



Warrick® Series DWP-25 Water Probe and DFP-25 Fuel Probe Installation and Operation Bulletin

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Rev. B

This bulletin should be used by experienced personnel as a guide to the installation of the DWP-25 water probe and DFP-25 fuel probe. Selection or installation of equipment should always be accompanied by competent technical assistance. We encourage you to contact Gems Sensors Inc. or its local representative if further information is required.

Important

Before proceeding to install and wire the control, read and thoroughly understand these instructions.

These instructions are for a single tank. The procedure should be repeated for each tank. These sensors will work with any of the DMS, TA or other monitoring panels manufactured by Warrick Controls.

INSTALLATION INSTRUCTIONS

Intrinsically safe wiring must be kept separate from non-intrinsically safe wiring. An approved seal should be used at the point where the intrinsically safe control circuit wiring enters the hazardous zone. For intrinsically safe wiring use #14-16 AWG type MTW or THN wire. For additional guidance on "Hazardous Location Installations" and "Intrinsically Safe Devices", consult ANSI/ISA Standard RP 12-6 or NEC articles 500-516.

- 1. Install Half Nipple:** Separate the threaded half nipple from the DSC-24A cap (the two pieces slip together). Apply pipe compound to the threaded half nipple. Thread the half nipple into the tank fitting and hand tighten. Tighten an additional 1/2 turn using a strap wrench. If a strap wrench is not available, place the shaft of a long screwdriver across the half nipple in the notches applying downward pressure while rotating the screwdriver shaft to prevent slippage.
- 2. Feed Sensors Through DSC-24A Cap:** Loosen the compression nuts on the compression fittings of the DSC-24A cap. Feed the wire ends of the DFP-25 and the DWP-25 probe sensors through the underside of the DSC-24A cap. Continue to feed the probe sensors through the compression fittings until the desired installation depth markings are level with the tank fitting (probes are marked for proper installation depths for 4, 6, 8, and 10 foot tank diameters). Additional length may be required for riser pipe length. Tighten the compression nuts on the compression fittings of the DSC-24A cap (see figure 1-1).
- 3. Install the Compression Fittings at the Junction Box:** Thread the two compression fittings supplied, into the NEMA 4 watertight junction box.

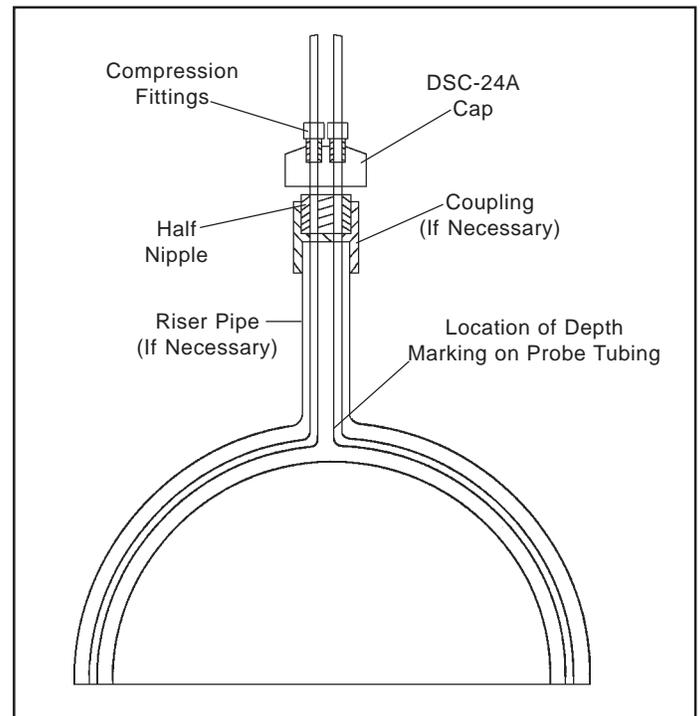


Figure 1-1

- 4. Feed the Sensors into the Junction Box:** Feed the wire ends of the probe sensors into the compression fittings at the junction box and pull through the excess tubing. Be sure to leave enough extra tubing between the junction box and the cap so when the cap is slipped over the half nipple the tubing reaches the junction box.
- 5. Cut Probe Tubing:** Mark the tubing at the appropriate length to reach the junction box fittings. Using a tubing cutter, cut only the tubing and not the enclosed wires. Insert the wire ends back into the compression fittings and feed into the junction box until the tubing is inside the junction box. Tighten the compression nuts on the compression fittings.

6. **Cut Probe Wires:** Cut and strip the sensor wires in the junction box for splicing to the wiring from the DMS Leak Detection Panel.
7. **Connect Sensor Wires to Panel Wires:** See panel instructions for wiring terminal numbers
8. **Probe System Test:** With the power applied to the control system and the probes not activated, the normal light should be illuminated continuously. To test the DFP-25 fuel probe, unscrew the tip of the probe. The audible alarm should sound, the normal light should turn off and the warning light should illuminate. [Depressing the fuel check button should deactivate the warning condition. Releasing the button should cause the alarm to return]. Connecting the tip to the probe should return the alarm condition to normal. To test the DWP-25 water probe, immerse the probe tip in a cup of water. The audible alarm should sound, the normal light should turn off and the warning light should illuminate. [Depressing the water check button should deactivate the warning condition. Releasing the button should cause the alarm to return]. Removing the probe from the cup of water should return the alarm condition to normal. Note: [] pertains to units with fuel/water check buttons only.

