

Perfection in fluids.

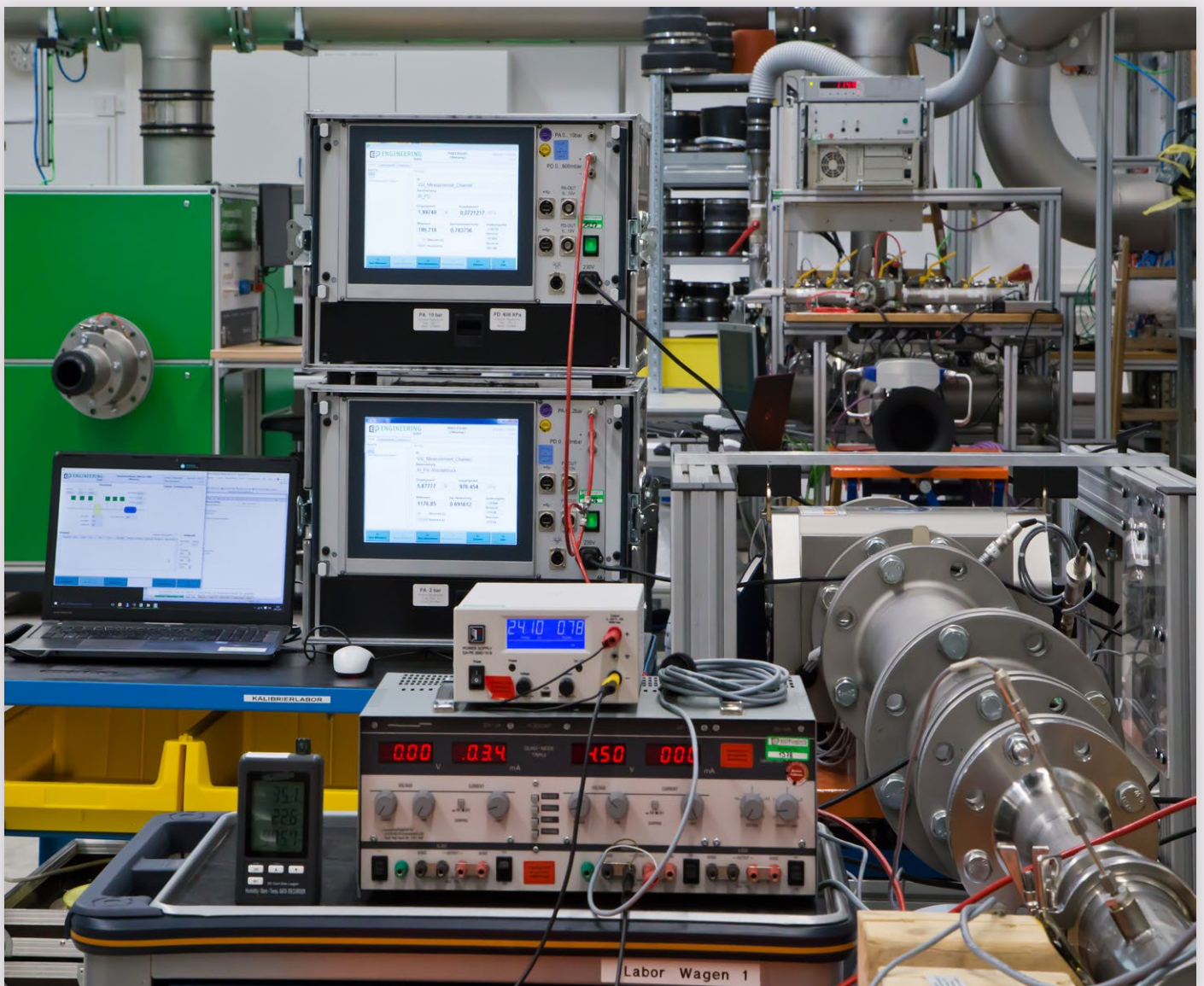
The right *flow*
by German engineering.



Calibration scope

DAkkS expansion & site opening in China

Data sheet EPE-168186



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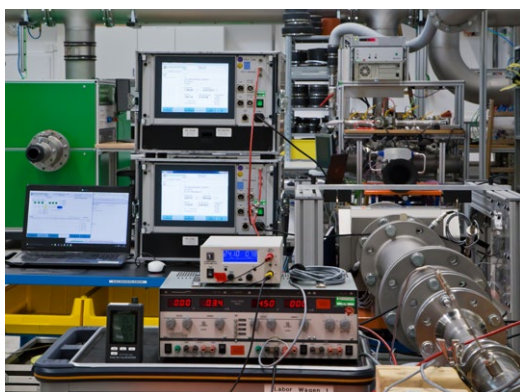
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Traceability of the measured values to normal: DAkkS and factory calibration

To ensure consistent quality, calibrations of measuring elements are inevitable and should be scheduled at fixed time periods.



