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**SETTING THE STANDARDS FOR  
TODAY AND TOMORROW ....**

# ***CALIBRATED LEAKS***



**“VTI sets the standards by which others measure themselves. The number one company worldwide for traceable Calibrated Leak Standards offers the widest range of regular and custom built units.”**



SETTING THE STANDARDS FOR TODAY AND TOMORROW

World Class Calibrated Leaks



# CALIBRATED LEAKS

**We make them ALL !! ....**

- ▶ All leak rates, all gasses, for all leak detectors.
- ▶ NIST traceable, A2LA-accredited calibrations.

## FEATURING....Custom Calibrated Leaks built into test parts

VTI can build a NIST-traceable Calibrated Leak directly into one of your parts to make a "test part" for a product that you are leak testing by helium, pressure decay or other methods. This test part is then periodically put through your regular production test cycle to calibrate the actual leak rate being detected...and to verify that the test system *totally*, from the inlet gas pressure to the final pass/fail signal, is performing valid tests.

As the builder of high-reliability Leak Testing Systems for manufacturing plants, VTI knows the importance of the 100% assurance of testing validity that can only be achieved by using these "Calibrated Test Parts". We have built these A2LA-accredited, custom leak standards into test parts of many different products such as those listed.



Torque Converter with built-in Calibrated Leak

- ▶ Heat Exchangers
- ▶ Torque Converters
- ▶ Check Valves
- ▶ Fuel Injectors
- ▶ Batteries
- ▶ Airbag Inflators
- ▶ Fuel Manifolds



Injector module with Bolt-type Calibrated

## PRECISION & STANDARD HELIUM CALIBRATED LEAKS .....



### Accu-Flow™ General Purpose Helium Calibrated Leaks

These **General Purpose Helium Leak Standards** feature very high quality design and stainless steel construction at affordable prices. Low cost standards are available for calibrating all makes of leak detectors and systems including Alcatel, Inficon, Varian and Veeco, as well as VTI. Certified NIST-traceable, A2LA-accredited calibrations are included. Three types of leak elements are available: conventional glass-permeation (GPP Model), unbreakable Teflon-permeation (GPPT Model), or crimped stainless steel capillary elements (GPC Model).

### Accu-Flow™ High-Precision Helium Calibrated Leaks

VTI's CLP Model **High-Precision Glass-Permeation Helium Leaks** are used as transfer standards for calibrating leak detectors, mass spectrometers/RGA's, and other helium leaks. This bakeable, UHV-compatible model features all-stainless steel, welded construction and all-metal valves. In critical manufacturing and research applications, these precision leaks offer the ultimate in performance and accuracy. NIST-traceable leak rates as small as 10-12 atm-cc/sec. are available.



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SETTING THE STANDARDS FOR TODAY AND TOMORROW

World Class Calibrated Leaks

CALIBRATED LEAK STANDARDS FOR ALL GASES .....



Accu-Flow™ Crimped-Capillary Calibrated Leaks for All Gases

With the patented Crimped Stainless-steel Capillary Leak Elements, these premium CL Model Leaks are available for helium and virtually all other gases and offer high reliability and long life. They feature unbreakable all-stainless steel construction, an all-metal valve and the unique crimped capillary leak element. The flow rate is relatively insensitive to temperature as compared to permeation-type leaks. They have a low gas depletion rate to provide a long lifetime.

Accu-Flow™ In Line (No Reservoir) Crimped-Capillary Leaks

The CLO Model "In Line" or "Open Style" Leaks do not have an integral gas reservoir and instead are attached to the user's gas supply line. Each leak can provide a wide range of leak rates by using different inlet pressures, for which multiple NIST-traceable calibrations are provided. Available in a variety of designs for helium and all other gases, they are widely used to calibrate leak testing systems, and to build calibrated leaks into test parts of products being leak tested.



Positive Shut-Off (PSO Valve) Calibrated Leaks for All Gases

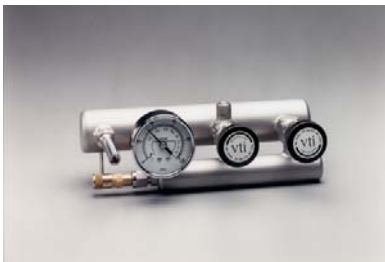
Calibrated Leaks using VTI's proprietary Positive Shut-Off Valve feature instant on and off operation and virtually no dead volume (0.0001cc). These unique VTI products minimize the gas depletion rate, important for high leak rates and expensive gases. Also, they permit essentially no gas burst into sensitive systems upon opening the valve and are thus widely used in leak testing and gas analysis systems. Designs are available with or without reservoirs, and with manual, pneumatic, or solenoid valve operation (PSOM, PSOA, and PSOS Models).

