



Vaporless Manufacturing, Inc.

Quality Petroleum Equipment Solutions For Over 20 Years

99 LD-2200

The Most Cost Efficient Line Leak Detection Available

- **Any Fuel***
 - Alcohols, Biodiesel, Aviation, Gasoline, Diesel
- **Any Pump**
- **Longest Length Pipeline System***
- **Largest Volume Pipeline System***
- **Field Adjustable Leak Threshold**
- **Now Available! Factory Certifications for Installation and Annual Testing****



FEATURES

- Guaranteed for 24 months from date of installation to detect a 3 GPH @ 10 PSI leak
- Highest Flow Capacity
- One-Way Poppet flow path
- Reverse Ratio Piston / Poppet combination, pioneered in the 99 LD-2000
- Smaller Volume - Faster Response piston size
- Shortest profile leak detector available for "tight" installations
- All Fuels*: gasoline, diesel, **alcohols**, **Biodiesel**, others
- All Pipeline Systems (Flexible - fiberglass - steel) up to 250 ml. resiliency
- Exceeds EPA regulations, 3 GPH @ 10 PSI
- Detects leaks up to 10' above the leak detector
- Installs with 2" six point socket or pipe wrench

The **99 LD-2200** is the first generation of Vmi leak detectors to operate without the Vmi integrated, in-line check valve.***

The **99 LD-2200** provides the best value in catastrophic line leak detection of any leak detector available today.

FIELD ADJUSTABLE LEAK THRESHOLD

All **Vmi** mechanical line leak detectors have been factory assembled and tested to meet the EPA leak detection threshold established during certification testing. Abnormal field conditions such as high line resiliency (high bleed-back), pump pressures over 30 PSI and high head pressures affect line leak detection sensitivity. Additionally, wear affects performance of leak detection over time. To meet these issues, **Vmi** established through certification testing, the ability of field technicians to adjust **Vmi** mld's to compensate for field variables and normal wear. Please read Technical Bulletin 032805 for specific instructions on this feature.

* See Technical Specifications on page 3

** Contact factory for details

*** See back page

Longest Guarantee

The 99 LD-2200 shares the longest guarantee available in the industry, along with the **Vmi** 99 LD-2000 and 99 LD-3000 leak detectors. For 24 months after installation, the 99 LD-2200 is guaranteed to see a 3 GPH @ 10 PSI leak.

Highest Flow Capacity

If you can pump it, we can flow it! The 99 LD-2200 has maximized the flow and flow path. This new design reduces turbulent flow, maximizing pump performance for any pump housing.

One-Way Poppet Flow Path

The 99 LD-2200 shares this newest technology with the 99 LD-2000. The One-Way Poppet Flow Path isolates pump turbulence from line leak detection at pump start-up. Hardened Stainless Steel poppet does not dimensionally change due to thermal conditions encountered during normal station operations.

Reverse Ratio Piston / Poppet Combination

Reverse Ratio means the leak detector has a smaller diameter piston area than the poppet it is attached to. This smaller piston area keeps the leak detector in the fast fill position (3 GPM) to a higher pressure while compressing vapor pockets and expanding flexible pipe.

This means less time to full flow! Another benefit of the Reverse Ratio Piston / Poppet Combination is faster reset with the pump off. The leak detector does not have to completely reset (as with competitive leak detectors) for the poppet to be forced into the reset mode at pump start-up.

Smaller Volume / Faster Response Piston Size

With a reduced piston size, there is one-fourth the volume to replace when in leak search and one-fourth the volume to return to the line when the pump turns off. This combination makes for a more responsive and faster leak detector. Less volume to leave the line for the leak detector to reset and catch leaks. *Less volume to fill and provide full flow for dispensing!*

Superior Flex-Pipe Performance

The reduced surface area of the piston significantly reduces the surface area exposed to hydraulic line shock. This results in enhanced performance in steel and fiberglass piping, and more importantly, this leak detector has great performance in today's flexible pipe.

Shortest Leak Detector Profile

The 99 series leak detectors are the lowest profile detectors available today.

99 LD-2200\75 for Slow-Flow Problems with 3/4 or 1/3 hp Submersibles

The 99 LD-2200 allows more flow than any other leak detector available. When the 99 LD-2200 is used with a 3/4 hp submersible and seven or more nozzles, pressure in the line may fall below the pressure necessary to keep the leak detector open. The same is true for 1/3 hp submersibles if 5 nozzles are available for fueling. Several factors influence leak detector reset besides available nozzles, including: burial depth, pipe size and the pump/motor performance. If your 99 LD-2200 line leak detector is resetting when most or all the nozzles are open, the **Vmi** 99 LD-2200\75 will compensate for pressure drop at the leak detector. The 99 LD-2200\75 meets all specifications of the 99 LD-2200 and is covered by the third party certification of the 99 LD-2200 as there is no change in function except flow. The hex portion of the 99 LD-2200\75 is painted green.