Calibration lab Niederstetten



Calibration on-site

Calibration scope

The calibration laboratory is accredited by Deutsche Akkreditierungsstelle GmbH (DAkkS) according to ISO/IEC 17025* for the parameters of volume and mass flow of flowing air.

An DAkkS - application procedure for the measured parameters temperature, humidity, absolute pressure, differential pressure and relative pressure has been applied for. Further information on the scope of accreditation can be found on the following pages.

In addition, it is possible to perform DAkkS calibrations **on-site at the customer**.

All calibrations use references and procedures that trace the measured values to **national and international standards** and the **SI unit system**. We offer fast calibrations in our **fixed laboratory** as well as **on-site** with our customers. This avoids unnecessarily long downtimes due to disassembly, transport, calibration and reinstallation. The calibration laboratory is a member of the **German calibration service (DKD)**.

If you have any further questions, or special requests of the calibration service, so please contact us by phone or mail:

✉ info@ep-e.com

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Special features

- ✓ On-site calibration of your measurement instruments | **DAkkS on-site**
- ✓ Calibration of your system in operating condition
- ✓ ISO-17025 accredited calibrations
- ✓ Traceability to meet the requirements of ISO 9001 & ISO-17025
- ✓ Calibration laboratory in China, Hangzhou

* Calibration laboratory accredited by DAkkS according to DIN EN ISO/IEC 17025.
The accreditation only applies to the scope of accreditation listed in the certificate enclosure D-K-21444-01-00.



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DAkkS accreditation*: Laboratory Niederstetten

Measured size / Calibration parameter	Measurement range	Measurement element / method	Measurement accuracy	Remarks
Flow (volume flow QV, mass flow QM)	20 mL/h to 5000 mL/h 22 mg/h to 5700 mg/h	Double piston device	From 0.22 % (QV) From 0.18 % (QM)	Calibration medium: Atmospheric air at room temperature and atmospheric pressure or compressed air at room temperature up to a maximum of 10 bar overpressure and a maximum of 800 kg/h
	0.002 m³/h to 4000 m³/h 0.003 kg/h to 4500 kg/h	Critically operated nozzles	From 0.24 % (QV) From 0.20 % (QM)	
	0.6 m³/h to 1600 m³/h 0.7 kg/h to 1800 kg/h	Low pulsation rotary gas meter	From 0.25 % (QV) From 0.22 % (QM)	
	130 m³/h to 3750 m³/h 140 kg/h to 4300 kg/h	Turbine gas meter	From 0.26 % (QV) From 0.23 % (QM)	
	0.0001 m³/h to 13 m³/h 0.0001 kg/h to 15 kg/h	Laminar flow elements	From 0.60 % (QV) From 0.60 % (QM)	Test bench for fans with calibration medium: Atmospheric air at room temperature and atmospheric pressure
	5 m³/h to 2000 m³/h 6 kg/h to 2300 kg/h		From 0.45 % (QV) From 0.45 % (QM)	
2000 m³/h to 10000 m³/h 2300 kg/h to 11500 kg/h	Pitot tube	From 0.40 % (QV) From 0.40 % (QM)		
Absolute pressure PA	0.15 bar to 10 bar	DAkkS-DKD-R 6-1	From 0.5 ... 2.2 mbar	Calibration medium: Air or nitrogen
Differential pressure PD	0 hPa to 600 hPa	DAkkS-DKD-R 6-1	From 0.03 ... 0.10 %	Calibration medium: Air or nitrogen at stat. pressure of approx. 1 bar
Relative pressure PR	- 1 bar to 0 bar	DAkkS-DKD-R 6-1	From 0.03 ... 0.10 %	Calibration medium: Air or nitrogen
	0 bar to 10 bar			
	10 bar to 600 bar		From 0.07 %	With gas / oil template
Temperature T	> 0 °C to 90 °C	DAkkS-DKD-R 5-1 Measurement in thermostatically controlled bath	From 0.065 K	Calibration medium: Water or oil
	- 20 °C to 180 °C		From 0.065 K	Calibration medium: Oil
Relative humidity H	0 % to 95 %	Comparison with reference hygrometer	From 1.5 % rH	Calibration with air at room temperature and atmospheric pressure

*Calibration laboratory accredited by DAkkS according to DIN EN ISO/IEC 17025. The accreditation only applies to the scope of accreditation listed in the certificate enclosure D-K-21444-01-00.

