

At the heart of every **V.I.C.** turnkey vacuum helium mass spectrometer system lies our...

# MD-490M



MD-490M Turnkey System Helium Leak Detector



External Inlet Valve & Forepump Arrangement



Fuel Tank Assembly Test



"A" and Flat Coil Heat Exchanger Assembly Test

Our Leak Detection Systems use the most sensitive and accurate leak detection device science has developed -- the helium mass spectrometer. The helium mass spectrometer is at least 1000 times more sensitive than other leak detection methods. V.I.C. Leak Detection has taken the helium mass spectrometer out of the laboratory, where it has served as a research tool for over 30 years, and

redesigned it to meet the stringent requirements of ruggedness, reliability and ease of maintenance that are essential in any industrial environment.

V.I.C.'s Industrial Leak Detection Systems are designed around a standard Turbo-Test™ MD-490M industrial leak detector, which is manufactured independently from the application.



**Vacuum Instrument Corporation**

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## MD-490M Leak Detector

Performance Specifications	
<b>Sensitivity</b>	System Mode, minimum detectable helium leak rate $2.5 \times 10^{-9}$ atm-cc/sec.
	Sniffer Mode, minimum detectable helium leak rate $2.5 \times 10^{-7}$ atm-cc/sec.
<b>Response Time</b>	< 1.0 second system mode testing.
	< 1.5 seconds sniffer mode testing.

Display Leak Rate Range	
<b>System Mode Testing</b>	0-10 Volts output to main PLC. Leak rate configured to systems calibrated gas leak.
<b>Interface Signals</b>	Auto-Zero, Ready, Leak Rate and Fault Signals.
<b>Sniffer Mode Testing</b>	$10^{-3}$ to $10^{-7}$ atm-cc/sec He direct-reading.
<b>Start-Up Time</b>	Cold Start-Up, less than 3 minutes.
	Standby Start-Up, less than 1 minute.
	One button automatic operation.

Vacuum System	
<b>Mechanical Pump</b>	External forepump arrangement, standard package with 7 CFM.
<b>High Vacuum Pump</b>	60 liter/second air-cooled turbomolecular.
<b>Inlet System</b>	External PLC controlled valves, externally mounted.
<b>Pressure Measurement</b>	Thermocouple input for rough vacuum (atm- $10^{-3}$ Torr), Turbopump speed characteristics for high vacuum ( $10^{-6}$ Torr).
<b>Valve</b>	High vacuum rated solenoid actuated foreline isolation.

Electrical	
<b>Power</b>	115 VAC/60 Hz, 6 Amp, (other voltages available upon request).
<b>Console</b>	Microprocessor-based electronics incorporating 40-character alphanumeric prompting display. Full automatic operation including start-up, shutdown, leak rate ranging, zero control, high vacuum protection and diagnostics including runtime, and operating parameters.
<b>Remote Operation Box</b>	Includes 40 segment leak rate signal indicator and operator function controls. A 15' coiled cord is supplied.
<b>Audio</b>	Built-in ramp type audio alarm with large 4" high output speaker. Volume and threshold adjustments provided.

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\* Specifications subject to change without notice.

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