



PRODUCTION LEAK TESTING SOLUTIONS

SMARTSTATION LEAK TEST SYSTEMS



“The *SMARTSTATION* family of Leak Detection Systems from VTI combines the latest in digital sensor technology, system networking and proven industry-tested design to provide leading edge solutions to the Production Leak Testing market.”



SMARTSTATION Product Range



SMARTSTATION LEAK TEST SYSTEMS

Applications:

- ▶ Air-Conditioning Manufacturing
- ▶ Refrigeration Manufacturing
- ▶ Semiconductor Manufacturing
- ▶ Chemical Industry
- ▶ Automotive Industry
- ▶ Battery Manufacturing
- ▶ Research and Development
- ▶ Aeronautics / Aerospace

SMARTSTATION Philosophy:

SMARTSTATION Leak Detectors take the latest developments in sensor technology and data communications and integrate these in systems that are built on years of production line and stand-alone installation experience.

VTI understands that production requirements, irrespective of the industry of application, focus on meeting a specific test specification, repetitively, reliably, and with a high confidence factor while maximizing production through-put and ease of use.

With this in mind, VTI designs SMART simplifying operation and maintenance tasks.

Operation is a breeze with built in diagnostics and automatic calibration routines to insure correct operation.

Maintenance is equally straight-forward with systems constructed from 'standard' (not proprietary) components that are designed for easy access.

Designed to operate 'stand-alone', in sequence with other SMARTSTATIONS or automated Custom Systems, each unit provides a key function in a step by step component Leak Detection process.

Application:

The SMARTSTATION system line covers all aspects of component leak detection ranging from Pressure Decay techniques to cover relatively large leaks, through Helium or Refrigerant "sniffing" for locating small leaks.

Production facilities often utilize a combination of these techniques to leak test products with progressively higher sensitivity along the production line. As volume increases, an automated Custom Systems to fulfill production needs is often the next logical step.

In application, these systems are desired to operate complimentarily and integrate the flow of information such that the test facility can operate as a whole unit.

VTI's experience insures that SMARTSTATIONS will work together and are capable of integration with any VTI Custom System whether purchased today or at a later date when production requirements change or increase.

The focus on system operation, maintenance and system UP-TIME combines with the practical application focus on integration and future expansion to make VTI SMARTSTATIONS a sound investment.

SMARTSTATION PD, PDC and PD Plus - Pressure Decay and Charging Leak Detectors



The SMARTSTATION PD, PDC and PD Plus leak detection systems offer a combination of traditional Pressure Decay Leak Detection together with the capability of performing necessary product charging routines. Available in single or dual port formats and in Regular and High pressure variants, these SMARTSTATIONS are configurable to production pressure specifications, through-put requirements and test unit internal volume needs.

The Dual Port system increases through-put by charging one test piece while testing a second. Operational pressure ranges are available from 0-25, 0-100, 0-500 and 0-1000 psig. Leak rate is displayed in user selectable (equivalent) units. Test results are stored and traceable to unit serial number when scanned in.

A 'Touch-Screen' (see right) option is available simplifying system operation and providing a HMI which is better suited to the production environment than a conventional keyboard.





SMARTSTATION HS and HS Plus Helium “Sniffer” (HS) and Charger (HS Plus – Shown right)

The **SMARTSTATION HS** and **HS Plus** offer an unmatched level of high sensitivity, speed, construction and reliable performance for Helium Sniffing applications.

In the **SMARTSTATION HS Plus**, the capabilities of the system are expanded to include automatic product evacuation and charging in preparation for leak testing providing repeatable testing and product quality.

With 1×10^{-6} atm-cc/sec sensitivity, a measurement range of 1×10^{-6} to 1×10^{-1} atm-cc/sec and a response time at the inlet port of less than 0.5 sec the **SMARTSTATION HS Series** are capable packages. Optional Bar Code Scanners and Calibrated Leaks tailor the instrument to your specific needs.



SMARTSTATION RS and RS Plus Refrigerant “Sniffer” (RS) and Charger (Plus – Shown Left)



The **SMARTSTATION RS** and **RS Plus** offer an unmatched level of sensitivity, speed, construction and reliable performance for Refrigerant Sniffing applications.

The expanded capabilities of the **SMARTSTATION RS Plus** include automatic product evacuation and charging in preparation for leak testing providing repeatable testing and product quality.

With 1×10^{-6} atm-cc/sec sensitivity (.005 oz/yr for R134a), a measurement range of 1×10^{-6} to 1×10^{-1} atm-cc/sec (.005 to 500 oz/yr) and a response time at the inlet port of less than 0.5 sec the **SMARTSTATION RS Series** are capable packages. Monitor R22, R134a, R410a, R407, SF6 and other leak tracer gases in addition to Helium. Optional Bar Code Scanners and Calibrated Leaks tailor the instrument to your specific needs.

SMARTSTATION ES and ES Plus Evacuation Station (ES – Shown Right) with Gas Analysis (ES Plus)

Product evacuation needs are comprehensively addressed by the **SMARTSTATION ES** and **ES Plus** workstations. Uniquely engineered to operate ‘satellite style’ from a central control station, these instruments offer an unmatched level of flexibility to align with production demands, integration with other **SMARTSTATION** units on the line and are mechanically engineered to install without interfering with the existing production line.

