

# Mag Sump Sensor

## 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 for the installation or replacement of the Veeder-Root Mag Sump Sensor. This manual assumes all preliminary site preparation is completed, and that field wiring from the console to the pan/ sump junction box is in place.

Following Mag Sump Sensor installation, you will need to configure and select certain programmable features of this sensor at the TLS Console. NOTE: If the Mag Sump Sensor you are installing has **NO** programmable features (i.e., alarm upgrade delay, water warning height, or water alarm height), you will not be able to enter Mag Sensor Setup.

## Contractor Certification Requirements

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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

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









## Equipment Needed for Installation

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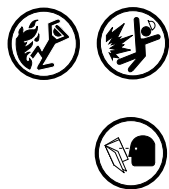
1. Mag Sump Sensor (available in two lengths):
  - 1-foot measurement range, 22-inch overall length - Part No. 857080-XX1
  - 2-foot measurement range, 34-inch overall length - Part No. 857080-XX2
2. Cable - 10 feet - Part No. 330272-002
3. Cable Seal Kit - Part No. 330020-067
4. Optional - Universal Sensor Mounting kit - Part No. 330020-012.

## 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>ELECTRICITY</b> High voltage exists in, and is supplied to, the device. A potential shock hazard exists.</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>WEAR EYE PROTECTION</b> Wear eye protection when working with pressurized fuel lines or epoxy sealant to avoid possible eye injury.</p>	 <p><b>GLOVES</b> Wear gloves to protect hands from irritation or injury.</p>
 <p><b>INJURY</b> Careless or improper handling of materials can result in bodily injury.</p>	 <p><b>READ ALL RELATED MANUALS</b> 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.</p>

## ! WARNING



This product is to be installed in systems operating near locations where highly combustible fuels or vapors may be present.

Fire or explosion resulting in serious injury or death could result if the equipment is improperly installed or modified. Serious contamination of the environment may also occur.

1. Read and follow all instructions in this manual, including all safety warnings.
2. Comply with all applicable codes including: the National Electrical Code; federal, state, and local codes; and other applicable safety codes.
3. Substitution of components may impair intrinsic safety.
4. Do not use this component for other systems aside from the TLS Console. Install only as described in this manual or you will void all warranties connected with this product.

# Installation

## Installation Requirements

1. The sensor must rest in the lowest point of the pan or sump and completely compress the position indicator or you will have a 'Sensor Out' alarm (see example illustrations).
2. The sensor should be mounted in a true vertical position to ensure proper operation of the sensor.
3. The sensor should be mounted such that you can pull the sensor straight out of the pan/sump if service is required.

## Installation Procedure

**IMPORTANT!** Do not install the sensor if there is any liquid in the pan or sump. Failure to comply can result in equipment damage or undetected potential environmental and health hazards.



1. Turn OFF power to the TLS Console.
2. Make sure no liquid exists in the pan/sump.
3. Remove Mag Sump Sensor from its shipping box. Hold the sensor flat (horizontally), and remove the insert from the outer tube of the sensor. **NOTE!** failure to remove the insert will result in an alarm condition following the setup procedure.

## Sensor Installation

Figure 1 through Figure 3 show sensor installation examples using rigid conduit to the console. However, direct burial cable could be used from the junction box to the console. Also, the examples make use of the optional universal sensor mounting kit.

