

# Mag Plus Density Probe

## Assembly Guide

# Notice

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Contact TLS Systems Technical Support for additional troubleshooting information at 800-323-1799.

## **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 must be notified of any damages and/or shortages within 30 days of receipt of the shipment, as stated in our Terms and Conditions.

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

1. Contact Veeder-Root 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 Veeder-Root Customer Service at 800-234-5350.
3. Veeder-Root 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, Veeder-Root will allow a Return to Stock without a restocking fee.
4. Veeder-Root 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" pages in the "Policies and Literature" section of the Veeder-Root **North American Environmental Products** price list. Veeder-Root will not accept any return product without a Return Goods Authorization (RGA) number clearly printed on the outside of the package.

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# Introduction

This manual describes how to identify and assemble the components of the Mag Plus Density Probes. Instructions are included for assembling floats onto the probe's shaft, attaching spacer rings to the probe's canister, and attaching the probe's cable to the probe.

For guidelines on site preparation, instructions on installing the probe into a tank, and instructions on connecting wiring from the probe to the console, you must refer to the appropriate Veeder-Root Site Preparation and Installation manual.

For setup information, you must refer to the appropriate Veeder-Root Setup manual.

## Important

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Some of the installation kit components, such as epoxy packs, will be needed when installing the probe into the tank. Do not discard any unused parts.

Make a record of the float size and Density Code that is installed on each probe. The installed float size and Density Code will be required for each probe during system 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:

**Installer (Level 1) Certification:** Contractors holding valid Installer Certification are approved to perform wiring and conduit routing; equipment mounting; probe, sensor and carbon canister vapor polisher installation; wireless equipment installation; tank and line preparation; and line leak detector installation.

**ATG Technician (Level 2/3 or 4) Certification:** Contractors holding valid ATG Technician Certifications are approved to perform installation checkout, startup, programming and operations training, system tests, troubleshooting and servicing for all Veeder-Root Series Tank Monitoring Systems, including Line Leak Detection. In addition, Contractors with the following sub-certification designations are approved to perform installation checkout, startup, programming, system tests, troubleshooting, service techniques and operations training on the designated system.

- Wireless 2
- Tall Tank

**VR Vapor Products Certification:** Contractors holding a certification with the following designations are approved to perform installation checkout, startup, programming, system tests, troubleshooting, service techniques and operations training on the designated system.

- ISD – In Station Diagnostics
- PMC – Pressure Management Control
- CCVP - Veeder-Root Vapor Polisher
- Wireless – ISD/PMC Wireless
- A current Veeder-Root Technician Certification is a prerequisite for the VR Vapor Products course.

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

## Related Manuals

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After assembly, consult the appropriate Site Prep and Installation Manual for your console prior to installing the probe in the tank.

# Mag Plus Density Probe Installation Kits

## Installation Kits

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Available Mag Plus Density Probe installation kits are listed in Table 1 and Table 2. The kit components can be identified in Figure 1.

**Table 1. Installation Kit (with seal kit) - P/N 886002-XXX or P/N 886000-XXX**

Qty.	Description	Part Number
1	Cable	330272-00X
1	Product Float	331XXX-001
1	Water /Density Float	33311X-00X
1	Boot	333202-001
2	Canister Spacers	332457-001 (2-inch riser),or 331555-001 (3 - 4-inch risers)
1	Cable Seal Kit	330020-121

**Table 2. Installation Kit (without seal kit) - P/N 886001-XXX**

Qty.	Description	Part Number
1	Cable	330272-00X
1	Product Float	331XXX-001
1	Water /Density Float	33311X-00X
1	Boot	333202-001
2	Canister Spacers	332457-001 (2-inch riser),or 331555-001 (3 - 4-inch risers)

