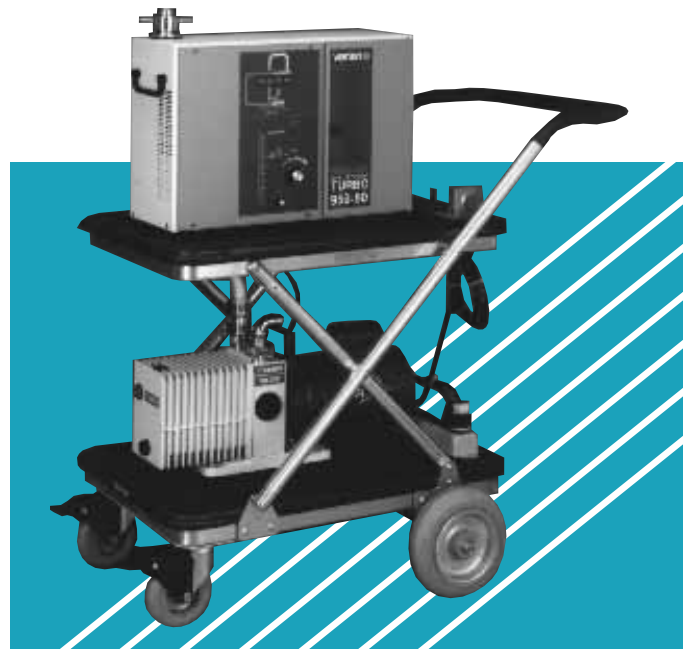


# 959 Porta-Test™ Leak Detector

The 959 is a rugged, easy-to-operate leak detector suitable for a broad range of applications. Rapid-ready, automatic controls make the 959 an excellent choice for absolute verification of leak tightness. Available with an optional cart, the 959 goes wherever you need to test.

The 959 is fully protected against accidental air-inrush and power failures, making it highly reliable in nearly any leak detector application. In addition to turbo- and diffusion-pumped versions, a MacroTorr configuration is available which provides extra high test pressure capability and is excellent for fast response sniffing applications.

For ultra-clean applications such as testing of semiconductor processing and UHV systems, a totally dry version of the 959 leak detector is available. See data sheet DS 1255 for further information on the 959D.



## Features

- Turbomolecular high vacuum pump  
or
- MacroTorr high vacuum pump
- Externally mounted mechanical pump
- Auto-protection in case of power loss or inrush of air
- Microprocessor-controlled
- Permanently lubricated turbo and MacroTorr ceramic bearing systems
- Varian's original Contra-Flow™ vacuum system design
- Power Probe accessory for MacroTorr version
- Dual-filament ion source, fully accessible spectrometer tube

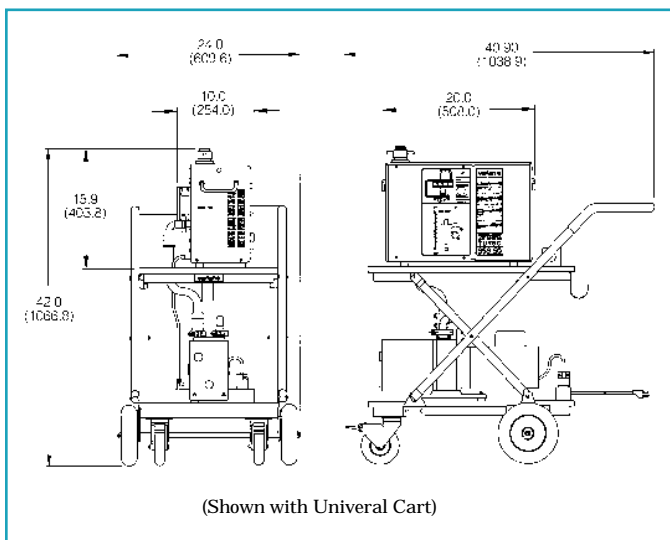
## Benefits

- Clean; quick starting, sensitivity to  $10^{-10}$  std cc/sec
- Clean; quick starting, testing up to 2 Torr without throttling
- Cooler operation, enhanced reliability
- Flexibility of pump sizes, ease of servicing
- More uptime, improved reliability, and easy to use by untrained operators
- Automatic startups, test and vent sequencing
- Maintenance-free, high reliability pumping
- No liquid nitrogen; minimum time to maximum sensitivities; no throttle valve; high test port pressure testing
- Provides fast response, high sensitivity sniffing
- Instantly converts machine from evacuation to sniffing mode
- No dedicated sampling pump needed, fast helium cleanup
- More uptime, simple ion source and spectrometer servicing

