



HT-LV400R

Re-fillable Vacuum Reference Leak

- **Mass Spectrometer Calibrations**
- **Rechargeable Reservoir
Including Contents/Output Pressure Gauge**
- **400cc High Pressure Reservoir**
- **Variable Flow Rates from 10^{-7} to 10^{-3} mbl/s
(Typical Range 1 Decade)**
- **Patented Manufacturing Process**
- **High Integrity, Nupro Isolation Valve**

High Precision Calibrations + Testing.

The Refillable Vacuum Reference Leak is suitable for calibrations and experiments requiring a flow rate high enough to require a regular gas recharge. This would normally be recommended for flow rates of above 5×10^{-6} mbl/s depending on the gas.

The reference leak has a 400cc reservoir to give a long contents life with a recharge facility available. The product is supplied with a graph of reservoir pressures to allow adjustment of the reservoir pressure to

Stainless Steel Reservoir - In which is contained the calibration gas, typically Helium, Argon, Nitrogen, Hydrogen or a special calibration mix at a maximum of 16 Bar.

Vacuum Sintered Leak - The Leak forms part of the valve seating which minimises the gas held in the aperture behind the valve. Therefore when the valve is opened under vacuum the change in the system's total pressure is barely perceptible.

KEY FEATURES

- High purity Nupro shut-off valve.
- KF Vacuum output fitting as standard, other fittings available.
- Contents pressure gauge for depletion correction or variable flow rate.
- Wide range of gases available.
- Certification traceable to National Standards

APPLICATION

- Calibration of mass spectrometer systems.
- Perfect for R&D and experiments requiring the flow rate to be adjusted.

REFILLABLE VACUUM LEAK - TECHNICAL NOTES

HTP's Refillable Vacuum Leaks are manufactured using a stainless steel vacuum sinter technology. Through years of extensive research HT Products has found that this type of leak performs exceptionally well in comparison to other methods such as permeation membranes or crimped capillaries. The technology and manufacturing techniques are protected by an international patent. The stainless steel sinter technology offers a very quick response time and allows the leak to be subjected to very demanding conditions (high pressure differentials,

The format of the reference leak can be adjusted to suit an individual application. For UHV applications the KF flange can be substituted for a Con-Flat fitting and the Nupro valve can be exchanged for a special 'Zero-Volume' valve which minimises the pressure burst as the valve is activated. This helps to protect sensitive UHV equipment. Please contact HTP to detail your technical requirements who will be happy to help and advise on the options available.



*Krypton Reference Leak, 100cc Reservoir
Nupro Valve and Compound Gauge*



*Stainless Steel Zero-Volume
Valve Option*



*Contents Gauge +
Recharge Fitting*

SPECIFICATIONS

Reservoir Capacity	400cc
Reservoir Gas	Helium, Hydrogen, Nitrogen, Argon, many more available(Customer to Specify)
Reservoir Pressure Range	Typically 0 - 7 bar
Valve	Nupro Shut-Off Valve
Outlet Fitting	KF16 or KF25 Vacuum coupling, Special Fittings Available (Please Enquire)
Recharge Fitting	1/4" BSP Female Fitting w / Ball Valve

PRODUCT OPTIONS

HT9-LV400R-HE-5	Standard LV-400R	Gas : Helium, Flow Rate : 1x10 ⁻⁵ mbl/s to 1x10 ⁻⁴ mbl/s
HT9-LVZV400R-HY-5	Zero Volume LV-400R	Special Zero-Volume Valve, Gas: Hydrogen, Flow Rate: 1x10 ⁻⁵ mbl/s to 1x10 ⁻⁴ mbl/s
HT9-LSZV400R-HY-5	LV-400R	Special Zero-Volume Valve, Gas: Hydrogen, Flow Rate: 1x10 ⁻⁵ mbl/s to 1x10 ⁻⁴ mbl/s

ACCESSORIES

Connection Hoses	KF16 St/St Hoses available - Please Enquire
HT9-KF16SVCR	Pack 10 - KF16 Centering Rings
Fill Lines	Various high pressure fill lines available - Please Enquire
Gas	Special Gas mix or alternative calibration gases available - Please Enquire