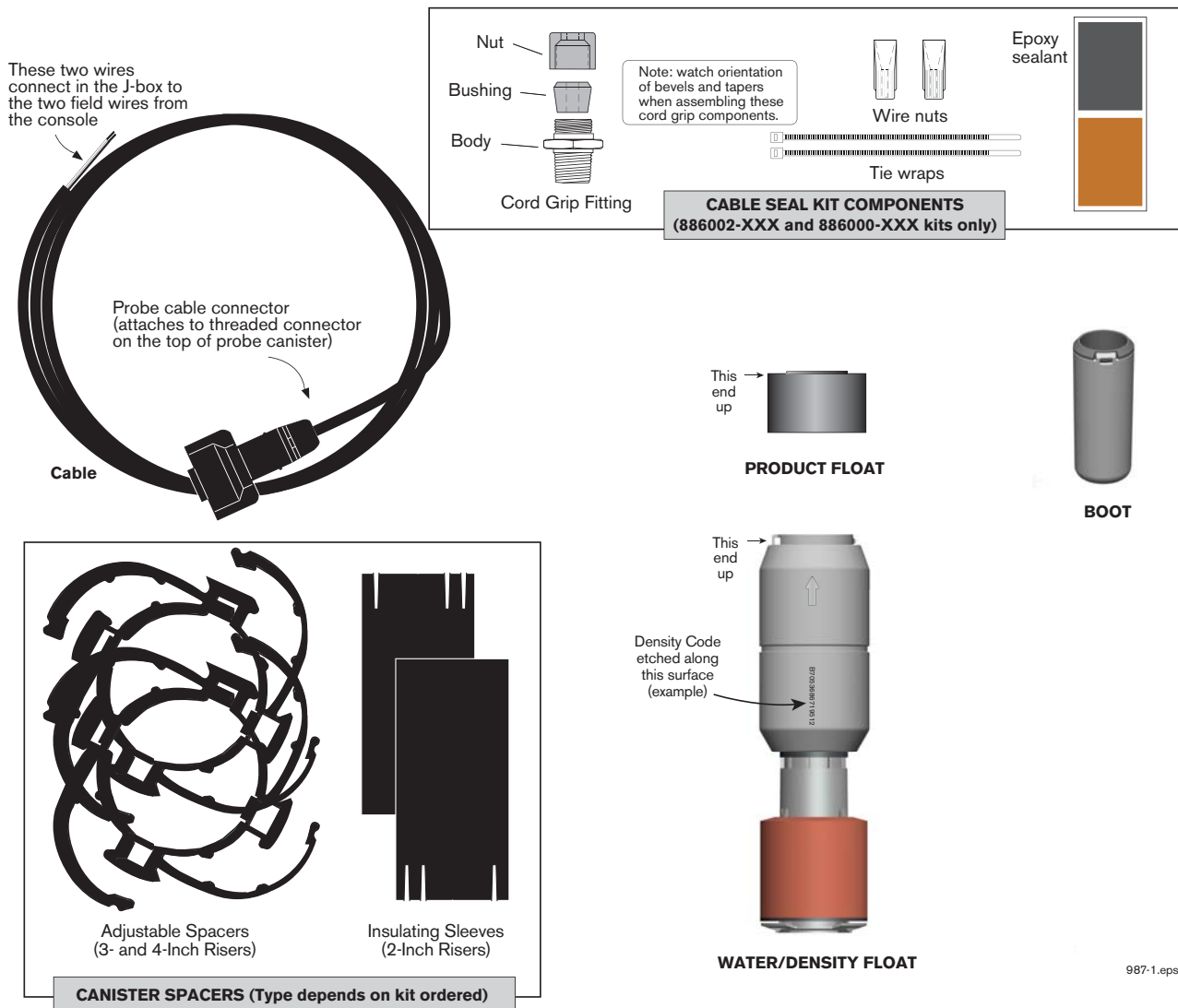


Figure 1. Identifying Mag Plus Density Probe Installation Kit Components

## Assembling Probe Components

### Attaching Probe Canister Insulator Sleeves (2-Inch Risers)

1. Open the Probe shipping carton so that you have access to the probe. Also open the installation kit.
2. Install the two canister sleeves onto the probe canister as shown in Figure 2.

