

959D Dry Leak Detector

Based on the proven 959-50 portable leak detector, the new 959D provides clean and automatic leak detection using a totally oil-free vacuum system design. A high throughput scroll-type dry mechanical pump provides ultra-clean system roughing and backing functions. Varian's oil-free and maintenance-free Turbo or MacroTorr pumps are used for high vacuum pumping in the spectrometer tube. The dry scroll pump provides extremely fast pump down times. In fact, the Varian family of dry leak detectors provides the fastest pumping speed of any dry leak detector in the industry.

Not only does the 959D ensure leak detection that is contamination-free to your system or parts, it also provides enhanced spectrometer tube lifetime and repeatability.

The 959D is fully protected against accidental air-inrush, power failures, and operator errors. The enclosure is specially designed for clean room compatibility. When configured with the MacroTorr pump, the 959D can operate as a quick-response, high-sensitivity sniffing leak detector.



Features

- High throughput, scroll-type dry roughing/backing pump
- Oil-free Turbo Pump
or
- Oil-free MacroTorr Pump
- Contra-Flow™ vacuum system design
- UHV systems compatible
- Microprocessor-controlled
- Clean room compatible enclosure
- Power probe accessory for MacroTorr version

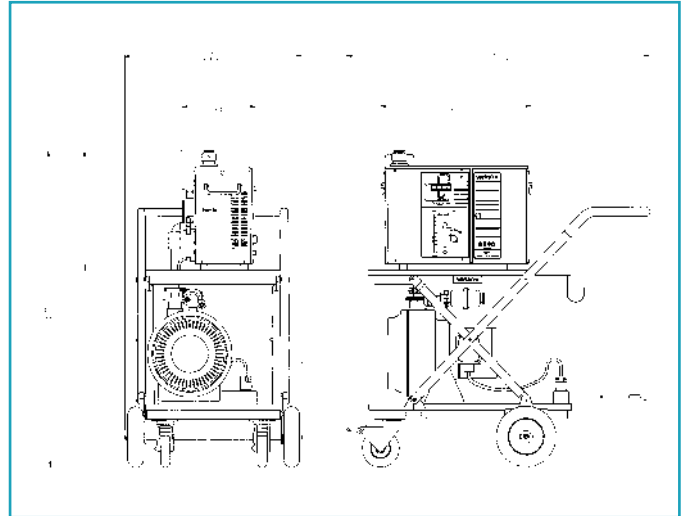
Benefits

- Totally oil-free pumpdown and testing
- No oil to check, add, or change
- Very fast test cycle time
- Quick starting and maintenance-free
For highest sensitivity applications
- Quick starting and maintenance-free
Compatible with test pressures of up to 2 Torr
- No liquid nitrogen needed
- Allows high test port pressures
- Can leak-test UHV systems for 10⁻¹¹ Torr integrity
- Automatic test and vent sequencing
- Allows leak testing in environmentally controlled areas
- Also allows machine to function in a fast response, high sensitivity sniffing mode

Technical Specifications

- Minimum detectable signal/sensitivity in accordance with AVS standard 2.1:
 - 2×10^{-10} atm cc/sec (helium) – Turbo
 - 1×10^{-9} atm cc/sec (helium) – MacroTorr
 - 2×10^{-8} atm cc/sec (helium) – sniffing mode (MacroTorr)
- Response time
Less than 2 seconds for helium in accordance with AVS standard 2.1
- Amplifier drift
Less than 2% of most sensitive scale in accordance with AVS standard 2.1
- Noise level
Less than 2% of full scale, peak-to-peak, in accordance with AVS standard 2.1
- Leak indicator
50-segment bar graph, with exponent display. Standard ranges:
 - 10^{-9} to 10^{-4} atm cc/sec
- Recorder jack
0-5 V DC
- Audio alarm
Volume control and output jack for remote speaker
- Sensing tube
Automatically protected, temperature-stabilized, solid-state device. The entire tube can be quickly removed for maintenance. Dual-filament, disposable, all-welded ion source. Removable magnet structure for easy cleaning.
- Spectrometer pump
70 l/s maintenance-free turbomolecular or MacroTorr pump.
- Mechanical pump
Dry scroll-type pump with 10-millitorr base pressure
- High-reliability, fast-acting solenoid valves
Field-replaceable actuators and seats
- Test port
1½" (28.5 mm) ID quick coupling, KF25 adapter included
- Power requirements
115 V or 220 V, 50/60 Hz (20/10 amps)
- Weight
 - 120 lbs (54 kg) – bench
 - 150 lbs (67 kg) – cart

959D Dimensions w/universal cart inches (mm)



Ordering Information

Varian Part No.	Description
D9590055BT120	959D Dry Leak Detector, Turbo, bench-mounted, 120 V *
D9590055UT120	959D Dry Leak Detector, Turbo, with universal cart, 120 V
D9590055BT220	959D Dry Leak Detector, Turbo, bench-mounted, 220 V *
D9590055UT220	959D Dry Leak Detector, Turbo, with universal cart, 220 V
D9590055BM120	959D Dry Leak Detector, MacroTorr, bench-mounted, 120 V *
D9590055UM120	959D Dry Leak Detector, MacroTorr, with universal cart, 120 V
D9590055BM220	959D Dry Leak Detector, MacroTorr, bench-mounted, 220 V *
D9590055UM220	959D Dry Leak Detector, MacroTorr, with universal cart, 220 V
■ Accessories and spare parts	
Varian Part No.	Description
F8473301	Calibrated leak-He reservoir (10 ⁻⁷ std cc/sec range)
F8473320	Refillable calibrated leak for evacuation/sniffing use, 10 ⁻⁵ /10 ⁻⁶ range
L6749301	O-ring kit
K3333301	Preamplifier assembly (Turbo version)
L9030301	Preamplifier assembly (MacroTorr version)
82850302	Thoriated iridium ion source
K9565301	Power probe sniffer accessory
626603345	Throttle valve for manual gross leak testing

* (Bench versions include roughing/backing manifold)

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