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DAkkS accreditation*: Laboratory China, Hangzhou

Measured size / Calibration parameter	Measurement range	Measurement element / method	Measurement accuracy	Remarks
Flow (volume flow QV, mass flow QM)	0.016 m ³ /h to 6500 m ³ /h 0.019 kg/h to 7800 kg/h	Critically operated nozzles	From 0.24 % (QV) From 0.20 % (QM)	Calibration medium: Atmospheric air at room temperature and atmos- pheric pressure

DAkkS accreditation*: On-site (worldwide)

Measured size / Calibration parameter	Measurement range	Measurement element / method	Measurement accuracy	Remarks
Flow (volume flow QV, mass flow QM)	0.005 m ³ /h to 80 m ³ /h 0.006 kg/h to 90 kg/h	Critically operated nozzles	From 0.30 % (QV) From 0.25 % (QM)	Calibration medium: Atmospheric air at room temperature and atmos- pheric pressure or Compressed air at room temperature up to a ma- ximum of 10 bar over- pressure, maximum flow rate within the limits of on-site availability
	0.6 m ³ /h to 1600 m ³ /h 0.7 kg/h to 1800 kg/h	Low pulsation rotary gas meter	From 0.37 % (QV) From 0.32 % (QM)	
	130 m ³ /h to 3750 m ³ /h 140 kg/h to 4300 kg/h	Turbine gas meter	From 0.39 % (QV) From 0.34 % (QM)	
	0.0001 m ³ /h to 13 m ³ /h 0.0001 kg/h to 15 kg/h	Laminar flow elements	From 0.80 % (QV) From 0.80 % (QM)	
Absolute pressure PA	0.15 bar to 10 bar	DAkkS-DKD-R 6-1	From 0.5 ... 2.7 mbar	Calibration medium: Air or nitrogen
Differential pressure PD	0 hPa to 600 hPa	DAkkS-DKD-R 6-1	From 0.04 ... 0.11 %	Calibration medium: Air or nitrogen at stat. pressure of approx. 1 bar
Relative pressure PR	- 1 bar to 0 bar	DAkkS-DKD-R 6-1	From 0.03 ... 0.10 %	Calibration medium: Air or nitrogen
	0 bar to 10 bar			
	10 bar to 600 bar		From 0.08 %	With gas / oil template
Temperature T	> 0 °C to 90 °C	DAkkS-DKD-R 5-1 Measurement in thermo- statically controlled bath	From 0.075 K	Calibration medium: Water or oil
	- 20 °C to 180 °C		From 0.075 K	Calibration medium: Oil
Relative humidity H	0 % to 95 %	Comparison with reference hygrometer	From 1.5 % rH	Calibration with air at room temperature and atmospheric pressure

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Factory calibration (without DAkkS)

Measured size / Calibration parameter	Measurement range	Measurement element / method	Measurement accuracy	Remarks
Flow (volume flow QV, mass flow QM)	0.005 m ³ /h to 80 m ³ /h 0.006 kg/h to 90 kg/h	Critically operated nozzles	From 0.5 %	Only non-toxic gases. Flammable or explosive gases on request.
	0.0001 m ³ /h to 13 m ³ /h 0.0001 kg/h to 15 kg/h	Laminar flow elements	From 1.0 %	
Flow, water (volume flow QV, mass flow QM)	0.2 m ³ /h to 40 m ³ /h 0.2 t/h to 40 t/h	Magnetic-inductive flow meters	From 0.2 %	Pump must be provided by the customer
Voltage	0 V to 24 V	Direct voltage	-	-
Electricity	0 V to 24 mA	Direct current	-	-
Resistance	50 Ω to 200 Ω	Four-terminal sensing	-	-
Flow rate	0.15 m/s to 40 m/s	Impeller anemometer Hotwire anemometer	From 1.2 %	-
Mass	0 g to 3500 g	Precision Scale	From 0.01 %	-
VDE Testing (DGUV A3, formerly BGV A3)	-	DIN/VDE 113 DIN/VDE 0701 + 0702 DIN/VDE 0105-100 DIN/VDE 100-600 DIN EN 60204-1	-	Reporting according to standard, Scope of testing by arrangement

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