

Calibration service for DAkkS-accredited calibrations and factory calibrations

Ahlborn has been providing calibration services at the highest level for more than 30 years. In the laboratory building, which is equipped with the latest technology, calibration tasks are carried out with the lowest measurement uncertainty.

The Ahlborn calibration laboratory complies with the latest normative requirements of DIN EN ISO/IEC 17025:2018 and offers DAkkS accredited calibrations for

- Temperature from -100 to +1200 °C
- Air humidity from 10 to 98 % r.h. at ambient temperature from +10 to +95 °C
- Flow velocity from 0.1 m/s to 65 m/s
- Pressure from 0.03 bar to 700 bar
- Electrical measured variables

In addition, factory calibrations are possible for all measurands that can be acquired by ALMEMO® measurement technology. The scope of calibration includes a visual inspection/cleaning, a functional test, a firmware update, the creation of a bilingual calibration certificate with nominal/actual value, deviation, measurement uncertainty, calibration mark and calibration number. Extensive selective precision adjustments to increase the accuracy of ALMEMO® measuring systems are possible. Another special feature is the calibration of climate measuring points excluding radiant heat with smallest measurement uncertainty in specially designed, high-precision climate test chambers.
Conformity assessments are included for all Ahlborn sensors and are also available as an option for third-party sensors.

In addition to calibrating our digital sensors, we also offer calibration services for analog measurement chains (ALMEMO® sensors with ALMEMO® data loggers).

Equipment for calibration laboratories

ALMEMO® reference measuring instruments offer highest resolution, precision and linearity. They were developed for use in calibration laboratories and for quality assurance. Currently available are reference meters for temperature (Pt100 and thermocouple) and humidity. A special ALMEMO® measuring system was developed for the calibration of climatic chambers according to the guideline DAkkS-DKD-R 5-7. Ask us for further solutions in the field of calibration, quality assurance and reference measurement technology.

08/2026 • We reserve the right to make technical changes.

Calibration Certificates

Temperature

Caibration certificate for temperature measuring chains consisting of a contact temperature sensor and an instrument (also individual sensors). The calibration of the sensors or sensor + measuring instrument (measuring chain) is performed in a liquid bath, in a dry-well calibrator or in a climatic chamber.

DAkkS accredited Calibration Certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products). Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

Package offer (basic rate + 3 points 0 °C, 50 °C, 100 °C)	**KT9021D**
Measuring points, freely selectable: At least two calibration points are required for calibration	
Basic fee	**KT9001D**
Measuring point fee per sensor, one measuring point, temperature range up -100 to +1200 °C	**KT9011D**
Measuring point fee per sensor, one measuring point -196 °C	**KT9012D**

Factory Calibration Certificate

Calibration compares measured values against reference values based on national standards.

Package offer (basic rate + 3 points 0 °C, 50 °C, 100 °C)	**KT9021W**
Measuring points, freely selectable: At least two calibration points are required for calibration	
Basic fee	**KT9001W**
Measuring point fee per sensor, one measuring point, temperature range up -100 to +1200 °C	**KT9011W**
Measuring point fee per sensor, one measuring point -196 °C	**KT9012W**

Correction / adjustment of temperature sensors during first calibration

To increase the accuracy, an adjustment of the probe is carried out during the initial calibration of a temperature probe. The correction values for zero point and slope are stored in the probe connector. The specified measured values in the certificate correspond to the corrected values. The correction can be performed as DAkkS accredited calibrations and factory calibrations.

Calibration certificate - temperature - sensor deviation reduced to zero

Multi-point adjustment for ALMEMO® measuring chains — Order no.

(preferably using Pt100 and NTC sensors)

For the measurable variable temperature, for calibration packages and for single points (at least 2 temperature points, temperature point 0 °C obligatory), additional charge per sensor for factory calibration / DAkkS accredited calibration (German calibration service)	**KT9001DW**

Calibration and adjustment of the ALMEMO® measuring chain are performed for the whole of the sensors measuring range at the points in the calibration package.

