



**Quality Petroleum Equipment
Solutions for Over 20 Years**

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99 LD-3000 Description

The Vaporless 99 LD-3000 series leak detector is a piston-actuated mechanical Line Leak Detector with an integral check valve and pressure relief. Specific design and metering tolerances match the higher pressure and flow characteristics of three (3) and five (5) horsepower submersible pumps. This leak detector is designed to handle the longer piping systems associated with these submersible pumps. Updated certification allows the 99 LD-3000 to be used in up to 400 feet of 4-inch fiberglass pipe, 1,334 feet of 3-inch fiberglass pipe, 275 feet of 3-inch flexible pipe or 619 feet of 2-inch flexible pipe. For other pipe sizes please consult the factory. Additionally, the 99 LD-3000 is the first leak detector certified for the combination of both rigid and flexible pipe! The rigid and flexible pipe numbers can be added together! This new certification can be used for: Up to 208 gallons of rigid pipe, 50 gallons of flexible pipe or a combination of the two.

Before installation is considered complete, perform a 3 GPH test to ensure the leak detector is functioning. Contact factory if problems are encountered during 3 GPH testing.

99 LD-3000 Installation

The 99 LD-3000 should be installed directly into the 3-inch discharge port of the submersible pump. The leak detector will function in any position from horizontal to vertical, including upside-down. As the plumbing diagram shows, a 3-inch ball valve should be installed within 18-inches of the discharge port of the leak detector. This facilitates start-up, trouble-shooting, diagnostics, and annual test requirements.

A 3-inch union should be installed between the 99 LD-3000 and the 3-inch ball valve. This is to facilitate removal of the leak detector housing if it should become necessary. An “UL Classified” (QLSR) pipe joint sealing compound (for use with petroleum products) should be used on all threads during assembly.

All connections and equipment should be checked for leaks (with pump running) upon completion of installation.

*****The 99 LD-3000 leak detector is shipped with the Piston Assembly in the open position. The leak detection function is disabled for line purging at start-up.*****

Read Step (2) of the installation instructions below to ensure leak detector function.

1. The *first step* of installation is to install the 3-inch male inlet of the leak detector into the discharge of the submersible pump (see drawing for inlet). A 90 - degree elbow is installed on the 3-inch male discharge of the leak detector, then a pipe nipple. A 3-inch union, a 3-inch pipe nipple, and a 3-inch ball valve should follow. At this point, piping to the dispensing system may be attached. With the ball valve in the closed position, start the submersible. Check installation up to the ball valve for leaks.

Open the ball valve (slowly), charging the line. Check the line system for leaks. Open the nozzle of the nearest dispenser to discharge any air that has accumulated in the line. Do the same with all nozzles working from the nearest hose to the farthest nozzle. Upon completion of this procedure, the line should be purged of air and the piping completely pressurized.

2. The *second step* of installation is to remove the hold-down screw from the top of the leak detector. *This screw must be removed to allow the leak detector to detect leaks.*
3. The *third step* of installation is to install the vent assembly from the top of the leak detector to the tank test port of the submersible pump. This consists of copper tubing and compression adaptors to be screwed in to the leak detector and tank test port of the pump with the tubing in between.

99 LD-3000 Testing

Upon completion of the above procedures, the leak detector must be tested as per protocol of the VMI LDT-890 leak detector tester.

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.