Operating instructions

Test Leak TL6, TL7, TL8 and TL9

Test Leak

Catalog No.
14210, 16557, 14408, 16557, 560-323, 560-360

From software version
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linb86en1-04-(2604)

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1 About this manual

This document applies to the calibration leaks stated on the title page.

Product names may occur in the document, which are added for identification purposes only and belong to the respective owner of the rights.

1.1 Warnings

⚠ DANGER

Imminent hazard resulting in death or serious injuries

⚠ WARNING

Hazardous situation resulting in potential death or serious injuries

⚠ CAUTION

Hazardous situation resulting in minor injuries

NOTICE

Hazardous situation resulting in damage to property or the environment

2 Safety

2.1 Intended use

- Only operate the calibration leak as intended, as described in the instruction manual, in order to avoid hazards due to incorrect usage.
- Comply with application limits, see "Technical Data".

Incorrect usage

Avoid the following unintended uses:

- Operation of the calibration leak by untrained personnel
- Use outside the technical specifications, see "Technical Specifications"
- Use of the calibration leak in case of recognizable defects
- Operation at too high ambient temperature
- Using the calibration leak outside of the specific area
- Exceeding permissible environmental conditions for calibration leaks

2.2 Duties of the user

- Read, observe, and follow the information in this instruction manual and in the work instructions provided by the owner. This concerns in particular the safety and warning instructions.
- Always observe the complete operating instructions for all work.

- If you have any questions about operation or maintenance that are not answered in this manual, contact customer service.

2.3 Requirements for the user

The following notes are for companies or any person who is responsible for the safety and effective use of the calibration leak by the user, employees or third parties.

Safety-conscious operation

- Only operate the calibration leak if it is in a technically perfect condition and shows no signs of damage such as escaping solvents.
- Only operate the calibration leak as intended, in a safety and risk conscious manner, and in accordance with this instruction manual.
- Adhere to the following regulations and observe their compliance:
  - Intended use
  - General applicable safety and accident prevention regulations
  - International, national and local standards and guidelines
  - Additional device-related provisions and regulations
- Keep this instruction manual available on site.

Personnel qualifications

- Only allow instructed personnel to work with the calibration leak leak. The instructed personnel must have received training in handling the calibration leak.

- Make sure that authorized personnel have read and understood the instruction manual and all other applicable documents.

3 Scope of delivery, transport, storage

Scope of delivery

TL6, TL7, TL8, TL9	Quantity
Helium calibration leak	1
Instruction manual	1

- ▶ Check the scope of delivery after receipt of the calibration leak to make sure it is complete.

Transport

NOTICE

Damage caused by transport

Transport in unsuitable packaging material can damage the calibration leak.

- ▶ Only transport the calibration leak in suitable packaging.

Storage

NOTICE

Calibration leak defect due to improper storage

Excessive humidity in conjunction with condensate formation can significantly reduce the service life of the calibration leak.

- ▶ In the sealed and damage-free PE bag together with the original silica gel, a storage time of at least two years is guaranteed. We recommend replacing the desiccant bag after two years.
- ▶ Store the calibration leaks in a cool place.

4 Description

Fig. 1: Calibration leak 14210, 14211, 14008, 16557

1	Valve	2	Connection flange

4.1 Function

The TL6, TL7, TL8 and TL9 calibration leaks, which include their own helium supply, are used to tune a helium mass spectrometer and calibrate the leak rate indication. In order to stop helium leakage during the zero-point check of the leak detector, the TL6, TL7, TL8 and TL9 calibration leaks are equipped with a diaphragm valve.

The helium flows continuously through the leak and collects before the valve when it is closed. On opening the valve, the accumulated helium streams out and causes a temporary deflection on the leak rate meter which is greater than the nominal leak rate.

4.2 Handling

NOTICE

Calibration leaks are sensitive test equipment and have glass components in their interior that can be destroyed if handled improperly.