## Technical Specifications

- Minimum detectable signal/sensitivity (with 7-cfm pump) in accordance with AVS standard 2.1:
  - $2 \times 10^{-10}$  atm cc/sec range (helium)
    - Turbo or diffusion pump
  - $1 \times 10^{-9}$  atm cc/sec (helium) – MacroTorr pump
  - $2 \times 10^{-8}$  atm cc/sec (helium) – sniffing mode (MacroTorr)
- Response time  
2 seconds for helium in accordance with AVS standard 2.1. Typical sniffing response time is <1 second (MacroTorr version with Power Probe).
- 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 are  $10^{-9}$  to  $10^{-4}$  atm cc/sec.
- Recorder jack  
0-5 VDC
- Audio alarm  
Volume control and output jack for remote speaker
- Sensing tube  
Automatic protecting, 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
  - Optional low cost 20 l/s air-cooled diffusion pump

## 959 Dimensions inches (mm)



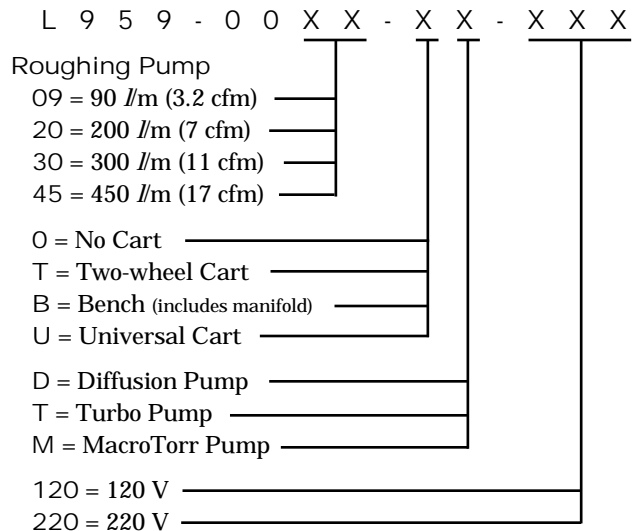
- High-reliability, fast-acting solenoid valves
- Field-replaceable actuators and seats
- Test port
- 1 1/8" (28.5 mm) ID quick coupling, KF25 adapter included
- Power requirements
  - 115 V or 220 V, 50-60 Hz (15/7.5 amps)
- Weight (base unit)
  - 50 lb (23 kg) approx.
  - 60 lb (27 kg) approx. shipping

## Common Applications

- General vacuum and pressure vessel testing
- Leak-testing components and devices
- Sniffing of helium charged parts

## Ordering Information

Customize your part number according to what components you want to order:



- Accessories and spare parts
- | Varian Part No. | Description  |
|-----------------|--|
| F8473301        | 10 <sup>-7</sup> range calibrated helium leak with valve, 1 1/8" fitting.  |
| 659500040       | 10 <sup>-5</sup> /10 <sup>-6</sup> range evacuation/sniffing calibrated leak, refillable with valve and gauge. KF25 fitting with 1 1/8" adapter. |
| L6749301        | O-ring kit   |
| 82850302        | Thoriated iridium ion source   |
| K9565301        | Power probe sniffer attachment with 10' hose (MacroTorr configuration with 200 or 300 l/m mechanical pump recommended for sniffing).             |
| K9565303        | Package of 10 spare sniffer probe tip filters.   |
| 626603345       | Throttle valve for manual gross leak testing.  |

Varian also offers a full range of operating and maintenance courses and a variety of field support options.

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