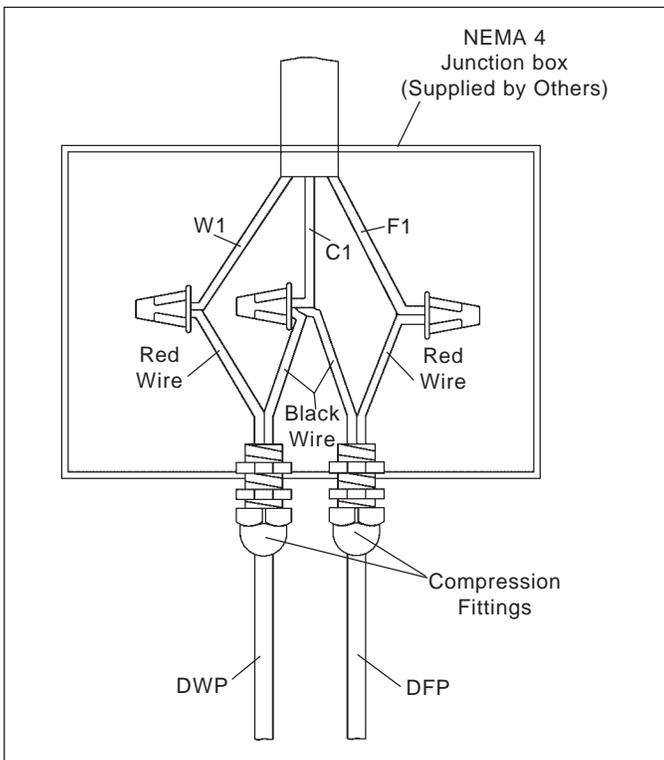


Figure 2-1

9. **Feed the Probe Sensors into the Tank:** Loosen the compression nuts on the compression fittings of the DSC-24A cap. The DFP-25 and DWP-25 probe sensors should be fed down the opposite sides of the tank's annular space. To feed the DFP-25 and DWP-25 probe sensors into the annular space, put a slight bend in the sheathing at the tube to sensor connection. The flexible tubing will adjust to the contour of the tank wall. Feed the probe sensors into the annular space until the probe depth markings are level with the tank fitting, not the top of the riser pipe.
10. **Complete Installation:** Slip DSC-24A cap over the half nipple. Tighten compression nuts (see figure 2-2).

Repeat Probe System Test at least once per year.

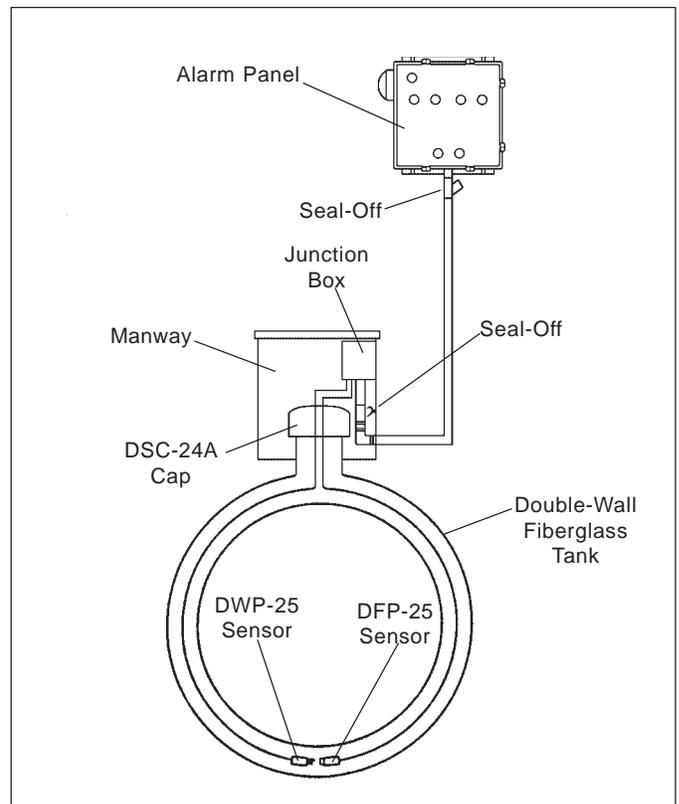


Figure 2-2

Note: DFP-25 fuel probe sensor must be replaced after detection of hydrocarbon. It is designed for a 1 time use only. Please contact Gems Sensors for replacement.

Caution: All sensor, access fittings and wiring must remain accessible after tank installation. Use of riser pipes, manways and manhole covers may be required. Contact factory for technical assistance.



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