- ▶ Do not drop the calibration leak.
- ▶ If you drop the calibration leak, send the calibration leak to the manufacturer for inspection.

When the calibration leak is not used, ensure that the valve remains open when installed.

The TL6, TL7, TL8 and TL9 calibration leaks have a ball valve in the connection flange. This ball valve may not be opened under any circumstances because the tracer gas will then flow out in an unhindered manner.

When removing the calibration leak, close the connection flange using a protective cap with a hole.

Faulty nominal leak rate

The nominal leak rate does only apply if the calibration leak is fitted to a vacuum system at a pressure of less than 1 mbar. In addition, accumulated helium falsifies the nominal leak rate and can only be removed by prolonged pumping.

Always leave the calibration leak valve of the TL6, TL7, TL8 and TL9 calibration leaks so that helium does not accumulate in the sealing diaphragm.

4.3 Technical data

Calibration leak	TL6	TL7	TL8	TL9
Leak rate range [mbar·l/s]	1.2×10^{-6} to 2×10^{-6}	4×10^{-7} to 9×10^{-7}	2×10^{-8} to 7×10^{-8}	2×10^{-9} to 7×10^{-9}
Tolerance	± 15%	± 15%	± 15%	± 15%
Filling	He	He	He	He
Connection flange	DN 10 KF	DN 10 KF	DN 10 KF	DN 10 KF

Filling pressures

Catalog number	He calibration leak	Filling pressure absolute [bar]
560-360	TL6	6
560-323	TL7	6
11514 DAKKS certified	TL7	6
14210	TL7	6
14211	TL7	2.9
16557	TL8	5
16557DKD	TL8	5
14408	TL9	0.7

5 Decommissioning

5.1 Disposing of the calibration leak

The calibration leak can either be disposed of by the operator or be sent to the manufacturer. The calibration leak consists of materials that can be recycled. This option should be exercised to prevent waste and also to protect the environment.

- During disposal, observe the environmental and safety regulations of your country.

5.2 Sending the calibration leak for inspection or disposal

⚠ WARNING

Danger due to harmful substances

Contaminated calibration leaks can endanger the health. The contamination declaration serves to protect all persons who come into contact with the calibration leak.

▶ Fill in the declaration of contamination completely.

1. Please to get in touch with us and send a completed declaration of contamination before sending anything to us.
   ⇨ We will then send you a return authorization number and the shipping address.
2. Use suitable packaging for the return.
3. Before sending the calibration leak, attach a copy of the completed declaration of contamination. See below.

Declaration of Contamination

The service, repair, and/or disposal of vacuum equipment and components will only be carried out if a correctly completed declaration has been submitted. Non-completion will result in delay.
This declaration may only be completed (in block letters) and signed by authorized and qualified staff.

1 Description of product
Type
Article Number
Serial Number

2 Reason for return

3 Operating fluid(s) used (Must be drained before shipping.)

4 Process related contamination of product:

toxic	no ❑ 1)	yes ❑
caustic	no ❑ 1)	yes ❑
biological hazard	no ❑	yes ❑ 2)
explosive	no ❑	yes ❑ 2)
radioactive	no ❑	yes ❑ 2)
other harmful substances	no ❑ 1)	yes ❑

The product is free of any substances which are damaging to health yes ❑

1) or not containing any amount of hazardous residues that exceed the permissible exposure limits

2) Products thus contaminated will not be accepted without written evidence of decontamination!

5 Harmful substances, gases and/or by-products
Please list all substances, gases, and by-products which the product may have come into contact with:

Trade/product name	Chemical name (or symbol)	Precautions associated with substance	Action if human contact

6 Legally binding declaration:
I/we hereby declare that the information on this form is complete and accurate and that I/we will assume any further costs that may arise. The contaminated product will be dispatched in accordance with the applicable regulations.

Organization/company
Address
Post code, place
Phone
Fax
Email
Name

Date and legally binding signature

Company stamp

Copies:
Original for addressee - 1 copy for accompanying documents - 1 copy for file of sender

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