Capillary Test Leaks
KL

Status: 14/06/2021

Test leaks are used to simulate leaks when adjusting or monitoring leak testing equipment or as monitoring and adjusting gauges for flow rate measuring devices. They are used in place of the device under test or in parallel to an impermeable device under test.

- Capillaries made of borosilicate glass
- Leakage rates from 0.01 Sml/min to 1500 Nml/min
- Input pressures up to 40 bar
- Manufacturing tolerance optionally better than ±5%
- Easy handling and long service life
- Delivery with factory or DAkkS calibration certificate

Technical Description

The test leaks consist of a one-part stainless steel housing with a G1/8" external thread on each side into which a glass capillary is inserted. A filter matching the diameter of the capillary protects the capillary tube against dirt.
The capillary establishes a defined flow rate depending on the operating conditions and gas type. The capillary made of the specially high-quality borosilicate glass has a double seal.

Specifications

Flow-Rates

Standard volume flow	0.01 Sml/min to 1.5 Sl/min

Operating Pressure

Input pressure	max. 40 bar

Temperature Conditions

Operation:	0 .. +80 °C

Media Compatibility

Air and gases that are compatible with stainless steel (1.4305), borosilicate glass, FPM and sinter bronze.

Manufacturing tolerance and calibration accuracy

Manufacturing tolerance	±5%, ±10% or customized	
Calibration accuracy (air)	0,1…<1 Sml/min	< ±2 - 3%
	1…<170 Sml/min	< ±1%
	170...1500 Sml/min	< ±0,65%

Calibration and standard conditions may differ from each other. Better accuracies on request.

Housing

Dimensions:	Wrench size 17 mm
	Length across everything 104 mm
	Length between sealing surface 90 mm
Material	Housing stainless steel (1.4305)
	Seals FPM
Weight	approx. 80 g

Process Connections

On both sides G1/8" external thread with chambered O-ring for sealing surface Ø15.7 mm, screw-in depth 7 mm

Design Data for Test Leak

The test leak is designed and manufactured according to the order code.

Structure of the Order Code

KL-*aaaaab-ccccc-deeeee-ff-gg-hh-i*

aaaaa	**Standard volume flow in Sml/min**
0,010	e.g. for 0.010 Sml/min
b	**Standard conditions for specified flow rate**
A	Relative to 1000 mbar, 20 °C, 0% rel. hum,
...	other standard conditions available on request
ccccc	**Differential pressure input/output in mbar**
02000	e.g. for 2000 mbar
d	**Other conditions relative to**
A	Output (typically for pressure operation)
E	Input (typically for vacuum operation)
eeeee	**Absolute pressure in mbar**
01000	e.g. for 1000 mbar absolute
ff	**Temperature in °C**
20	e.g. for 20 °C
gg	**Relative humidity as %rel. hum.**
40	e.g. for 40% rel. hum.
hh	**Gas type**
01	Air,
05	He (helium),
07	N2 (nitrogen)
...	other gases on request
i	**Manufacturing tolerance**
5	±5% of the nominal value,
X	±10% of the nominal value,
K	customer-specific

Not all combinations of flow rate / pressure are possible!

Example:

KL-0.010A-02000-A01000-20-00-01-5

Capillary test leak, standard volume flow 0.010 Sml/min based on 1000 mbar, 20°C, 0% rel. hum., design differential pressure 2000 mbar, outlet pressure 1000 mbar absolute, temperature 20 °C, humidity 0% rel. hum., medium air, manufacturing tolerance ±5% of nominal value.

Accessories and Services

Attachment Accessories

KL-SSK	Stäubli quick coupling
KL-GSV	Straight quick connector
KL-SHD	Sound absorber (as dirt protection)

Safekeeping

KL-HE1	Wooden case for test leak
KL-HE3	Wooden case for max. three test leaks
KL-AE2	Aluminum case for max. two test leaks

Additional Calibration Services

Calibrations under other operating conditions or (for additional charge) DAkkS instead of factory calibration available on request.

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