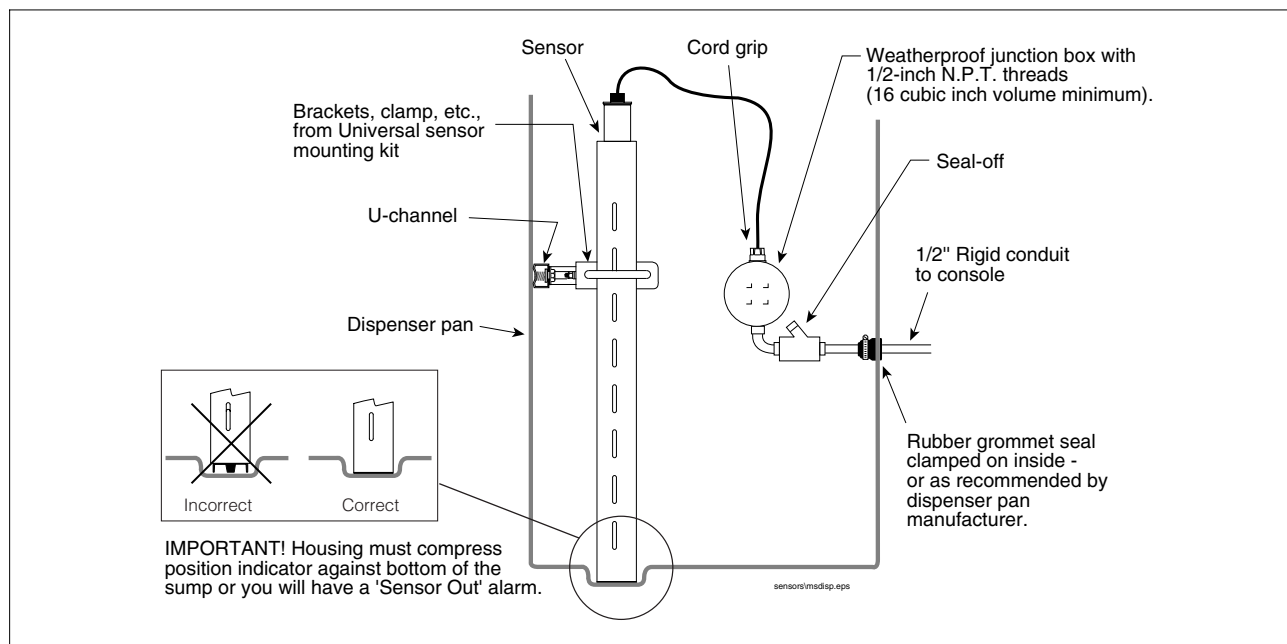


Figure 1. Example Dispenser Pan Installation

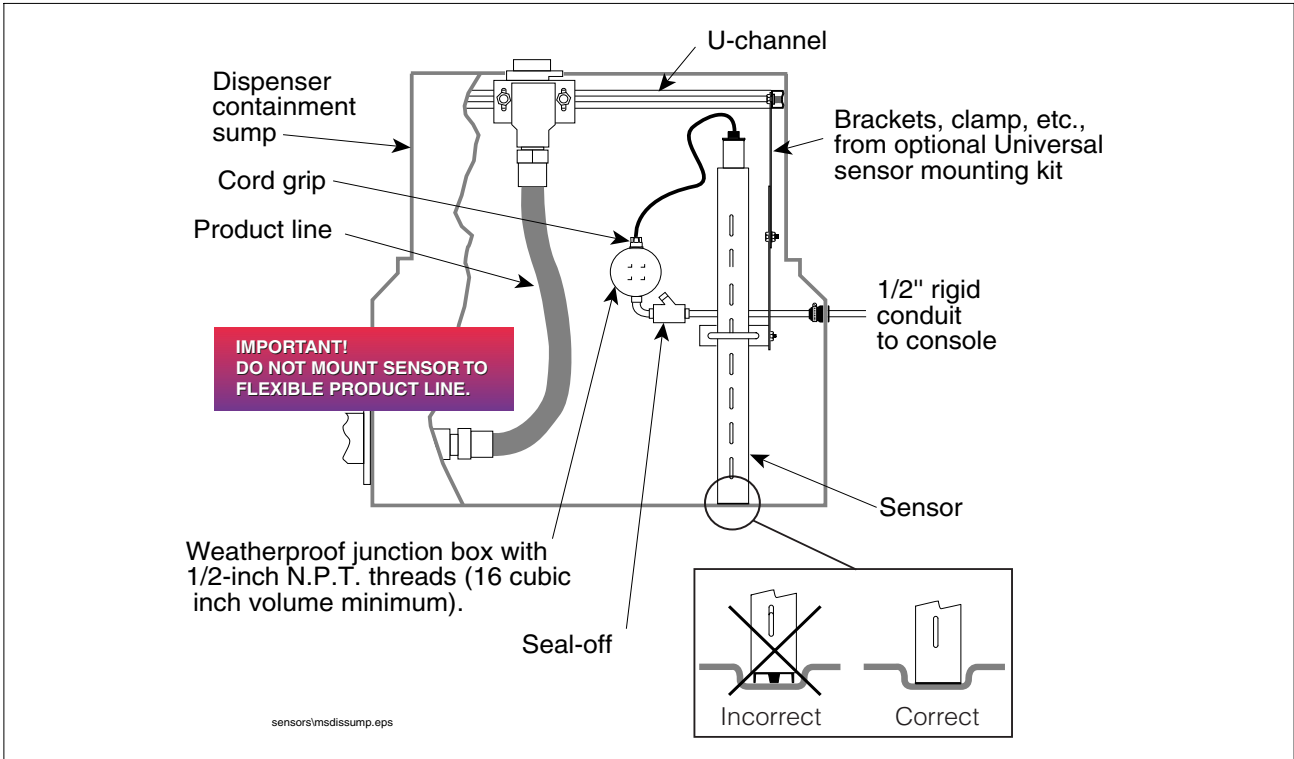


Figure 2. Example Dispenser Containment Sump Installation

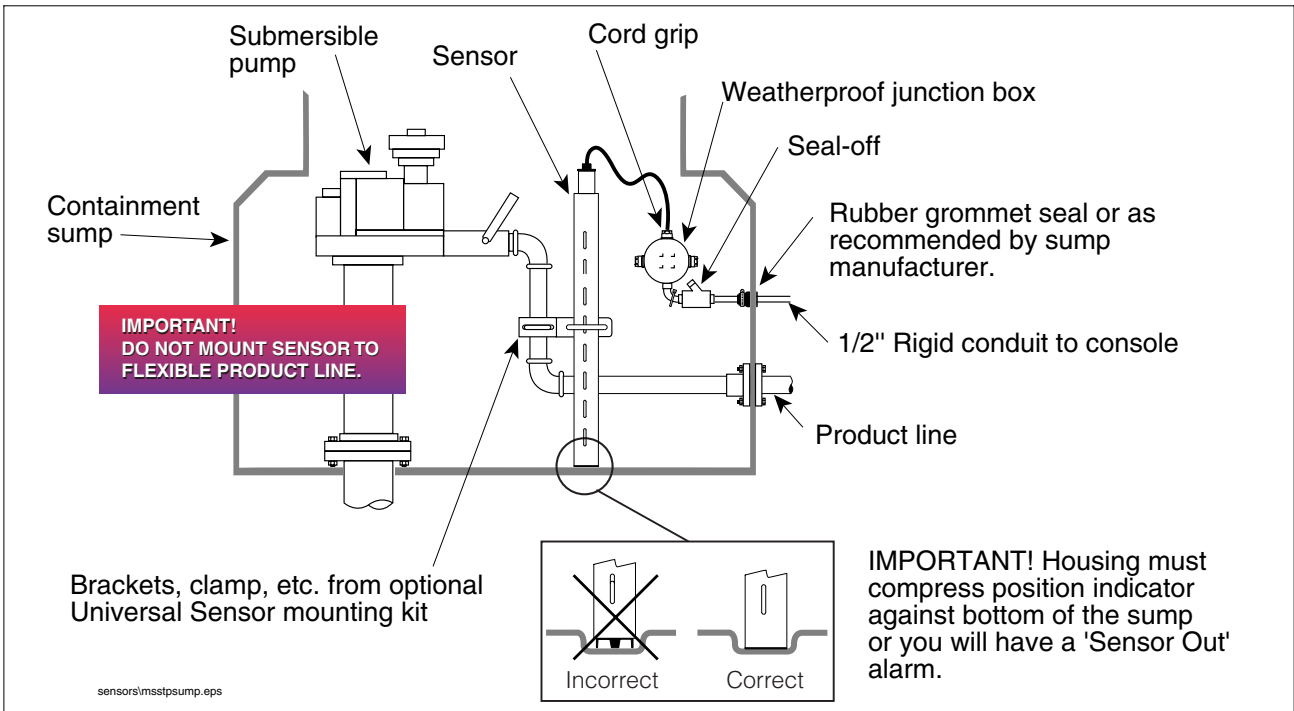


Figure 3. Example STP Containment Sump Installation

## Sensor Wiring

1. Firmly hold the top of the sensor, and attach the sensor cable connector into the receptacle in the top of the sensor. Be sure the connector is attached securely by tightening the locking nut.
2. Install the cord grip supplied with the cable seal kit in the pan/sump junction box in which the field wiring from the console terminates.
3. Coil up the excess cable and tie wrap it out of the way. Feed the two-lead end of the sensor cable through the cord grip in the junction box. Tighten the cord grip nut to ensure a watertight seal at the cable entry.
4. Using wire nuts, connect the two-wire cable to the field wires from the console as shown in Figure 4.