Technical Specifications 99 LD-2200

Fuels:

- Gasoline, **100% methanol***, **100% ethanol***, up to 15% MTBE
 - Any combination of the above
 - #1 or #2 diesel, kerosene, Jet A* or JP-4*, AV Gas*, and **Biodiesel*** (all blends)
- * When used with Biodiesel, any alcohol fuel concentration above 20%, Jet A, JP-4 or AV Gas, order part # LD2-SSVS for stainless steel fittings and stainless steel vent tubing.
For chemical applications other than listed above, contact factory.

Certified to meet EPA 3 GPH @ 10 PSI:

- Maximum Rigid Pipeline size: 400 feet of 3.25 inch diameter line or up to 172 gallon volume
- Maximum Flexible Pipeline size: 415 feet of 1.5 inch diameter line or up to 39.5 gallon volume

U.L. Recognized Containment Housing:

- For pump pressures through 50 PSI
- Schedule 40 cast iron with zinc phosphate protection
- Externally finished with oven baked powder coat

Seals:

- Piston / Poppet: Teflon, stainless steel spring energized
- O Rings: U.L. Approved V9702-Viton Type B Fluorocarbon

Metering Pin and Poppet:

- 17-4 Stainless Steel

Misc. Component Specification:

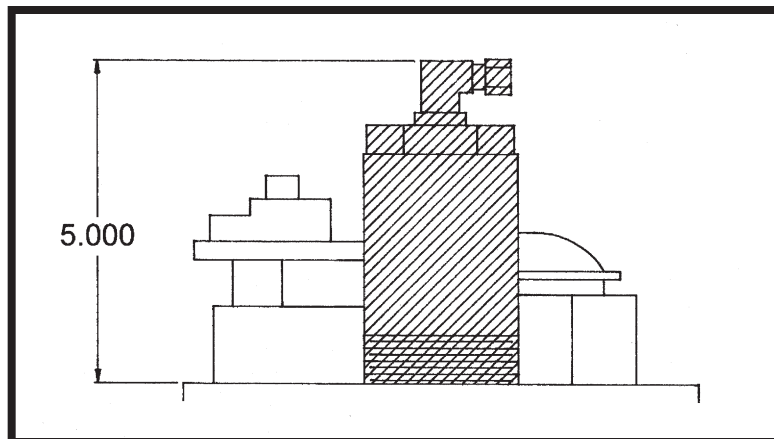
- 2011-T3 Aluminum, anodized
- 6061-T6 Aluminum, anodized
- 1026 cold roll steel, chrome plated
- Acetron GP

Reverse Ratio Piston-Poppet One-Way Poppet Flow-Path

For Installation with variable or non-variable speed turbines.

Vent line must be unobstructed, leak tight and connected to headspace of tank, not to be subjected to pressure or vacuum.

Can be installed in submersible pump or leak detector Adapter Tee, part #LD99-5040



NOTE: PLEASE READ THE FOLLOWING

The **99 LD-2200** is the best value in leak detection available in its price range. The One-Way Poppet and other enhancements provide superior line leak detection performance. With the technical enhancements outlined, this leak detector has significantly enhanced capability to dampen the effects of hydraulic shock and pump turbulence.

THIS LEAK DETECTOR, DESPITE ALL ENHANCEMENTS DESCRIBED, is dependent on the proper operation and function of the pump check valve and components of the functional element of the submersible pump.

A leaking check valve, a defective submersible pressure relief or defective bypass valve allows product to leave the line, reduce line pressure, resetting the leak detector. Line pressure loss and/or thermal contraction will cause vapor pockets to form. This increases the length of time it takes for the leak detector to open to full flow.

THE 99 LD-2000 IS THE ONLY 2" LEAK DETECTOR ON THE MARKET CAPABLE OF HOLDING LINE PRESSURE AFTER THE PUMP IS OFF, WITH THE ABOVE DESCRIBED FIELD PROBLEMS.

THE 99 LD-2000 HAS A HIGHER LEVEL OF PERFORMANCE OVER A BROADER RANGE OF BURIAL DEPTH, LINE LENGTH AND TYPE. IF SITE SPECIFIC PROBLEMS OCCUR, THE 99 LD-2000 SHOULD BE INSTALLED.