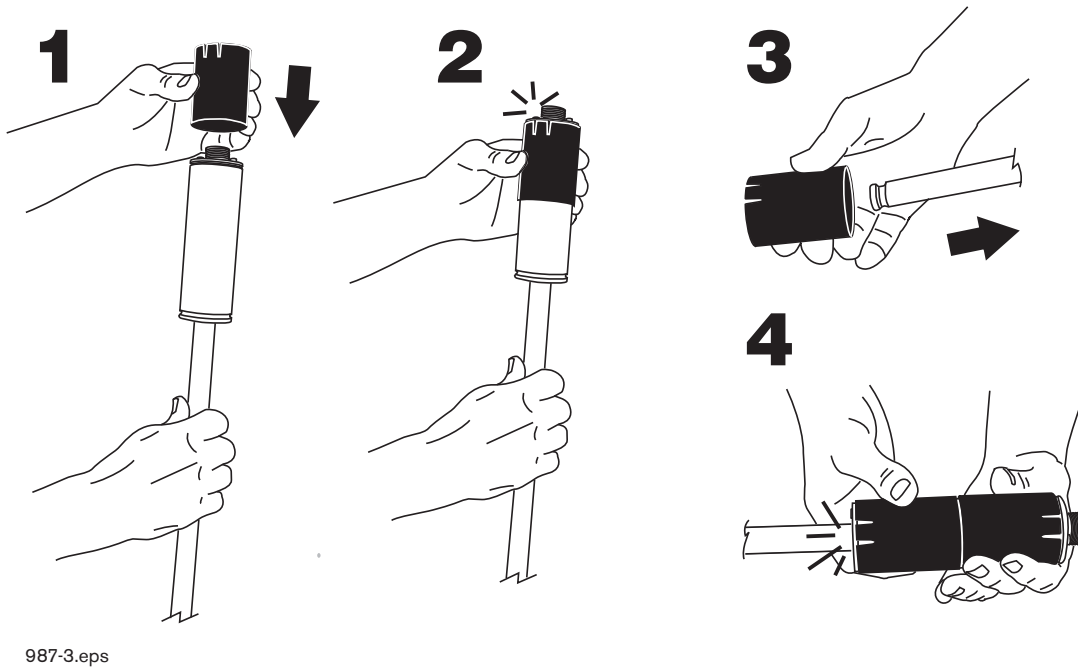
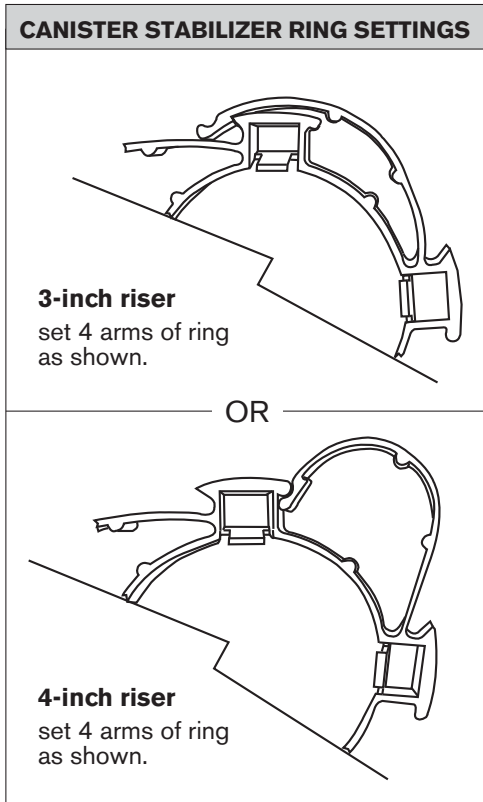


Figure 2. Installing Probe Canister Insulator Sleeves

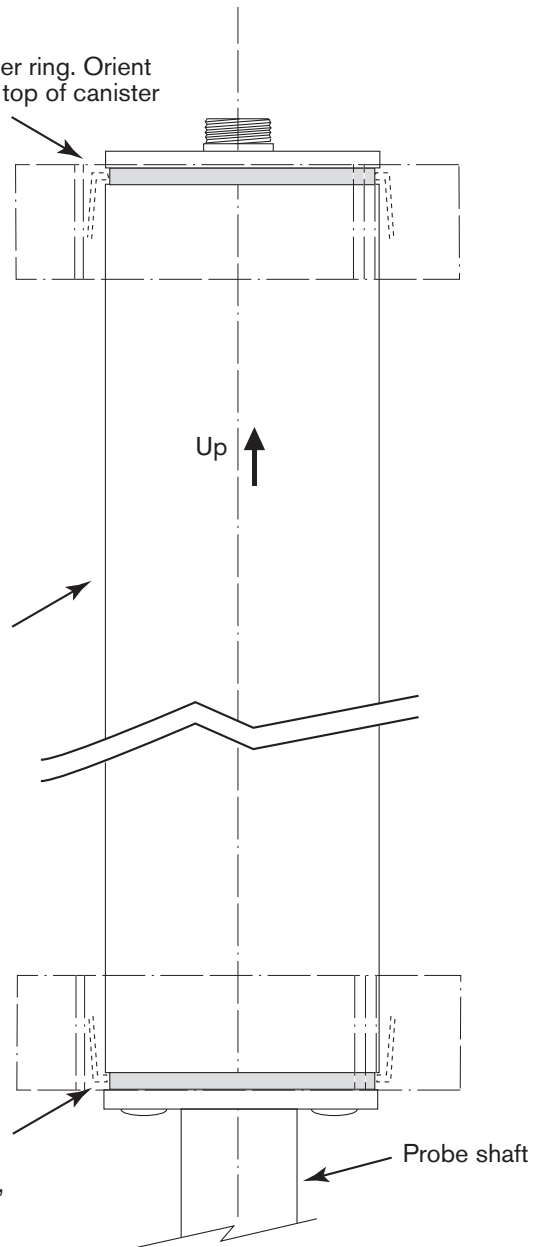
### Attaching Probe Canister Stabilizer Rings (3- & 4-Inch Risers)

1. Open the Probe shipping carton so that you have access to the probe. Open the installation kit.
2. Set the adjustable arms of the rings for a 3- or 4-inch riser (see Figure 3) as required. Install the two stabilizer rings onto the probe canister as shown in the figure. Note: you must slide the bottom ring up over the probe shaft and onto the lower end of the canister.

