O P E R A T I N G I N S T R U C T I O N S

lina85 e1-a (0308)

TL 8
TL 9

Cat. No.
165 57
144 08

Calibrated Leaks with Helium Reservoir

INFICON

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General Note
The right of alterations in the design and the technical data is reserved.
The illustrations are not binding.

Contents

1 Technical Data

CALIBRATED LEAK Cat. No.		TL 8 165 57	TL 9 144 08
Calibration range	mbar·l·s^{-1}	10^{-8} *)	10^{-9}
Inaccuracy	%	± 15	± 15
Gas supply		He	He
Connecting flange	DN	10 KF	10 KF
Temperature coefficient	% / °C	+ 3,5	+ 3,5
Ambient temperature, max.	°C	70	70

*) at a pressure < 1 mbar at the KF flange connection

2 Description

The CALIBRATED LEAKS TL 8 and TL 9 which include their own helium supply are used for tuning a helium mass spectrometer and for calibrating the leak rate indication. The CALIBRATED LEAKS TL 8 and TL 9 are equipped with a diaphragm valve to shut off the emission of helium gas during zero-checking of the leak detec-

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2

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tor. This means that the actual leak is not closed. The helium - the supply lasts for more than 10 years - 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.

The nominal leak rate does only apply if the calibrated leak is fitted to a vaccum system at a pressure of less than 1 mbar. **When the CALIBRATED LEAKS TL 8 and TL 9 are laid off for storage, the valve must always remain open to prevent absorption of helium in the sealing diaphragm.** Such absorbed helium would falsify the nominal leak rate and could only be removed by pumping over a long time. Close the connecting flange by a protective cap or a black flange.

In exceptional cases (particularly when using the calibrated leak on older-type systems) it might occur that an exact conformity of the calibrated leak rate with the leak-detector reading cannot be achieved. In most of these cases the pumping speed available at the mass spectrometer will be too low. Then please contact our Servicing Department for the action to be taken.

3 Handling of Calibrated Leaks

Calibrated leaks are delicate instruments and should be carefully handled and protected against shocks. The calibrated leaks are made of glass contained in a protective metal tube. Therefore, the calibrated leaks should only be stored in a dry dust-free place. When unused, the built-in valve should remain open - see also § 2. If the sealed-off glass tip in the search gas filling port of the CALIBRATED LEAK TL 8 becomes damaged due to rough handling, a loss of search gas may cause a change of the nominal leak rate.

Instead of a sealed-off glass tip the CALIBRATED LEAK TL 9 has a ball valve within the connection flange. Never open this valve which can be operated by a hexagon socket screw key because in this case a complete loss of search gas will occur.

4 Factory Inspection

Calibrated leaks are not subject to wear and the helium loss of the CALIBRATED LEAKS TL 8 and TL 9, being less than 1 % per year, is negligible. Nevertheless, the leak rate may be changed over years by external influen-

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A test certificate, if required for the helium calibrated leak, can be obtained from our Cologne Works. In that case, the calibrated leak should be forwarded to us and will be returned inspected and recertified with the test certificate against charge.

5 Spare Parts

Rotary knob	Ref. No. 200 27 462
Cap	Ref. No. 200 29 737
Valve diaphragm	Ref. No. 224 71 107
Spring	Ref. No. 221 61 181

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