The **SMARTSTATION ES Plus** expands the system to include the ability to carry out ‘Gas Analysis’ of the product under evacuation. This unique ability allows the operator to determine whether a slow pump down rate is due to moisture, contamination with production lubricants, or some other reason. This allows an informed decision to be made on whether the pump down is complete or should continue. Valuable time and cost savings can be made in this way.



SMARTSTATION PDEC Basic (shown Left) and PD Basic Basic Pressure Decay with Evacuation and Charge capability



The **SMARTSTATION PDEC Basic** performs first level gross leak testing and prepares the test part for ‘Sniffer’ testing. As such, this unit is the perfect companion to any stand-alone sniffer leak tester (such as the **SMARTSTATION HS**).

Pressure Decay/Gas Fill, Evacuate, Charge, and Exhaust line valves are provided allowing the unit to perform a pressure decay test (gross test) before automatically evacuating and charging the test piece with helium in preparation for leak testing when the gross test is passed. An optional Recovery valve can be fitted to facilitate tracer gas recovery if required. The **SMARTSTATION PD Basic** does not have the Evacuation and Charge capability.

These **SMARTSTATION** models provide front panel display of signal levels augmented by an audible signal to indicate a test fail condition without the need for visual reference.



PLANT WIDE INFORMATION MANAGEMENT SYSTEMS ...

SMARTSTATION Instruments are designed to integrate to Plant Wide Information Management Systems for product tracking, correct test interlocking/sequencing, data logging and quality control purposes. Bar code scanners are a standard feature of many units and are options on others allowing product and test result logging to be performed on a local or plant wide basis. Call VTI to discuss your individual requirements and learn how to 'structure' and 'interlock' product testing to improve product flow and quality.

AERO VAC ODYSSEY – SMARTTECHNOLOGY ...

The Heart of our SMARTSTATION HS, HSPLUS, RS and RSPLUS Leak Test Systems

The **AERO VAC** Magnetic Mass Spectrometer has a long and established pedigree. The first **AERO VAC** was launched in 1965, with the newest, digital version being launched in 2001 – aptly named, the **ODYSSEY**.

Technologically, the **ODYSSEY** is a far cry from the original model employing the very latest in digital, computing and network technologies.

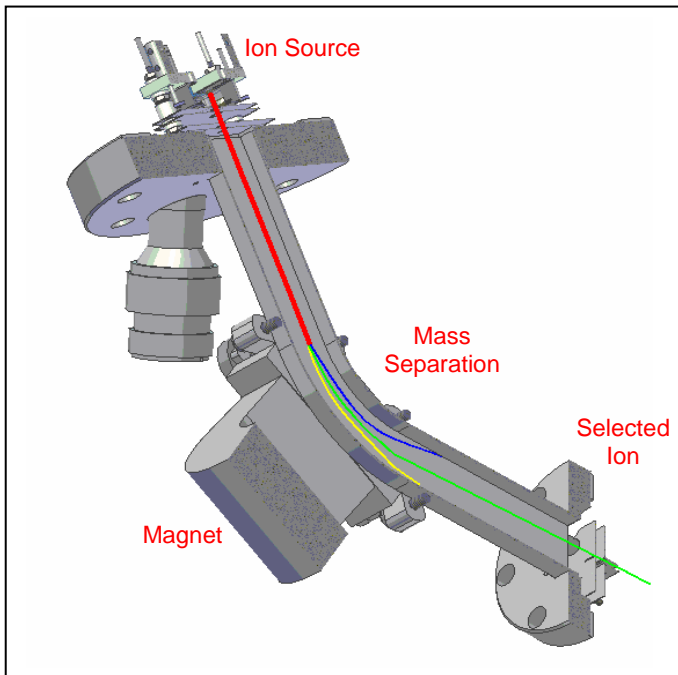
Fundamentally, the **ODYSSEY** uses the magnetic sector principle for mass separation – the original technique – which today remains the choice of the serious scientist and is generally employed in any dedicated Mass Spec based **Leak Detection system**.

This is as a result of the system's fundamental simplicity, ruggedness and serviceability which cannot be matched by any other analyzer.

The **ODYSSEY** is a "smart" instrument that can be run stand-alone or connected to a PC. Front panel controls and displays make operation a breeze and optional Windows based control and data handling software provides for a complete range of analysis capabilities with a PC.

Next generation electronics allow a vast **increase in scan speed** over other instruments allowing for true fast **Leak Signal** trend and transient monitoring.

Encounter software is optionally available with some **SMARTSTATIONS**. With an intuitive user interface that includes linearized mass scale and multi decade display of peak intensity, the package is immediately "familiar" to the seasoned user and new operator alike.



MASS SPECTROMETER FEATURES

- 1) **High Sensitivity Ion Source** – New design provides greatly improved efficiency/sensitivity.
- 2) **Pre-focused Ion Source** – Factory aligned and never needs adjusting.
- 3) **Dual Filaments** – Ensure continuous operation.
- 4) **"Soft-Start" Power Up** – Prolongs filament life.
- 5) **Over-pressure protection** – Guards against filament burnout during operation.
- 6) **High Pressure Sensing** – Prevents start-up at atmospheric pressure.
- 7) **Rugged construction** – Contamination resistant and robust construction for harsh applications and environments.

FOR MORE INFORMATION

Individual brochures are available for each of the products in the SmartStation range providing more detailed information, specifications and ordering information. These may be downloaded from the website for instant reference. As always, please call Vacuum Technology if you are unable to quickly find the answers you need – we are always happy to help!

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