 Margin of error KAL 100 (3 Pa margin of error for the reference) ± 0.2 % of max. value
Measurement ranges > 0 .. 200 Pa ± 0.05 Pa
± 0.5 % of max. value
Measurement ranges ≤ 0 .. 200 Pa ± 0.02 Pa

Margin of error KAL 200 (3 Pa margin of error for the reference) ± 0.1 % of max. value
Measurement ranges > 0 .. 200 Pa ± 0.02 Pa
± 0.2 % of max. value
Measurement ranges 0 .. 200 Pa ± 0.03 Pa
± 0.3 % of max. value
Measurement ranges 0 .. 100 Pa ± 0.01 Pa

Hysteresis 0.1 % of max. value
Overload capacity 600 kPa for measurement ranges > 3 kPa
200 x for measurement ranges ≤ 3 kPa

Temperature coefficient zero point ±0 % (cyclical zero-point correction)
Temperature coefficient span KAL 100: 0.04 % of max. value / K (10 .. 40 ° C)
KAL 200: 0.03 % of max. value / K (10 .. 40 ° C)

Calibration temperature 22 ° C
Medium air, all non-aggressive gases
Measurement input / power supply (test object) 0 .. 10 V, 0 / 4 .. 20 mA
Accuracy: 0.2 % of max. value
24 V DC / 100 mA
Display Alphanumeric display with 2 x 20 characters, backlighting

Operating temperature 10 .. 40 ° C
Storage temperature - 10 .. 70 ° C
Weight approx. 4.5 kg
Pressure ports Ø 6 mm, for tubing NW 5 mm

Certificates CE

Features
- High precision measurement and calibration device
- Runs on mains supply or battery, highly flexible (optional)
- Battery life approx. 8 hours, ideal for mobile applications
- Automatic zero-point correction provides high zero-point stability
- Internal pump quickly and accurately generates negative or positive differential pressures of up to 100 kPa
- Optional USB interface available (Standard for KAL 200)
- Factory calibration certificate supplied as standard (KAL 200)
- Unit conversion (e.g. mmHg, mmH₂O, psi, etc.)
- Multilingual menu (English/French/German/Italian/Spanish)
- With power supply and measurement input for the external test object (transmitter being calibrated)
APPLICATIONS FOR THE KAL CALIBRATION DEVICE

Eliminate the time and expense of sending your pressure gauges to an external calibration laboratory. KAL uses a rechargeable battery and is therefore ideal for mobile applications. KAL enables you to calibrate pressure gauges yourself. However, if you wish to use the calibration device as a reference, it should be calibrated by DAkkS.

The KAL range provides the optimum solution for the following typical (mobile or stationary) applications:

- calibration of differential pressure gauges in cleanrooms (pharma, semiconductors etc.)
- calibration of blood pressure monitoring equipment in hospitals etc.
- calibration of differential pressures in air-conditioning systems

EFFICIENT ON-SITE CALIBRATION OF BLOOD PRESSURE MONITORS

Every hospital and nursing home now uses blood pressure monitors. These devices must be accurate and reliable. They must operate over months and years without deviation and are calibrated annually. During this process, the measured value from the blood pressure monitor is compared with a highly accurate reference value.

Calibrations of this type can be performed efficiently: technical service staff can calibrate blood pressure monitors on-site rather than removing them from hospital wards to be sent to external calibration laboratories. This eliminates costs for logistics and shipping times.

The KAL 200 from halstrup-walcher is battery-powered and the perfect tool for this important task. The PC software enables you to pre-program and save pressure sequences. The KAL 200 pressure generator accurately generates the target pressure – the actual value is read from the blood pressure monitor. The actual values are entered directly on-site into standardised test protocols which you can manage in the hospital’s or nursing home’s building management software. The data are now available at any time.

In practice: Blood pressure monitors in the nursing home Solina in Spiez (Switzerland) are calibrated by the technician responsible.
HIGH PRECISION ON-SITE MEASUREMENT AND CALIBRATION

The KAL range from halstrup-walcher offers 3 pressure calibration devices which offer outstanding value for money and can be used either for stationary (e.g. in a customer’s own laboratory) or mobile applications. These devices combine the following features:

- integrated pressure generation (for setting the calibration point)
- high-precision pressure measurement

In the KAL84, the pressure is generated using a manual pump and integrated pressure bellows. In the KAL100/200, the calibration point (target pressure) is entered via the keyboard. A high precision pump automatically generates the target pressure. The user can select not only the display language but also the unit of pressure.

<table>
<thead>
<tr>
<th>Product</th>
<th>KAL 200</th>
<th>KAL 100</th>
<th>KAL 84</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details on</td>
<td>p. 36</td>
<td>p. 36</td>
<td>p. 37</td>
</tr>
<tr>
<td>Pressure generation</td>
<td>automatic</td>
<td>manual</td>
<td></td>
</tr>
<tr>
<td>Applications</td>
<td>mobile or stationary (laboratory)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement ranges</td>
<td>0 .. 100 Pa / 0 .. 200 Pa / 0 .. 500 Pa / 0 .. 1 kPa / 0 .. 2 kPa / 0 .. 5 kPa / 0 .. 10 kPa / ± 100 Pa / ± 200 Pa / ± 500 Pa / ± 1 kPa / ± 2 kPa / ± 5 kPa / ± 10 kPa / ± 20 kPa / ± 50 kPa / ± 100 kPa</td>
<td>0 .. 100 Pa (0 .. 1 mbar) / 0 .. 1 kPa (0 .. 10 mbar) / 0 .. 10 kPa (0 .. 100 mbar) / 0 .. 100 kPa (0 .. 1000 mbar) / 0 .. 300 mmHg (0 .. 400 mbar)</td>
<td></td>
</tr>
<tr>
<td>Margin of error</td>
<td>± 0.1 % of max. value Measurement ranges &gt; 0 .. 200 Pa / ± 0.2 % of max. value Measurement ranges 0 .. 200 Pa / ± 0.3 % of max. value Measurement ranges 0 .. 100 Pa / ± 0.3 Pa margin of error for the reference</td>
<td>± 0.2 % of max. value Measurement ranges &gt; 0 .. 200 Pa / ± 0.5 % of max. value Measurement ranges 0 .. 200 Pa / ± 0.5 % of max. value Measurement ranges ≤ 0 .. 200 Pa / ± 1 digit Measurement ranges ≤ 0 .. 50 kPa / ± 1 digit</td>
<td>± 0.2 % of max. value ± 1 digit Measurement ranges 0 .. 200 Pa / ± 0.5 % of max. value ± 1 digit</td>
</tr>
<tr>
<td>Interface</td>
<td>USB (standard)</td>
<td>USB (optional)</td>
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</tr>
<tr>
<td>Analog measurement input for test object</td>
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<td>optional</td>
<td>-</td>
</tr>
<tr>
<td>Battery life (rechargeable)</td>
<td>8 h</td>
<td>8 h</td>
<td>2 h</td>
</tr>
<tr>
<td>Factory calibration certificate</td>
<td>✓</td>
<td>optional</td>
<td>optional</td>
</tr>
</tbody>
</table>

USER SOFTWARE FOR THE KAL 100/200

Control calibration processes from your PC. The KAL 100/200 calibration devices with USB port can be operated using our user software. You have a choice of three operating modes: target value mode, pressure measurement and test mode.

Define calibration points and run to them automatically. Once you have saved a defined calibration run, you can use it again for another or the same pressure transmitter.

You can also use the software to set parameters which you would otherwise set using the display’s operating menu (unit, language, zero-point adjustment,...). You can find the free user software at: www.halstrup-walcher.de/en/software