HELIUM & REFRIGERANT SNIFFER CALIBRATORS .....

Reliable sniffer-type leak detection requires frequent validation of the entire leak testing setup by calibrating at the sniffer probe itself. VTI offers a wide range of models of helium and refrigerant calibrated leaks that are designed specifically to avoid false readings and to provide repeatable and accurate sniffer calibrations.

Helium Sniffer Calibrators: Fixed and Variable Rates

VTI provides both Variable-Rate and Fixed-Rate Helium Sniffer Calibrators in either the Crimped Capillary or Teflon Permeation type design. The variable leak rate models (shown) are provided with pressure vs leak rate calibrations to allow the operator to change the leak rate by changing the reservoir pressure. The Fixed and Variable Rate Capillary designs (FSLC and VSLC Models) have leak rates that are insensitive to temperature. The popular Fixed and Variable Teflon Permeation designs (FSLT and VSLT Models) are not susceptible to plugging.



The RLS Refrigerant Leak Standards

The worldwide standard for calibration of refrigerant sniffer leak detectors, VTI's RLS Model calibrated leaks are available for all old and new Refrigerants and all leak rate ranges. Used widely in the automotive and A/C industries, the RLS's are equivalent to the earlier LS-20b model sniffer calibrators. The on-board liquid reservoir is used to refill the vapor phase reservoir, providing a long lifetime. Each RLS has a 10:1 adjustable leak rate range and specific rates or ranges can be ordered. Certified NIST-traceable, A2LA-accredited calibrations are provided.

More refrigerant sniffer calibrators ....

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# SETTING THE STANDARDS FOR TODAY AND TOMORROW

## World Class Calibrated Leaks

### MORE REFRIGERANT SNIFFER CALIBRATORS .....



#### **Fixed-rate Refillable Sniffer Calibrator for All Refrigerants**

The new **FSLTC Model Leak Standards** are designed specifically to calibrate sniffer-type refrigerant leak detectors, and have a permeation-type leak element to avoid possible clogging problems with capillary-type leaks. Available for all refrigerants, the vapor-phase reservoir is refillable by the user. An exact leak rate can be specified within the range of 0.02 to 20 oz/year, and Certification of the NIST-traceable A2LA-accredited calibration at this rate is provided. To aid refilling, the pressure corresponding to this rate is marked on the gauge face.

#### **Fixed-rate Liquid-source Sniffer Calibrator for all Refrigerants**

The new **FSLTL Models** are also refrigerant sniffer calibrators and have the permeation-type leak element not susceptible to clogging. They are available for all refrigerants and for five leak-rate ranges from 0.1 to 3 oz/year. Exact rates within a range can not be specified, but the exact rate after calibration is provided with or without Certification. The reservoir contains refrigerant liquid and gas and lasts for years without refilling. The leak rate is thus sensitive to temperature and should be used close to the actual calibration temperature for critical applications



#### **Low-cost Fixed-rate Sniffer Calibrator for R134a**

The new **RSC Model Sniffer Calibrator** is easy to operate, works for years without clogging or refilling, and is a fraction of the price of other Refrigerant Leaks. This permeation-type leak is built permanently onto the common small refrigerant can of R134a, providing a lifetime supply of refrigerant at typical leak rates. Three standard sizes are available: 0.1 to 0.3 oz/year, 0.3 to 0.5 oz/year and 0.5 to 2.0 oz/year. The precise 'as-calibrated' leak rate, within the requested range, is then provided with each unit, either with or without Certifications.


### LEAK RE-CALIBRATION AND REPAIR SERVICES

VTI is recognized worldwide for its superior re-calibration and repair services for all brands of calibrated leaks, all gases and all leak rates. Certifications are provided documenting the traceability of the calibrations to the U.S. National Institute of Standards and Technology (NIST), and direct comparisons of VTI and NIST calibrations are available. VTI's Calibration Laboratory is Accredited by the American Association for Laboratory Accreditation (A2LA) as meeting the requirements of ISO/IEC 17025 – 1999 and ANSI/NCSL Z540-1-94, the currently applicable standards for calibration laboratories to comply with ISO 9001/9002.

Repair services including replacement parts and refilling or rebuilding services to restore or adjust leak rates are performed for all manufacturers' leaks.



**One of VTI's Calibration Systems**



**VTI's Calibration Laboratory is Accredited by the American Association for Laboratory Accreditation.**

**ACCREDITED**  
**Calibration Laboratory**  
 Certificate No. 1707.01

### MORE INFORMATION ...

Please visit VTI's website for ordering guides, specification sheets and other technical information on Calibrated Leaks and VTI's many other products and services.

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