Calibration and adjustment of the ALMEMO® measuring chain (preferable using Pt100 and NTC sensors) are performed on the selected temperature points (temperature point 0 °C obligatory). Outside the calibrated range (below the lowest and above the highest calibration points) linear interpolation is performed up to the limits of the device`s measuring range (e.g. Pt100 0.01 K from -200 to +400 °C).

During the calibration of the ALMEMO® measuring system, the sensor deviation is determined in every calibration point and then saved as correction value for that calibration point to the patented ALMEMO® plug. The measured values for such multi-point adjusted sensors are then listed in the calibration certificate. This means that the identified sensor deviations are close to zero.

With thermocouples, as is generally the case, the indicated (adjusted) values in the calibration certificate are only valid if the device is in a stationary, thermally steady-state condition.

Advisory note:

On temperature sensors with special linearization or special measuring ranges saved to the ALMEMO® connector (e.g. ALMEMO® connector ZA9040SS3 NTC 0.001 K or ALMEMO® connectors with KTY84, YSI400, or customized NTC) multi-point adjustment is not possible.

Infrared Temperature Measurement

Calibration certificate for temperature measuring chains consisting of an IR temperature sensor and an instrument (also individual sensors).

DAkkS accredited Calibration Certificate

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products).

Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

On request!

Calibration certificates for meteorological transducers FMD7 60

DAkkS accredited calibration certificate	Order no.
The DAkkS accredited calibration meets the requirements of DIN EN ISO/IEC 17025 for test equipment (i.a. for monitoring production processes or qualification assurance of products). Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.	
Temperature and Relative Air Humidity	**KH9546D**
Absolute pressure	**KD9312BD**
Wind velocity (also for FMD7 20) Package offer (calibration in the range 4 to 16 m/s for a wind direction of approx. 0 °)	**KV9225D**
Wind direction (also for FMD7 20) Package offer (calibration in the range 5 ° to 355 ° for a wind velocity of approx. 10 m/s)	**KV9324D**

Factory Calibration Certificate

Calibration compares measured values against reference values based on national standards.	
Absolute pressure	**KD9310CW**
Wind velocity and wind direction (also for FMD7 20)	
Package offer (calibration in the range 2 to 50 m/s. For wind velocities in the range of 2 to 50 m/s the deviations of the wind velocity and the wind direction are calculated from the root-mean-square of the measured values taken from different directions.)	**KV9425W**

09/2026 • We reserve the right to make technical changes.

Calibration Certificates

Air Humidity

Calibration certificate for humidity measuring chains consisting of capacitive humidity sensor / psychrometer and measuring instrument.

DAkkS accredited Calibration Certificate — Order no.

The DAkkS accredited calibration meets the requirements of DIN EN ISO/IEC 17025 for test equipment (i.e. for monitoring production processes or qualification assurance of products).

Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

Package offer for sensor types FHAD46xxx, FH17461

First sensor (20% / 53% / 75% at approx. 25 °C) including input calibration, adjustment, and output calibration	**KH9546D**
From the second sensor onward	**KH9546D2**

Package offer for sensor types FHAD36xxx, FHA646, FPAD363

First sensor (20% / 53% / 75% at approx. 25 °C)	**KH9536D**
From the second sensor onward	**KH9536D2**

Measuring points, freely selectable

Basic rate for 1 certificate	**KH9166D**
Measuring points rate per sensor for 1 climate point Temperature range +10 to +95 °C and humidity in the range 10 to 95 % r.H.	**KH9166DP**
Measuring points rate per sensor for 1 climate point Temperature range +10 to +95 °C and humidity in the range >95 to 98 % r.H.	**KH9166DP2**
Measuring points rate per sensor for 1 temperature point Temperature range -30 to +150 °C	**KH9166DT**

Factory Calibration Certificate

Package offer for sensor types FHAD46xxx, FH17461

First sensor (11% / 53% / 75% at approx. 25 °C)	**KH9546W**
From the second sensor onward	**KH9546W2**

