



Calibration Services

Pressure - Temperature - Electrical Values



Dr. Siebert & Kühn GmbH & Co. KG
founded 1901



No chance for measurement error!

SIKA DKD Laboratory

The creation of a calibration service according "DKD Deutscher Kalibrierdienst" for temperature, pressure and electrical measured values firmly continues and underlines the long tradition and more than 100 years of experience which SIKA has in this sector. SIKA temperature and pressure sensors, as well as measure, test and calibration instruments are available with either

a works test certificate or DKD calibration certificate. This guarantees the traceability of measured values to approved (national) standards as specified by DIN EN ISO 9000 ff in numerous areas. Our DKD laboratory is your competent contact for recalibration. Our services also include calibration to DKD guidelines or calibration on the basis of works test certificates for external products.

Temperature Laboratory

The temperature laboratory is accredited for temperatures from -30 °C to 1300 °C . Thermocouples, indicating temperature measuring and test instruments, as well as temperature block calibrators can be calibrated within this measuring range. Resistance thermometers can be calibrated between -30 °C and 960 °C . The basis of each calibration is the international temperature scale of "ITS-90". Measurements are executed in accordance with DKD calibration guidelines of the German national metrology institute (PTB) for temperatures close to defined fixed points. This ensures the best possible determination of the temperature characteristic curve. If desired, other temperature values (e.g. from real operational areas) can be included in the calibration.



Pressure Laboratory



The calibration laboratory for "absolute pressure and positive overpressure" allows the calibration of analogue and digital pressure measuring devices and pressure sensors with an electrical output signal (e.g. $0\text{...}10\text{ V}$, $4\text{...}20\text{ mA}$, ...). Calibration is carried out as a comparison measurement against a dead weight tester utilised as the DKD reference standard. The dead weight tester is used to pressurise the instrument under test with a defined pressure from $1\text{...}1200\text{ bar}$. Depending on the actual measuring range, the smallest possible measuring uncertainties are 0.7 mbar .

Laboratory for Electric Values

Resistors and ohmmeters can be calibrated from 0 to $2\text{ k}\Omega$. Depending on the resistance value, the smallest possible measuring uncertainty is $0.1\text{ m}\Omega$. DC voltmeters and transmitters can be calibrated between 0 and 20 VDC with a smallest possible measuring uncertainty of $2\text{ }\mu\text{V}$.

DC testing and measuring devices for standard signals ($0\text{...}4\text{...}20\text{ mA}$) can be calibrated with a smallest possible measuring uncertainty of $0.05\text{ }\mu\text{A}$.