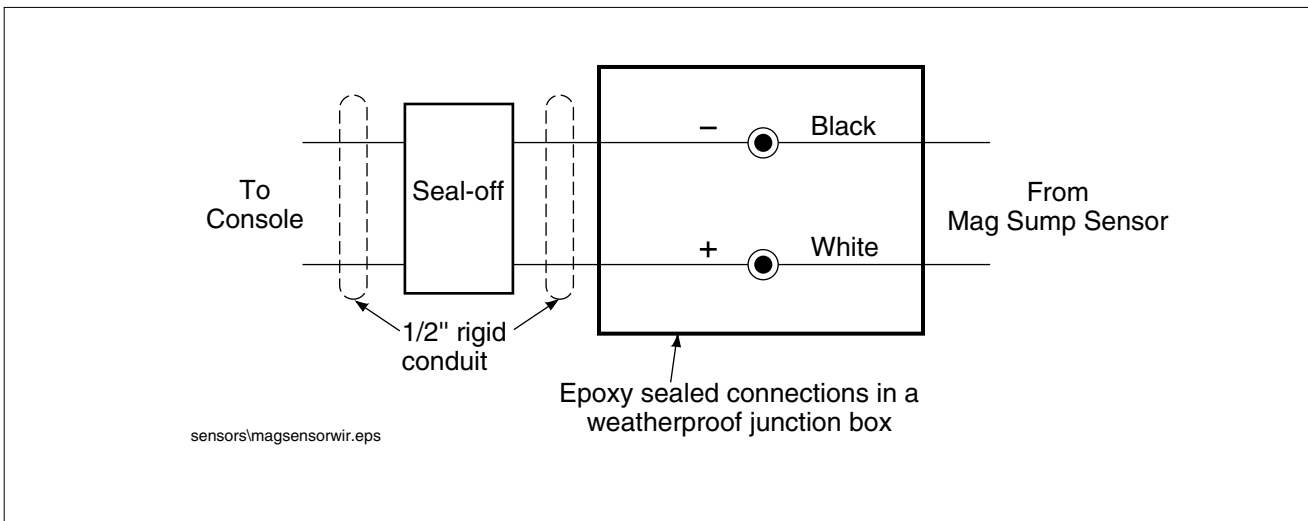
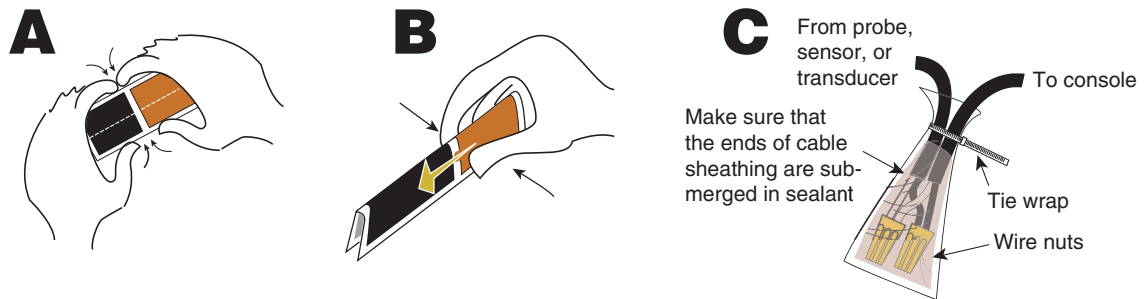


Figure 4. Field Wiring Connections (Observe Polarity)

5. Seal wire nuts with epoxy sealant following the instructions in Figure 5.
6. Push the epoxy sealed bag into the junction box. Replace and tighten the junction box cover.
7. The Mag Sump sensor connects to a Smart Sensor module in the TLS-3XX Console or to a USM module in the TLS-4XX Console - observe polarity.



**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 pack 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.

consolesepoxy2w.eps

**Figure 5. Epoxy Sealing Two-Wire Connections**

