



VIC Leak Detection
Industrial Leak Detection

Performance

Sensitivity: Smallest detectable helium leak rate 5×10^{-8} Atm-cc/second helium (atmospheric sniffer mode).

Response Time: Approximately 0.5 seconds.

Leak Rate Range: 10^{-3} to 10^6 Atm-cc/second direct reading of helium leak rate (compensated for atmospheric sampling).

Startup Time: Less than 3 minutes; One-button automatic operation.

Electrical

Console: Microprocessor-based electronics incorporating 40-character alphanumeric prompting display; Fully automatic operation including startup, shutdown, leak rate ranging, automatic zero, and diagnostics including operating and runtime parameters; Contains 40 segment leak rate indicator and operator function buttons.

Mass Spectrometer

Miniaturized 90° deflection, fixed magnet design; All stainless steel construction; NW-40 flange for high vacuum connection; Utilizes two non-burnout thoria coated iridium filaments.

Vacuum System

Pumps: Dry (oil-free) built-in diaphragm fore-pump and 70-liter/second air-cooled molecular drag pump.

Inlet System: Interstage design incorporating integral mass separator high flow atmospheric inlet; Standard sniffer probe hose length 10-feet; Other lengths available.

Calibrated Leak: 150 cc high pressure cylinder with low volume stainless steel leak element; Traceable to N.I.S.T. with calibration certificate supplied; Easily removable for recalibration.

Pressure Measurement:

Probe blocked sensor (10^3 Torr); Turbopump speed characteristics for high vacuum (10^6 Torr).

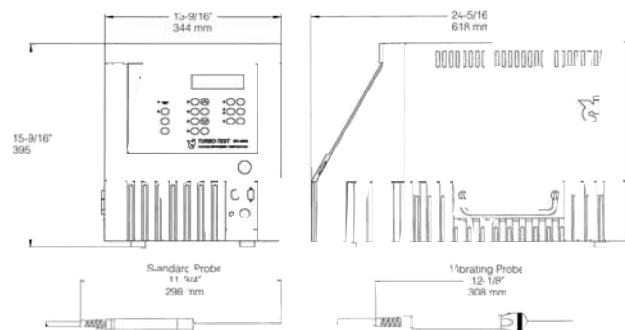
Power: 115/220 Volts, 60/50 Hz, 6/3 Amps; CE compliant.

Weight: 70 pounds (31.8 kilograms)

Specifications are subject to change without notice.

Model MD-490S Portable Dry Helium Leak Detector

- Fastest response time in the industry (less than 0.5 seconds)
- Helium background suppression
- Maintenance-free, dry pump
- Sensitivity to 5×10^{-8} Atm-cc/sec
- Less than 3 minutes total start-up time
- Fully interactive system diagnostics with multilingual displays
- Front panel key lock-out
- Complete with standard probe and built-in calibrated gas leak
- Optional Remote Display and exclusive Vibrating Probe



Model MD-490S shown with standard probe



The Real Sniffer™
from Vacuum Instrument Corporation



The Real Sniffer
Model MD-490S



VIC Leak Detection

Industrial Leak Detection
Air Leak Testing
Vacuum Metrology

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The Real Sniffer™

MD-490S

Portable Dry Helium Leak Detector

Applications

Air Conditioning and Refrigeration Systems

- coils • evaporators • condensers
- compressors • hoses

Automotive Components

- radiators
- air conditioning components • fuel tanks
- fuel injection systems • air bags • heat exchangers
- heater cores • pressure transducers
- headlights • wheels • hoses

Appliance

- fire extinguishers • air conditioners
- heat pumps • refrigerators • freezers
- gas meters • gauges

Nuclear

- containment vessels

Vacuum Systems

- process gas lines • valves

Medical Products

- related sub-assemblies

Food Packaging

- related sub-assemblies

Aerospace Components

- related sub-assemblies

Questions about your application? Please contact our Sales Department

The MD-490S is a leader among portable helium leak detectors. With a response time less than 0.5 seconds, sensitivity to 10^{-8} direct reading atm-cc/sec, and the ability to zero-out background, this is the most aggressive portable leak detector in the industry, with advanced features designed specifically for industrial use:

