

PRODUCT TECHNICAL BRIEF

109241 and E084 Internal Helium Reference Leaks with Verification

109241 and E084 Internal Helium Reference Leaks with Verification. Internal helium reference leaks support automatic calibration and sensitivity checks in compatible ASM-series...

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Technical Data

PARAMETER	PUBLISHED VALUE / INFORMATION
Reference leak / Intended instruments	Function
109241 / ASM 122, ASM 142 and ASM 310 configurations identified in the applicable service documentation	Automatic self-check, sensitivity check and internal calibration
E084 / 121528S / Helium leak detectors designed for the E084 module	Sensitivity check, zero-line monitoring and rapid assessment of the measurement path
Parameter / 109241	E084 / 121528S
Installation / Built-in internal calibrated leak	Built-in internal calibrated leak
Tracer gas / High-purity helium	High-purity helium
Purpose / Self-check and internal calibration of a compatible ASM leak detector	Automatic calibration and sensitivity check of a compatible leak detector
Referenced catalog numbers / 2000049790 / 109241; item PN20048	E084 / 121528S
Reproduced-flow range stated for the type / 1×10^{-9} to 1×10^{-8} Pa·m ³ /s at 20 °C	Use the value stated in the individual certificate or calibration record
Maximum permissible relative error stated for the type / $\pm 15\%$	Use the value stated in the individual certificate or calibration record
Temperature correction stated for the type / $3 \pm 0.5\%$ of reproduced flow per 1 °C	Use the value stated in the individual certificate or calibration record
Connection / Dedicated connection for the applicable ASM 122 / 142 / 310 configuration	Connection specific to the E084 module
Construction / Sealed helium reservoir with a diffusion element	Sealed reservoir with a metering element
Indicative service life / Source record states up to 10 years under specified conditions	Depends on storage, operating conditions and unit documentation

PARAMETER	PUBLISHED VALUE / INFORMATION
Option	Scope
Component supply	Internal reference leak with the documentation and configuration agreed for the order
Supply with Russian verification	Verification documentation for an eligible individual gas-flow measure, subject to confirmation of scope and validity
Service replacement	Removal of the previous module, installation, connection leak test, instrument setup and sensitivity check
Broader instrument service	Agreed inspection of the vacuum section, cathodes, Pirani sensors and response to internal and external reference sources
Product Label	Bestseller

Technical and Project Information

Internal helium reference leaks support automatic calibration and sensitivity checks in compatible ASM-series leak detectors. LeakLab can supply 109241 and E084 configurations with the documentation agreed for the order; Russian metrological verification may be arranged where applicable. Confirm the exact detector model, module, calibrated flow, certificate scope and availability before purchase.

Internal Helium Reference Leaks for ASM-Series Leak Detectors

An internal helium reference leak is a key part of the measurement chain in a helium mass-spectrometer leak detector. It provides a known tracer-gas flow for automatic self-checks, sensitivity monitoring and quantitative calibration.

This page covers two different internal-leak configurations: part number 109241 for specified ASM instruments and the E084 module for instruments designed for that assembly. They are not interchangeable solely on the basis of the model family. Confirm the full detector identification, connection and service documentation before ordering.

LeakLab can supply an internal reference leak separately or install it during service work. The individual unit's calibration or verification documentation, flow value, validity and intended jurisdiction must be agreed for each order. Availability is confirmed on request.

Function in the Leak Detector

During a self-check or calibration sequence, the leak detector connects its vacuum path to the internal reference leak, measures the response to the documented helium flow and compares it with the configured value. Depending on the instrument, it then checks or adjusts internal coefficients and reports whether the measurement channel is ready for use.

A weak, unstable or incorrect internal-leak signal can indicate depletion of the helium reservoir, contamination, damage, measurement-channel drift or another instrument fault. An instrument may still appear operational while its quantitative results no longer meet the required procedure. The internal reference leak should therefore be included in planned diagnostics and calibration control.

Russian Verification Option

The source product record states that helium gas-flow measures in the 10xxxx and Fx4xxx series belong to a Russian approved measuring-instrument type and can be verified under procedure MP 231-0013-2011, approved by the D. I. Mendeleyev Institute for Metrology (VNIIM). It also states a one-year verification interval.

This regulatory status is jurisdiction-specific. Before ordering, confirm that the exact part number and serial number are covered, that the verification remains valid, and that the resulting documents meet the requirements of the country and quality system in which the instrument will be used.

Configurations and Intended Compatibility

Compatibility must be checked against the complete instrument model, variant, serial number and connection. Product-family names alone do not guarantee fit.

Technical and Metrological Data

The certificate or calibration record supplied with the individual unit controls all quantitative use. It should identify the actual flow, reference temperature, correction data, uncertainty or error limits, date, validity and traceability information.

Operating Principle

The reference leak contains helium above atmospheric pressure in a sealed volume. Helium passes continuously through a permeable membrane or metering element, producing a stable flow. During internal calibration, this flow enters the vacuum path and mass-spectrometer cell. The measured signal is compared with the configured reference value to assess instrument response.

Supply and Service Options

Operating Recommendations

- Run the internal reference-leak check at the interval specified by the instrument manual and test procedure.
- Compare the response with the unit-specific documented value after applying the stated temperature correction.
- Investigate unstable or materially shifted readings before using the detector for critical quantitative tests.
- Store spare modules in closed packaging within their specified temperature and humidity range.
- Replace or recalibrate the reference leak according to its documentation and the applicable quality procedure.

Contact LeakLab with the detector model, serial number, existing module identification and required documentation so that compatibility, calibrated-flow range, verification options, delivery and installation can be confirmed.

- Helium Reference Leaks Capillary Helium Reference Leaks Gelit Reference Leaks Reference Leaks for Pfeiffer and Adixen ASM Detectors
- Capillary Helium Reference Leaks
- Gelit Reference Leaks
- Reference Leaks for Pfeiffer and Adixen ASM Detectors
- Scanning Electron Microscopes
- Leak-Detector Accessories

WORLDWIDE PROJECT CONTACT

Send the test object or system, operating conditions, target sensitivity or pressure range, applicable standard, destination country, quantity and schedule. LeakLab will review the project scope.

mail@leaklab.org

Regarding: 109241 and E084 Internal Helium Reference Leaks with Verification

Specifications, standards, verification scope, availability and commercial terms must be confirmed for the exact configuration and destination jurisdiction before order or project acceptance.