INCON
Franklin Fueling Systems

Probe Installation Quick Reference Guide

Safety

Warning **Always lock out and tag electrical circuit breakers while installing or servicing this equipment.**

Warning **Follow all federal, state and local laws governing the installation of this product.**

Warning **Always secure the work area from moving vehicles.**

Purpose of this Guide

The purpose of this guide is to show basic installation information for magnetostrictive probes, floats and installation kits offered by Franklin Fueling Systems. For more detailed information, refer to manual 000-2081, TSP-LL2 Magnetostrictive Probe Installation. This and other related manuals are available on the web at www.franklinfueling.com –Service –Technical Documentation–Fuel Management Systems.

Types of probes

- Level / Leak Detection
- Inventory-Specific

Probe Length

The probe model number indicates its length. The model numbers are in the form TSP-LL2-*xxx*, where *xxx* = the length of the probe shaft (not including probe head) in inches. Consider riser height and overhead clearance when selecting probe length.

For example, the TSP-LL2-101 is for 8’ (96") tanks.

Float Kits

Floats are available for 2", 3" and 4" risers, for gasoline or diesel. (LPG and chemical floats also available).

Each float kit includes a product and water float. Order one float set for each LL2 Mag probe.

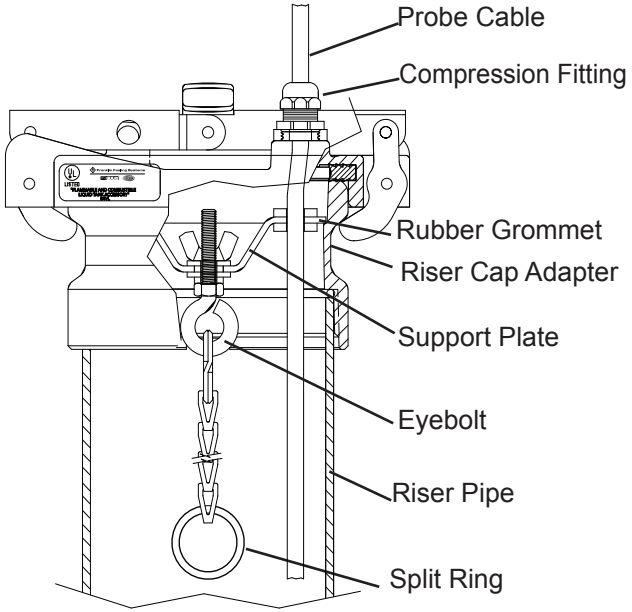
- Product floats are white (clear)
- Gasoline water floats are red.
- Diesel water floats are blue

Probe Installation Kits

Installation kits are available for 2" and 4" risers with either NPT or BSP threads. Kits for above-ground tank probes and LPG probes are also available.

Mounting Suspended Probes

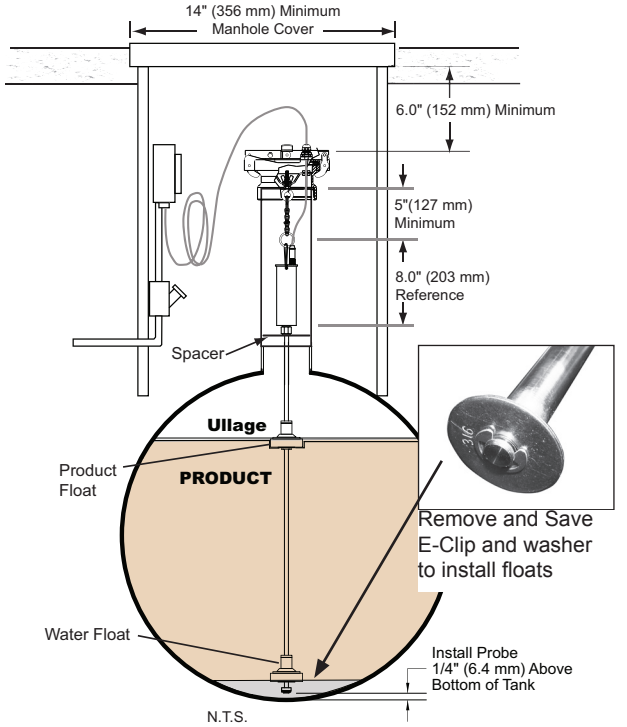
Leak Detection Probes **must be suspended ¼"** above the bottom of the tank using one of the appropriate installation kits.