Dew point

Test certificate for the dew point sensor FHAD 46-DTCx

Test according to the comparative method at an ambient temperature of approx. 25 °C. Basic rate + 1 dew point in the range -80 to +20 °C dew point	**KH9316W**
Supplement for KH9316W 1 additional dew point in the range -80 to +20 °C dew point	**KH9316WP**

Pressure

Calibration according to DIN 16005/16086.
This calibration can be performed with pressure transducers or transducer + measuring instrument (measuring chain):

- Pressure range up to 400 bar (gas) or 700 bar (oil)
- Procedure A, B, or C (according to DKD-R 6-1)
- DAkkS accredited calibration certificate or factory calibration certificate

DAkkS accredited Calibration Certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products).

Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

Procedure C, 5 equidistant points, up to 400 bar	**KD9310CD**
Procedure C, 10 equidistant points, up to 400 bar	**KD9311CD**
Procedure B, 10 equidistant points, up to 400 bar	**KD9312BD**
Procedure A, 10 equidistant points, up to 400 bar	**KD9313AD**
Procedure C, 5 equidistant points, up to 700 bar	**KD9410CD**
Procedure C, 10 equidistant points, up to 700 bar	**KD9411CD**
Procedure B, 10 equidistant points, up to 700 bar	**KD9412BD**
Procedure A, 10 equidistant points, up to 700 bar	**KD9413AD**

Factory Calibration Certificate

Calibration compares measured values against reference values based on national standards.

Procedure C, 5 equidistant points, up to 400 bar	**KD9310CW**
Procedure C, 10 equidistant points, up to 400 bar	**KD9311CW**
Procedure B, 10 equidistant points, up to 400 bar	**KD9312BW**
Procedure A, 10 equidistant points, up to 400 bar	**KD9313AW**
Procedure C, 5 equidistant points, up to 700 bar	**KD9410CW**
Procedure C, 10 equidistant points, up to 700 bar	**KD9411CW**
Procedure B, 10 equidistant points, up to 700 bar	**KD9412BW**
Procedure A, 10 equidistant points, up to 700 bar	**KD9413AW**

Pressure with sensor deviation reduced to zero

Multi-point adjustment for ALMEMO® measuring chains — Order no.

For the measurable variable pressure, for calibration packages,
additional charge per sensor for factory calibration / DAkkS accredited calibration — **KD9001DW**

For the ALMEMO® measuring chain, calibration and adjustment are carried out in the entire measuring range of the sensor at the points of the calibration package.

During the calibration of the ALMEMO® measuring system, the sensor deviation is determined in every calibration point and then saved as correction value for that calibration point to the ALMEMO® plug. The measured values for such multi-point adjusted sensors are then listed in the calibration certificate. This means that the identified sensor deviations are close to zero.

08/2026 • We reserve the right to make technical changes.

Calibration Certificates

Air Flow

Calibration certificate for rotating vanes, Pitot tubes and thermoanemometers.

DAkkS accredited Calibration Certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products).

Calibration is performed in a wind tunnel based on measurement comparison against a laser Doppler anemometer by a DAkkS accredited laboratory.

Package offer (Basic rate + 5 points in the range 0.2 m/s to 65 m/s)	**KV9075D**
Supplement to KV9075D: 1 additional measuring point	**KV9075DP**

Factory Calibration Certificate

Calibration is performed in a wind tunnel based on measurement comparison against a laser Doppler anemometer.

Package offer (basic rate + 3 points 0.5 m/s / 5 m/s / 10 m/s)	**KV9025W**
Package offer (basic rate + 3 points 5 m/s / 10 m/s / 19 m/s)	**KV9035W**
Package offer (basic rate + 3 points 7 m/s / 20 m/s / 30 m/s)	**KV9045W**
Package offer (basic rate + 3 points 0.5 m/s / 1 m/s / 1.75 m/s)	**KV9055W**
Package offer (basic rate + 3 points 0.5 m/s / 0.8 m/s / 1 m/s)	**KV9065W**

Measuring points, freely selectable

Basic rate	**KV9005W**
Per measuring point and sensor Meas. range 0.2 m/s to 65 m/s.	**KV9015W**

Flow measurement in liquids

Calibration certificate for turbine flow meters or flow sensors

DAkkS accredited Calibration Certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products).

Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

Calibration of the volume flow rate in l/min (up to maximum 200 l/min) in the flow test bench.
Measuring medium: Water
Calibration at 5 measuring points, logarithmically distributed within the measuring range of the sensor.

For recalibration:

Calibration of the current state. Package offer	**KV9145D**

Linked to the new delivery of the flowmeter for liquids:

Determination of the K factor, programming of the ALMEMO® plug, calibration of the original state. Package offer	**KV9145DE**

Gas Concentration

Calibration certificate for CO_2

DAkkS accredited calibration certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products).

For CO_2 sensor FYAD00CO2Mx

Calibration is performed by a DAkkS accredited calibration laboratory which compares measured values against reference values based on national standards.

Package offer for CO_2 probe FYAD00CO2M10 (3 measuring points at approx. 1000 / 4000 / 7000 ppm)	**KY9626D**
Package offer for CO_2 probe FYAD00CO2M05 (3 measuring points at approx. 500 / 2500 / 4500 ppm)	**KY9627D**

For CO_2 sensor FYAD00VCO2B200

Calibration is performed by a DAkkS accredited calibration laboratory which compares measured values against reference values based on national standards.

Package offer for CO_2 sensor FYAD00VCO2B200 (3 measuring points at approx. 0.5 % / 5 % / 20 % CO_2)	**KY9621D**

Conductivity

Calibration certificate for conductivity measuring chains.

DAkkS accredited Calibration Certificate — Order no.

The DAkkS accredited calibration fulfills the requirements of DIN EN ISO/IEC 17025 for test equipment (e.g. for monitoring production processes or quality assurance of products).

The calibration is carried out by a DAkkS accredited laboratory according to the comparison method against reference standards that are traceable to national standards.

Package offer for conductivity probe FYA641LFL1 /LFP1 (Basic rate + 3 points 0.5 mS / 2.77 mS / 10 mS)	**KY9047D**
Package offer for conductivity probe FYA641LFL2 /LFP2 (Basic rate + 3 points 10 µS / 147 µS / 190 µS)	**KY9048D**
Package offer for conductivity probe FYA641LFP3 (Basic rate + 3 points 5 mS / 50 mS / 111.8 mS)	**KY9049D**
Package offer for digital conductivity probe FYD7 41-LF (ALMEMO® D7) (Basic fee + 3 selectable points in 1 selected ALMEMO® D7 measuring range: 500 µS/cm or 50 mS/cm or 500 mS/cm)	**KY9043D**

Measurable Variables for Optical Radiation

Calibration certificate for broad-band light detectors

Factory Calibration Certificate — Order no.

Single point calibration of absolute size (ONLY for probes FLA603x, FLA613RD/UV/VL)	**KL9033W**
Calibration of absolute variable in 3 points (zero point and 2 points, sensor dependent) (ONLY for probes FLA613x, FLA623x, FLA633x, FLADx, FLD7x)	**KL9034W**

Note: Conformity assessment is not possible with measurable variables for optical radiation.

Optical Speed Sensors

Calibration certificate for contactless tachometers.

DAkkS accredited Calibration Certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products).

Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

Calibration of the optical transducer at 8 measuring points (not applicable for the tachometer probe FUA919-MF)	**KU9029D**

Factory Calibration Certificate

Calibration compares measured values against reference values based on national standards.

Calibration of the optical transducer at 8 measuring points (not applicable for the tachometer probe FUA919-MF)	**KU9029W**

Force

Calibration for tension and compression sensors

Factory calibration certificate — Order no.

