

Mass Spectrometer VS Series Leak Detector

WIDE RANGE, HIGH PERFORMANCE SYSTEM



Inspiring Excellence

VARIAN, INC.



VARIAN

Maximizing Productivity and Uptime

Global Applications Support Expertise When & Where You Need It

- Native language specialists available locally worldwide
- Application specific consulting
- More than ten thousand installed systems delivering application solutions to customers in a broad range of industries



High Performance Instruments

VS Series Leak Detectors

- Easy to Use
- Powerful
- Versatile
- Dependable
- Truly Portable



Industry Leading Service & Support

Get The Most From Your Investment

- Most extensive network of service engineers available locally to meet your needs
- Exchange inventory for replacement components
- On-site or factory repair
- Full range of standard and customized support plans



Features and Benefits



Easy-to-Use – Two Button Operation

VS Series Leak Detectors combine the simplicity of two-button operation with advanced expert system intelligence.

- Fully automated start-up and calibration maximizes productivity
- Intuitive menu structure is easy to navigate
- Programmable test sequences improves testing efficiency
- Color touch screen provides excellent clarity, even at wide angles



Powerful – Broad Range of Test Methods

The state-of-the-art spectrometer and vacuum system design provides powerful capability, enabling a broad range of test methods for specific applications.

- High test port pressure allows for detection of large leaks
- 12-range MDL (sensitivity) meets the most stringent leak test requirements
- High helium pumping speed ensures fast system response and clean-up times
- New high efficiency ion source and beam optics optimize sensitivity and mass separation



Versatile – Multiple System Configurations

A wide range of options allows for broad configuration flexibility, meeting all application requirements and test environments.

- Primary pump and system mounting options may be selected to best suit your needs
- Multiple language and units capability permits easy implementation worldwide
- Compact lightweight design enables easy transport from one application to another



Dependable – Robust Design

Robust design innovations allow the VS series to conform to the most rigorous industrial standards and operate dependably in the most challenging environments.

- Fast clean-up time enhances system up-time
- Robust Faraday cup technology delivers proven reliability with low cost of ownership
- Conforms to CE, UL and CSA standards, assuring global acceptance



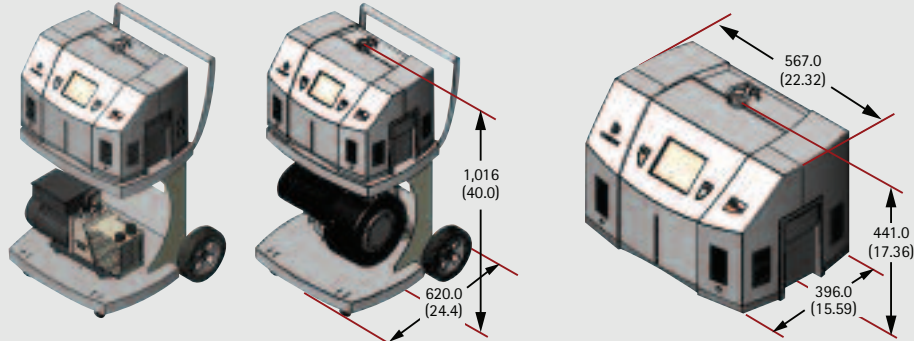
Truly Portable – Wireless Remote Control/Display

Hand-held remote performs essential functions up to 100 meters (328 feet) indoors, facilitating access to all leak sites.

- Eliminates cumbersome cables while extending range
- Allows testing of large systems by a single operator
- Leak detector can be located outside cleanroom to prevent contamination
- Multiple channels for use of one remote with up to ten leak detectors

VS Series Mass Spectrometer Leak Detector

OUTLINE DRAWING



UL/CSA, CE Approved

(Dimensions: millimeters (inches))

TECHNICAL SPECIFICATIONS

Model Number	PR02	BR15/MR15 & BD30/MD30
Configuration Options	Bench Top	Bench Mount or Cart
Primary Pump Type	Rotary vane pump DS-42 2 m ³ /hr (34 l/m)	Dry scroll pump TS-620 30 m ³ /hr (500 l/m)
Minimum Detectable Leak at 1000 ppm ambient He	5 x 10 ⁻¹² atm cc/sec : 5 x 10 ⁻¹² mbar l/s : 5 x 10 ⁻¹³ Pa m ³ /sec helium	
Maximum Test Port Pressure	13 mbar, 10 Torr, 1330 Pa	
Helium Pumping Speed @ Test Port (Fine Test)	1.8 l/s	
Calibration Routine	Automated or Manual (Internal or External)	
Background Suppression	Push Button Initiated Auto Zero, and Auto Zero<Zero function	
User Interface	High Clarity, Color Display, TFT Touch Screen	
Selectable Languages	English, French, German, Japanese, Korean, Mandarin, Spanish	
Automated Cycling	Programmable Rough Time, Test Time, Reject Set Points	
Response Time	< 0.5 seconds	
Set Points	Standard, 5 Set points, N/O or N/C; 3 Leak Rate, 1 pressure, 1 Audio	
Serial Interface	RS-232 optically-isolated interface @ 9600 baud (DB-9S)	
Discrete I/O	Optically isolated, 5-24 volts VDC outputs and inputs (DB-25S)	
Wireless Remote Control (optional)	2.4 GHz ISM band, 100m (328 ft) range, 4 AA batteries or 5 VDC supply	