Suspended Probe Installation Detail (TSP-K4A shown)

Installation

1. Measure from the top of the riser pipe to the bottom of the tank-record value in inches.
2. Measure the overall length of Probe.
3. Subtract the probe length from the distance measured from the top of the riser pipe to the bottom of the tank, and then add 1/2 inch to this distance. This value is the **TOTAL LENGTH OF THE CHAIN INCLUDING THE SPLIT RING AND ADJUSTMENT EYEBOLT.**
4. The suspension chain must be cut to the exact length required.
5. Remove the split ring from the end of the chain and cut the chain to the correct length.
6. Reattach the split ring to its end and measure the total overall length to make certain that it is within one half inch of correct value.
7. Apply pipe sealant to the male riser threads.
8. Screw the riser cap adapter into the top of the riser pipe. Tighten to 20-25 ft-lbs.
9. Connect the probe to the split ring on the chain.
10. Carefully position the steel support plate containing the rubber grommet and insulating shoulder washer into the riser cap.
11. Guide the probe cable through the rubber grommet.
12. Unscrew the adjusting eyebolt so the probe just touches the bottom of the tank.
13. Turn the wing nut clockwise, 4 full turns (only). This will raise the probe approximately ¼" above the bottom of the tank.
14. Push the probe cable through the compression fitting on the probe cap.
15. Install the probe cap on the riser cap adapter such that the compression fitting is aligned with the rubber grommet.
16. Tighten compression fitting to make a watertight seal.

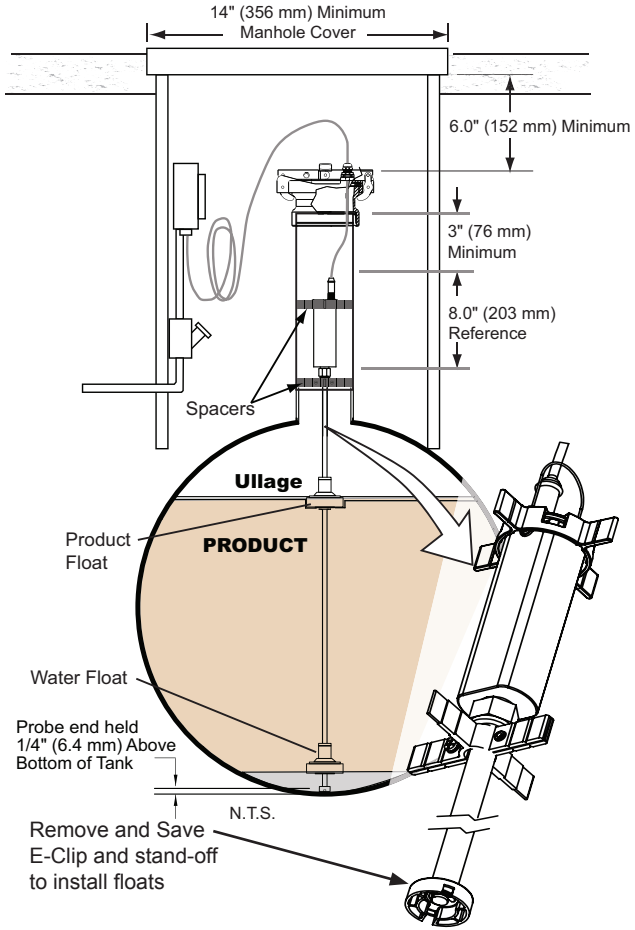


Suspended Probe Installation

Mounting Bottom-Mount Probes

Inventory probes come with hardware that allows them to be installed resting on the bottom of the tank. This hardware includes an extra spacer for the probe head and a ¼" tall foot for the end of the shaft.