Calibration is performed based on the measurement comparison method for Ahlborn force transducers;

4 series of measuring operations upwards and 2 series downwards

3 steps (0 %, 20 %, 60 %, 100 % of final value) Tension or compression (indicate direction), up to 1 kN	**KK9021W**
3 steps (0 %, 20 %, 60 %, 100 % of final value) Tension or compression (indicate direction), up to 10 kN	**KK9031W**
3 steps (0 %, 20 %, 60 %, 100 % of final value) Tension or compression (indicate direction), up to 100 kN	**KK9041W**
3 steps (0 %, 20 %, 60 %, 100 % of final value) Tension or compression (indicate direction), up to 1000 kN	**KK9051W**

06/2026 • We reserve the right to make technical changes.

Calibration Certificates

Electrical Calibration for all ALMEMO® measuring instruments with interface

DAkkS accredited calibration certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products). Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

Full calibration of ALMEMO® device in 9 measuring ranges

2.6 V (volt), 55 mV (mV), 26 mV (mV1), 260 mV (mV2), NiCr-Ni (NiCr), Pt100 0.1 K (P104), Pt100 0.01 K (P204), NTC type N (NTC), relative humidity, capacitive (% RH)

Package offer **KE9005D**

Factory calibration certificate

Calibration compares measured values against reference values based on national standards.

Full calibration of ALMEMO® device in 9 measuring ranges

2.6 V (volt), 55 mV (mV), 26 mV (mV1), 260 mV (mV2), NiCr-Ni (NiCr), Pt100 0.1 K (P104), Pt100 0.01 K (P204), NTC type N (NTC), relative humidity, capacitive (% RH)

Package offer **KE9005W**

Electrical Calibration of Measuring and Display Devices

Calibration certificate for all ALMEMO® devices

DAkkS accredited Calibration Certificate — Order no.

DAkkS accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025 (inter alia for the monitoring of production processes and the quality assurance applied to products). Calibration is performed by a DAkkS accredited laboratory which compares measured values against reference values based on national standards.

The calibration is performed at approx. 10 measuring points.

Calibration for one measuring range **KE9010D**

Each further measuring range **KE9020D**

Calibration for 1 digital ALMEMO® measuring module ZA990xABx, ZAD90xABx, ZED7xxABx: AC/DC voltage up to 400 V (50 Hz) or AC/DC current up to 20 A (50 Hz) (NOT power in W) or for 1 ALMEMO® adapter cable ZA9603AKx AC voltage or measuring chain or for 1 FEA 60x AC/DC current clamp up to 10 A (50 Hz) Package offer, approx. 10 points **KE9030D**

Factory Calibration Certificate

Calibration compares measured values against reference values based on national standards. The calibration is performed at approx. 10 measuring points.

Calibration for one measuring range **KE9010W**

Each further measuring range **KE9020W**

Calibration for 1 digital ALMEMO® measuring module ZA990xABx, ZAD90xABx, ZED7xxABx: AC/DC voltage up to 400 V (50 Hz) or AC/DC current up to 20 A (50 Hz) (NOT power in W) or for 1 ALMEMO® adapter cable ZA9603AKx AC voltage or measuring chain or for 1 FEA 60x AC/DC current clamp up to 10 A (50 Hz) Package offer, approx. 10 points **KE9030W**

Calibration Certificates for Simulator KA7531

DAkkS accredited calibration certificate — Order no.

DAkkS accredited calibration fulfills the requirements of DIN EN ISO/IEC 17025 for test equipment (e.g. for monitoring production processes or quality assurance of products). Calibration is carried out by a DAkkS accredited laboratory using the comparison method against reference standards that are traceable to national standards. Calibration in 6 measuring ranges: Pt100 (5 points) and (3 points each) voltage 10 V, voltage 50 mV, current 20 mA, thermocouple type K, frequency Hz, package offer **KE9006D**

Factory calibration certificate

Electrical Calibration according to the comparison method compared reference standards that are traceable to national standards. Calibration in 6 ranges: Pt100 (5 points), and (3 points each) voltage 10 V, voltage 50 mV, current 20 mA, thermocouple type K, frequency Hz, package Offer **KE9006W**