After setting arms (see insert) install top stabilizer ring. Orient locking tabs as shown, and then slide ring over top of canister until tabs snap into groove in canister.



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After adjustment (see insert) install bottom stabilizer ring. Orient locking tabs as shown, and then slide ring up over probe shaft and onto bottom of canister, until tabs snap in groove.

Figure 3. Installing Probe Canister Spacer Rings



## Assembling Floats onto Probe Shaft

All sizes of the Product and Water/Density Floats and the Boot are assembled on the probe shaft in the exact sequence and orientation shown in Figure 4.

**IMPORTANT!** Failure to push the boot as far as possible onto the probe shaft could cause the boot and float(s) to fall into the tank. The boot must be pushed on until it “locks” on the probe shaft.

Handle the probe carefully. Striking or dropping the probe will result in loss of calibration and could cause permanent damage.

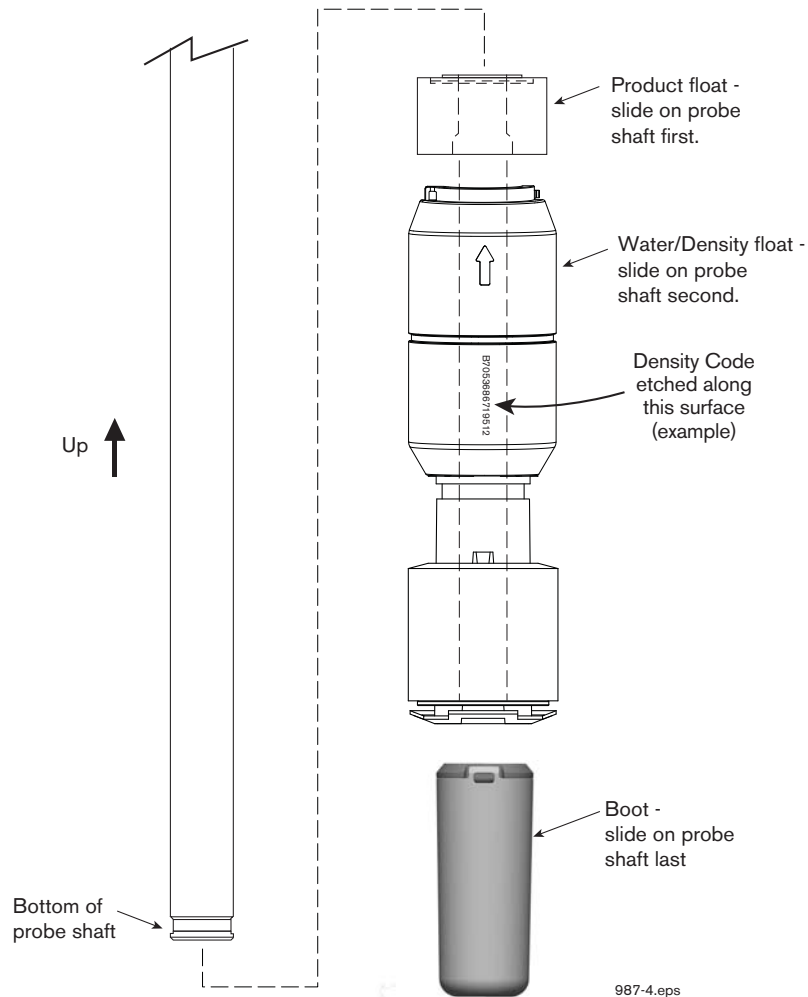


Figure 4. Example Installation of Density Probe Floats and Boot

## Attaching Cable Connector to Probe Canister

1. Make a record of the float size and Density Code (see Figure 4) for each probe (you can record float data in Table 3). This information will be needed during console configuration.

**NOTE:** If the Density Code is not available or is not entered into the console during configuration, the density measured accuracy will default to  $\pm 2 \text{ kg/m}^3$ .

2. Insert probe into the tank. Attach the existing cable connector to the threaded connector on top of the probe canister and tighten down the integral nut.
3. Save the remaining kit components and refer to the appropriate Site Prep Manual to install the probe in the tank and connect it to the field wiring from the console.
4. Refer to the appropriate console setup instructions to configure the Mag Plus Density Probe.

**Table 3. Record of Installed Probe Float and Density Codes by Tank**

<b>Tank/Product</b>	<b>Float Size</b>	<b>Density Code</b>
<b>1/</b>		
<b>2/</b>		
<b>3/</b>		
<b>4/</b>		
<b>5/</b>		
<b>6/</b>		
<b>7/</b>		
<b>8/</b>		
<b>9/</b>		
<b>10/</b>		
<b>11/</b>		
<b>12/</b>		
<b>13/</b>		
<b>14/</b>		
<b>15/</b>		
<b>16/</b>		
<b>Example</b> → 4/Diesel	2-inch	B7053686719512