Scope of accreditation

	measured value	measuring range	measurement conditions	uncertainty of measurement	notes
Pressure	absolute pressure p_{abs}	2 bar to 61 bar	DIN EN 837 DKD R 6-1 EURAMET/cg-17	$7.0 \cdot 10^{-5} \cdot p_{abs}$, but not less than 0.70 mbar	pressure medium: gas with gas/oil membrane separation The expected uncertainty of measurement of the used barometer is to be considered
		2 bar to 61 bar		$7.0 \cdot 10^{-5} \cdot p_{abs}$, but not less than 0.40 mbar	pressure medium: oil The expected uncertainty of measurement of the used barometer is to be considered
		> 61 bar to 1201 bar		$7.0 \cdot 10^{-5} \cdot p_{abs}$, but not less than 7.0 mbar	
	positive overpressure p_e	1 bar to 60 bar	DIN EN 837 DKD R 6-1 EURAMET/cg-17	$7.0 \cdot 10^{-5} \cdot p_e$, but not less than 0.70 mbar	pressure medium: gas with gas/oil membrane separation
1 bar to 60 bar > 60 bar to 1200 bar		$7.0 \cdot 10^{-5} \cdot p_e$, but not less than 0.40 mbar $7.0 \cdot 10^{-5} \cdot p_e$, but not less than 7.0 mbar		pressure medium: oil	
Temperature	resistance-thermometers and direct indicating thermometer	0.00 °C	icepoint	10mK	calibration on fixed-point of temperatur
		-30 °C to 0 °C	oil bath with Al-Block	30 mK	in comparison with resistance thermometer in thermostatted baths
		> 0 °C to 100 °C		15 mK	
		> 100 °C to 300 °C	silicon oil bath with Al-Block	25 mK	
		> 300 °C to 550 °C	salt bath	25 mK	
		> 550 °C to 660 °C	tube furnace with block of brass	0.25 K	in comparison with resistance thermometer
	resistance-thermometer	> 660 °C to 960 °C	tube furnace	0.8 K	in comparison with thermocouples
	noble metal thermocouples	-30 °C to 550 °C	thermostatted bath	0.5 K	in comparison with resistance thermometer
		> 550 °C to 1100 °C	tube furnace	1.2 K	in comparison with resistance thermometer und thermocouples
		> 1100 °C to 1300 °C		1.8 K	
	base metal thermocouples	-30 °C to 200 °C	thermostatted bath	0.2 K	in comparison with resistance thermometer
		> 200 °C to 550 °C		1.0 K	
		> 550 °C to 1100 °C > 1100 °C to 1300 °C	tube furnace	1.5 K 2.5 K	in comparison with resistance thermometer and thermocouples
	temperature block calibrators	-30 °C to 133 °C		0.2 K	in comparison with resistance thermometer
> 133 °C to 660 °C			$1.5 \text{ mK} \cdot t / ^\circ\text{C}$	$t = \text{measuring value in } ^\circ\text{C}$	
> 660 °C to 1000 °C			2.5 K	in comparison with thermocouples	
> 1000 °C to 1300 °C			4.5 K		
Electrical Values	indicators and simulators for thermocouples	-200 °C to 1750 °C	noble metal thermocouples	0.70 K	
		-200 °C to 1750 °C	base metal thermocouples	0.20 K	
	indicators and simulators for resistance-thermometer	-200 °C to 850 °C	direct resistance measuring	$6 \cdot 10^{-6} \cdot R$	$R = \text{measuring value}$
		-200 °C to 850 °C	calibration with resistance simulator	10 mK	
	voltage (DC)	0 V to 0.1 V > 0.1 V to 0.2 V > 0.2 V to 20 V		$2 \mu\text{V}$ $4 \mu\text{V}$ $50 \cdot 10^{-6} \cdot U$	$U = \text{measuring value}$
	current (DC)	0 mA to 2 mA > 2 mA to 20 mA		$0.05 \mu\text{A}$ $0.1 \cdot 10^{-3} \cdot I$	$I = \text{measuring value}$
electrical resistance	0 Ω to 2 kΩ		$6 \cdot 10^{-6} \cdot R + 1 \text{ m}\Omega$		
	0 Ω to 25 Ω > 25 Ω to 100 Ω > 100 Ω to 400 Ω	AC measuring, 75 Hz	$0.1 \text{ m}\Omega$ $5 \cdot 10^{-6} \cdot R$ $6 \cdot 10^{-6} \cdot R$	$R = \text{measuring value}$	

Our Production and Sales Range



Flow Sensors without moving Parts



Axial Turbine Flow Sensor



Flow Switches



Pressure Gauges and Pressure Sensors



Industrial Thermometers



Electronic Digital Thermometer, Dial Thermometer



Measuring Instruments



Temperature Sensors



Calibrators, DKD-Laboratory

Your able partner for measurement and control

SIKA[®]
founded 1901
Dr. Siebert & Kühn GmbH & Co. KG

Subject to technical modification

...measurement...control...calibration

Phone: 0700 CALL SIKA

Phone: +49 5605 803-0

Fax: +49 5605 803-54

E-Mail: info@sika.net

Internet: <http://www.sika.net>

Struthweg 7-9, 34260 Kaufungen

P.O. Box 11 13, 34254 Kaufungen

Germany

Kalibrierdienste_e/0709