ORDERING INFORMATION

Model Number	Description	120 Volt	220 Volt	Weight
VS PR02	Portable Leak Detector, DS42 Rotary Vane Pump	VSPRO21	VSPRO22	38 kg (83 lbs)
VS MR15	Mobile Leak Detector, DS302 Rotary Vane Pump	VSMR151	VSMR152	81 kg (178 lbs)
VS MD30	Mobile Leak Detector, TS620 Dry Scroll Pump	VSMD301	VSMD302	92 kg (202 lbs)
VS BR15	Bench Mount Leak Detector, DS302 Rotary Vane Pump	VSBR151	VSBR152	51 kg (112 lbs)
VS BD30	Bench Mount Leak Detector, TS620 Dry Scroll Pump	VSBD301	VSBD302	62 kg (137 lbs)
Options/Accessories		Factory Installed	Field Installed	
Oil Mist Eliminator, PR02		VSFACME	VSFLDME	
Wireless Remote, Base Unit		VSFACWB	VSFLDWB	
Hand-held Remote Control			VSLDWRC	
Discrete I/O		VSFACIO	VSFLDIO	
Leak Rate Data Wizard Software			VSLRDW	
1 1/8 in. Compression Test Port			VSFLDCP	
Sniffer, NW25			K9565306	

Applications



Industrial Process Tools

VS Series Leak Detectors can help rid your process tool of costly and inefficient leaks. Robust system features assure reliable operation in the most challenging industrial environments. Superior pumping characteristics such as high inlet pressure tolerance and split flow capability deliver fast response and clean-up times. Wireless remote control enables single-person leak testing of even the largest systems.

- Vacuum furnaces
- Coating systems
- Electron beam welders



Power Generation

Leaks within power plant condensers can cause a significant loss of efficiency. High inlet pressure tolerance, auto-zero function, and the mobility of the two-wheel cart option simplify the leak detection process. Simple, intuitive operation allows intermittent use without excessive training requirements. Wireless remote control with an operating range of 100 meters (328 feet) provides true hand-held portability, enabling leak testing by a single operator.

- Condensers
- Heat exchangers
- Steam circuits
- Underground pressured power cables



High Energy Physics

High sensitivity, large roughing capacity and portability are essential for leak testing accelerators and beam lines. These instruments provide excellent mass separation that differentiates the smallest helium leaks from residual water vapor and hydrogen, and are available with large, dry roughing pumps to evacuate large volumes, or smaller internal pumps when used with turbo pumping systems. Wireless remote control with an operating range of 100 meters (328 feet) enables a single operator to check potential leak sites without a cord of any kind.

- Accelerators
- Beam lines
- Synchrotrons



Semiconductor Production

VS Series Leak Detectors combine high sensitivity and large, dry rough pumping capacity to meet the testing needs of semiconductor processing equipment and gas handling systems. With the high inlet pressure tolerance and fast clean up and response times, these units excel at locating leaks in both evacuated and pressurized systems. A clean room technician can use the hand-held wireless remote control while the leak detector remains installed in a less critical area.

- Process tools
- Gas panels
- Gas transfer lines



Small Parts Manufacturing

VS Series Leak Detectors employ high inlet pumping speed and high inlet pressure tolerance to minimize test cycle time, thereby maximizing production throughput. Programmable test sequences simplify daily operation, minimize operator error, and maximize your production efficiency. Optional "Leak Test Data Wizard" software can be used to collect data for quality control purposes and even automate test cycles.

- Automotive
- Electrical
- Refrigeration
- Hermetic packaging
- Medical & Implantable devices



General R&D

Research and university labs often require a portable leak detector with the versatility to cover a wide range of applications. The ability to be easily moved from lab to lab, in conjunction with high performance specifications in both the evacuation and pressurized mode, make the VS Series an essential tool for this environment.

- Electron microscopes
- Experimental chambers
- Surface analytical systems
- Space chambers

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