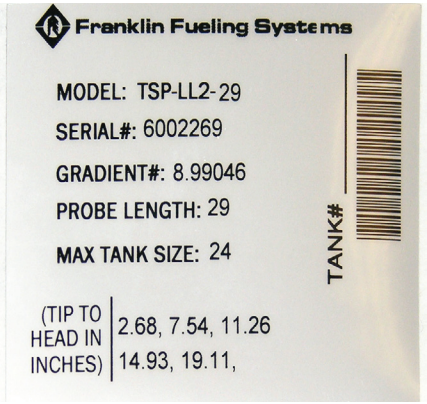
When using a 2" riser you will remove the top spacer and replace the bottom spacer with the 2" spacer included with the 2" floats. When using a 3" riser, break off tabs on the top spacer and replace the bottom spacer. No modification is needed for the 4" risers. This is solely for the Inventory control probes, all leak detection probes MUST BE suspended.



Bottom-Mount Probe Installation (Inventory Probes Only)

Record Probe Information

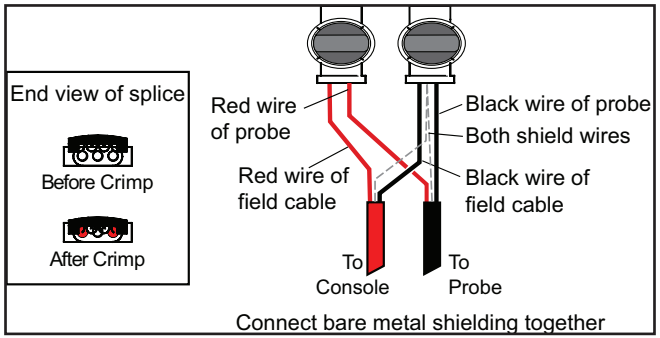
Probe information is needed when programming the tank gauge. Find the information label included in the probe splice kit and record which tank the probe is installed in. Provide this to the person programming the tank gauge.



Sample Probe Information Label

LL2 Probe Splice Kit – Installation Instructions

The Liquid Level Probe Splice Kit includes 2 Electrical Connectors for installation inside the manhole Junction Box.*



Splice Kit for Probe Wiring

1. Insert 2 red *unstripped* wires into two separate openings of the first connector.
2. Insert 2 black *unstripped* wires into two separate openings of the second connector and then insert the 2 shield wires into the remaining opening of the second connector.
3. Squeeze each connector together using 8" slip-joint pliers.
4. The white wire inside yellow probe cable is not used. Cut the white wire back flush to the jacket of the yellow probe cable.

* Refer to manual 000-1041, Direct Burial Cable Installation Instructions and 000-1133, Direct Burial Splice Kit Installation Guide, for information about direct-burial applications.

INCON® Franklin Fueling Systems

Probe Installation Quick Reference Guide

Density Float

The product float and density float are matched and must be purchased as a set.

Refer to manual 000-0527, Density Measurement Option Installation Guide, for information about installing and programming density floats.

Tank Gauge Setup

Refer to manual 000-2142, Fuel Management System Programming Guide and 000-2150 Fuel Management System Installation Guide for information about setting up the probe with the tank gauge with the TS-5 series consoles.

For Colibri Tank Gauge Consoles, refer to manual 000-2153, Colibri Automatic tank Gauge Installation Guide, and 000-2155, Colibri Set-Up and Operation Guide. For Colibri manuals on the web, go to: www.franklinfueling.com/colibri/literature.aspx

INCON®
Franklin Fueling Systems
www.franklinfueling.com

3760 Marsh Road • Madison, WI 53718, U.S.A.
Tel: +1 608 838 8786 • Fax: +1 608 838 6433
Tel: USA & Canada 1 800 225 9787 • Tel: México 001 800 738 7610

Franklin Fueling Systems GmbH
Rudolf-Diesel-Strasse 20 • 54516 Wittlich, GERMANY
Tel: +49-6571-105-380 • Fax: +49-6571-105-510