★ **NEW Vibra-Leak™ Probe** (patent pending) with background suppression button provides tactile feedback when leak rate exceeds the reject set point; Ideally suited for noisy environments where audio alarms cannot be heard or where leak detectors are in close proximity; Vibra-Leak™ Probe solves background helium problems during the test

★ **NEW Helium background suppression:** With a push of a button, the MD-490S eliminates the background

★ **NEW Most sensitive sniffer available** with 10^{-8} sensing capabilities through enhanced helium collector design and signal processing

★ **Fully interactive system diagnostics** include critical parameters such as run times, operating voltages/currents and pressures

★ **Graphical and numerical displays** of leak rate values

★ **Sealed membrane keypad** for long life in harsh environments

★ **Fully automatic calibration** sequence with built-in 10^{-5} Atm-cc/sec gas leak prompts operator to insert probe into the built-in leak and adjusts the machine's leak rate reading

to match the leak value; The built-in calibrated leak is traceable to the National Institute of Standards and Technology and is provided with certification

★ **Dry (oil-free) vacuum pumping** minimizes maintenance and potential oil contamination problems

★ **Probe blockage alarm** ensures proper system performance

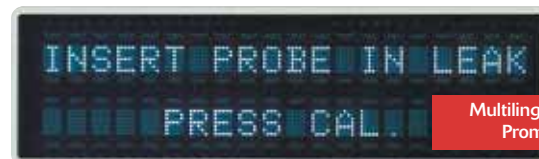
★ **Front panel key lock-out** prevents unauthorized use

★ **High output (110dB) adjustable audio alarm**

Options and Accessories:

- **Vibra-Leak™ Probe** (see below)
- **Remote Display** (see below)
- **Smart Charge II™ Gas Handling Unit** (see box, below left)
- **Test Booths and Fixturing**
- **Carrying Case**
- **Portable Cart**

With VIC Leak Detection, you can get everything you need for a complete leak detection solution from one company—including factory direct service, worldwide.



Multilingual Alphanumeric Prompting Display

★ **Alphanumeric Prompting Display (multilingual):** The MD-490S is fully interactive; It is the only portable helium leak detector that keeps you continuously informed of the process with a multilingual alphanumeric prompting display that uses words rather than icons for more accurate communication

★ **Built-in Calibrated Gas Leak** (inset below, center) is accessible through side panel door; The calibrated gas leak is designed to allow direct reading of leak rates in atmospheric conditions

Add Smart Charge II™ for a complete gas-handling solution

Smart Charge II complements the MD-490S by providing trouble-free helium gas handling. It prevents helium background contamination in the test area that can lead to ambiguous test results or false leakers.

Smart Charge II is a complete gas handling package that may be used to precharge your products with gas for leak detection. Known as "the genius in tracer gas backfill equipment", this unit is a fully automatic system that can be custom configured to the specific charging requirements of each product. A menu-based configuration scheme ensures optimum performance under a variety of test conditions that may include nitrogen proof test with pressure/vacuum decay leak test, helium backfill, or helium recovery. May be used for any other gas charging application requiring evacuation and subsequent pressurization of the test product.

For complete specifications, ask for our gas-handling brochure.



Optional Vibra-Leak™ Probe with Auto-Zero Button



Optional Remote Display



Standard, built-in Calibrated Leak is easy-to-view

Standard Probe

Vacuum Instrument Corporation has the broadest experience and the most comprehensive leak detection solutions required to design, build, sell, and service the most innovative leak detectors anywhere in the world. That is because leak detection is and always has been our only business. We are dedicated to leak detection, and our customers have made us the largest leak detector company in the world.



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Industrial Leak Detection
Air Leak Testing
Vacuum Metrology