AIR VELOCITY

Calibration Service for Air Velocity

E+E Elektronik operates a government-accredited calibration lab in accordance with DIN EN ISO/IEC 17025.
E+E Elektronik is a designated lab, responsible for the maintenance of the "National Standard for Air Flow Velocity" in Austria.
The calibration of the wide range of anemometers is performed using a comparative measurement with a laser Doppler in a homogeneous, reproducible wind tunnel flow. In this process, the setup is modified for each individual test sample to guarantee a high level of measurement accuracy. For the calibration of comfort probes or transmitters for laminar flow monitoring in the range from 0.04 m/s to 2 m/s, a separate low flow wind tunnel is used.

Calibration object

- Air velocity meters (anemometers) such as impeller, ultrasound, thermal, cup, vortex and comfort probes
- Pitot, Prandtl tubes

Calibration range

Calibration standard		Calibration object	Measurement method	Measurement range
NMI	Lab	Special calibration of air velocity meters in a designated BEV/E+E lab		
AA0608	Lab	Anemometer up to Ø 5 cm	Measurement in the open-jet wind tunnel and comparison with a Laser Doppler Anemometer	(0.04 to 2) m/s 23 °C ± 3 °C
AA0608	Lab	Anemometer up to Ø 20 cm	Measurement in the laminar flow wind tunnel and comparison with a Laser Doppler Anemometer	(0.3 to 40) m/s (5 to 80) °C

OEKD Calibration Standard

ACCREDITED CALIBRATION - Accreditation Austria

The essential characteristic of an accredited calibration certificate is the traceability of measurement results and thus their international comparability. The essential factor is mainly the indication of measurement uncertainties, which is determined from the measurement process.
According to international agreements (ILAC), only calibration labs accredited in accordance with EN ISO/IEC 17025 can perform traceable calibrations, thus ensuring full international comparability of the calibration results.

Calibration procedure

For the calibration of air velocities of 0.04 m/s to 2 m/s, a vertical wind tunnel is used with an Eiffel design (open circuit). The measurement path with a closed design is square, with a side length of 25 cm and produces a very homogeneous low-turbulence flow profile.
For the calibration of air velocities of 0.3 m/s to 40 m/s, a horizontal wind tunnel is used with an Göttinger design (closed circuit). The measurement path is round, with a diameter of 25 cm and produces a very homogeneous low-turbulence free steel profile. The temperature in the wind tunnel can be regulated via a heat exchanger in the measurement volume in a temperature range of 5 °C to 80 °C.
A Laser Doppler Anemometer (LDA) is used as a reference for the measurement of the flow velocity.

Order code

Calibration standard		**OEKD-N**
Calibration points	Number of calibration points	**3...9**
Text entry	Values for calibration points (e.g.: 5/10/15 m/s at 23 °C ±3 °C)	

Order examples

OEKD-N3
Text field: 0.2/0.5/0.8 m/s at 23 °C

OEKD-N4
Text field: 5/10/15/20 m/s at 23 °C and 50 °C