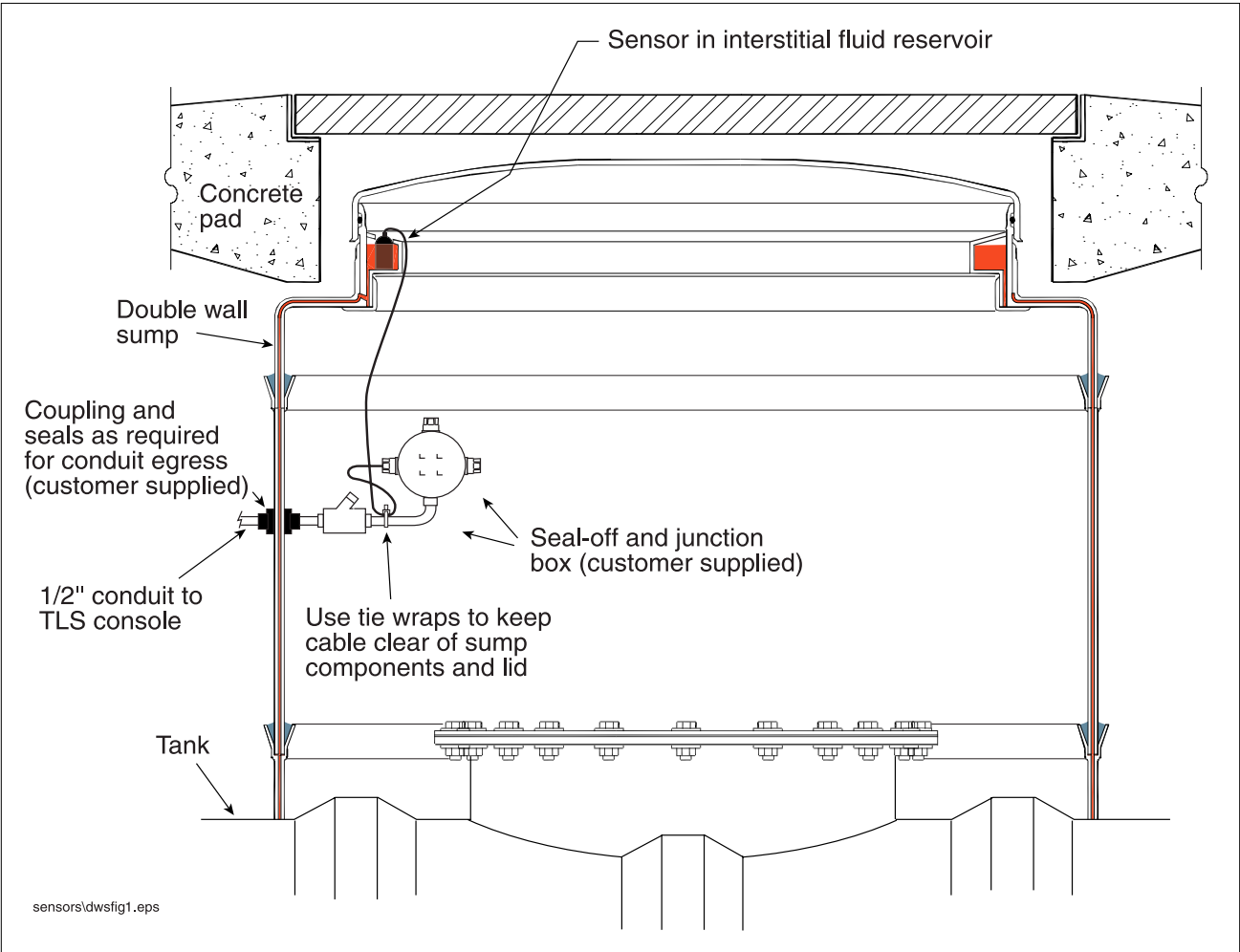


Figure 1. Example sensor installation

4. Using wire nuts, connect the two-wire sensor cable to the field wires in the sensor junction box (Figure 2).

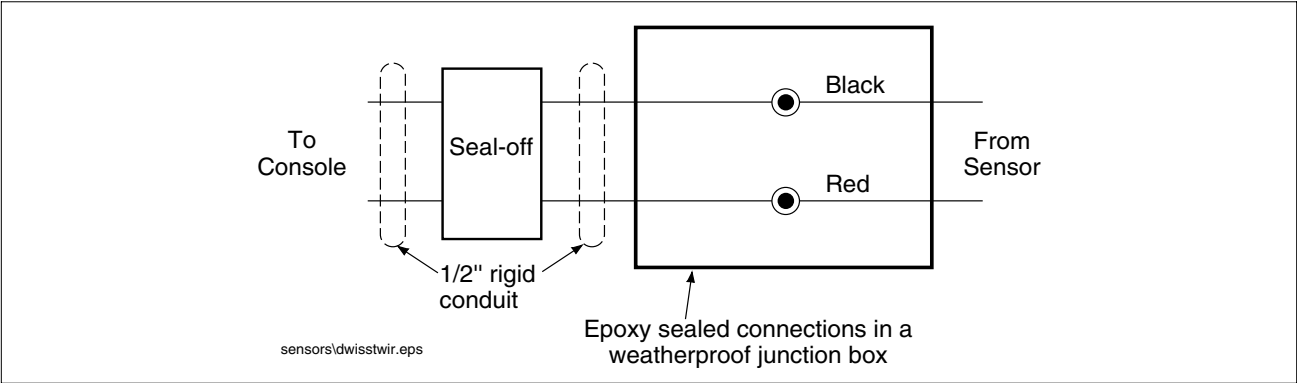
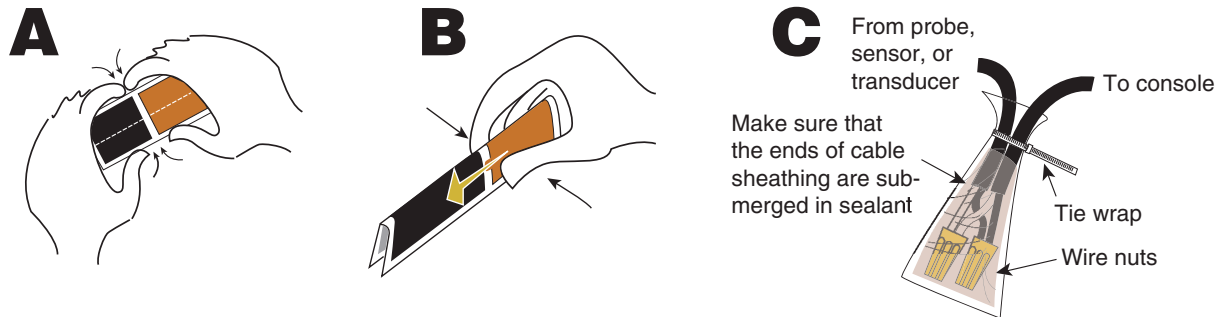


Figure 2. Sensor Wiring Installation Diagram



5. Seal wire nuts with epoxy sealant following the instructions in Figure 3



**Instructions:**

NOTE: When temperature is below 50°F (10°C), keep resin in a warm place prior to mixing (e.g., in an inside pocket next to body).

1. Open epoxy sealant package, and remove resin pak.
2. Holding resin pak as shown in A, bend pak along long length.
3. As shown in B, firmly squeeze the RED SIDE of the resin, forcing it through the center seal and into BLACK SIDE.

4. Mix thoroughly to a uniform color by squeezing contents back and forth 25-30 times.
5. Squeeze mixed, warm resin into one end of bag and cutoff other end.
6. Slowly insert wiring connections into sealing pak until they fit snugly against the opposite end as shown in C.
7. Twist open end of bag and use tie wrap to close it off and position the tie wrapped end up until the resin jells.



**CAUTION:** Epoxy sealant is irritating to eyes, respiratory system, and skin. Can cause allergic skin reaction. Contains: epoxy resin and Cycloaliphatic epoxycarboxylate.

**Precautions:** Wear suitable protective clothing, gloves, eye, and face protection. Use only in well ventilated areas. Wash thoroughly before eating, drinking, or smoking.

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Figure 3. Epoxy sealing example

