Quality Petroleum Equipment
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Installation of the 99 LD-2000 & 99 LD-2200 Leak Detectors

September 1, 2012

Before Installation:

1. **If the line system is new, before installing a leak detector, purge the system of any air.**

2. **Turn off the submersible pump breaker and install the VMI LDT-890 Leak Detector Tester at the impact valve of the farthest dispenser. Following directions of the LDT-890 Test Protocol: determine bleed-back (line resiliency) - should be 400 ml or less, full pump pressure (should be 14-50 psi), and line pressure with pump off (static pressure).**

3. **Before replacing an existing leak detector because of 1) Failure to open, or 2) Leak detector is slow to open, determination should be made as to: Is this line system tight? Is thermal contraction occurring? A leak below 3 gph @ 10 psi will slow down the opening time of a leak detector. Thermal contraction will also slow down opening time of a leak detector. Should a precision line test be conducted to ensure line integrity? A line test should also be conducted when installing a leak detector in the system for the first time.**

To Install the Leak Detector:

1. **Shut off the power to the submersible pump at the breaker box.**

2. **Open nozzle at dispenser to relieve line pressure.**

3. **Shut ball valve at discharge of turbine.**

4. **Remove the existing leak detector or 2-inch pipe plug in the submersible pump or adapter tee.**

5. **Apply a "UL Classified" (QLSR) pipe joint sealing compound (for use with petroleum products) to all threads before final assembly (Before screwing the leak detector into the pump or the adapter tee). Tighten the leak detector down firmly to make sure there is no leakage. (Caution - do not over-tighten the leak detector. Over-tightening could cause undue stress on the pump or the leak detector.)**

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6. **Apply pipe sealant to the threads of the 90 degree compression fitting and install into the top of the leak detector. Tighten firmly, but do not over-tighten.**

7. **Remove the 1/4" pipe plug from the tank test port on the submersible pump. Install the straight compression fitting into this port.**

8. **Install the copper tube into the compression fittings. Tighten firmly, but do not over-tighten.**

9. **Turn on submersible pump power.**

10. **Turn pump on at dispenser. Check tightness of leak detector to assure there are no leaks.**

11. **Slowly open ball valve at discharge of turbine.**

12. **Test leak detector in the system as per the *LDT-890 Installation & Operation Protocol*.**

If a VMI leak detector fails to detect a leak in the line system, please follow the instructions on ***Adjustment of VMI Leak Detector*** dated March 28th, 2005. This is included with your leak detector or can be located on our website at ***www.vaporless.com*** under ***Technical Bulletins: Technical Bulletin 032805 Adjustment of VMI Leak Detector.***

There are many instances of VMI MLLDs functioning 10 or more years. When our customers review critical component equipment such as MLLDs, it is important to remember the more cycles, wear, and exposure, the higher the probability of reduced function or imminent failure. VMI suggests each site have a preventative maintenance / risk reduction program that incorporates each site's ecological sensitivity, historical information, equipment age, maintenance history and other operational risk management considerations. Our customers should consider a replacement schedule based on information provided to us by testers suggesting previous generations of our MLLDs have a 5 to 6 year mean time to failure in the field. Site specific conditions including particulates in the fuel, exposure to acids, water or other oxidizing agents in the fuel, and other site specific conditions may cause premature substandard performance or equipment failure. At this time, and until information to us changes, VMI recommends a maximum field service life of 5 years for all VMI MLLDs.