

Deutsche Akkreditierungsstelle GmbH

Entrusted according to Section 8 subsection 1 AkkStelleG in connection with Section 1 subsection 1 AkkStelleGBV

Signatory to the Multilateral Agreements of EA, ILAC and IAF for Mutual Recognition

Accreditation



The Deutsche Akkreditierungsstelle GmbH attests that the calibration laboratory

Günther GmbH Temperaturmesstechnik
Bauhofstraße 12, 90571 Schwaig

is competent under the terms of DIN EN ISO/IEC 17025:2018 to carry out calibrations in the following fields:

Thermodynamic quantities

Temperature quantities

- Resistance thermometers
- Thermocouples

The accreditation certificate shall only apply in connection with the notice of accreditation of 29.03.2019 with the accreditation number D-K-15220-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 2 pages.

Registration number of the certificate: **D-K-15220-01-00**

Braunschweig,
29.03.2019

Dr. Heike Manke
Head of Division

Translation issued:
29.03.2019



Head of Division

The certificate together with its annex reflects the status at the time of the date of issue. The current status of the scope of accreditation can be found in the database of accredited bodies of Deutsche Akkreditierungsstelle GmbH.
<https://www.dakks.de/en/content/accredited-bodies-dakks>

This document is a translation. The definitive version is the original German accreditation certificate.

See notes overleaf.

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement ¹⁾	Remarks
Temperature Resistance thermometers	-20 °C to 100 °C	in temperature controlled liquid bath DKD-R 5-1:2018	0,1 K	Comparison with standard resistance thermometer
	-80 °C to -40 °C	in dry block calibrator DKD-R 5-1:2018	0,15 K	
	> -40 °C to 400 °C		0,10 K	
	> 400 °C to 600 °C		0,15 K	
Noble metal thermocouples	-20 °C to 100 °C	in temperature controlled liquid bath DKD-R 5-3:2018	0,6 K	Comparison with standard resistance thermometer
	-40 °C to 100 °C	in dry block calibrator DKD-R 5-3:2018	0,5 K	
	> 100 °C to 600 °C		0,4 K	
	> 600 °C to 1100 °C		5,6 K	Comparison with standard thermocouple
	> 1100 °C to 1300 °C		6,7 K	
	> 600 °C to 900 °C	in tube furnace DKD-R 5-3:2018	1,2 K	
	> 900 °C to 1300 °C		1,4 K	
	> 1300 °C to 1500 °C		2,5 K	
Base metal thermocouples	-20 °C to 100 °C	in temperature controlled liquid bath DKD-R 5-3:2018	0,5 K	Comparison with standard resistance thermometer
	-40 °C to 600 °C	in dry block calibrator DKD-R 5-3:2018	0,5 K	
	> 600 °C to 1100 °C		5,5 K	Comparison with standard thermocouple
	> 1100 °C to 1300 °C		6,7 K	
	> 600 °C to 900 °C	in tube furnace DKD-R 5-3:2018	1,2 K	
	> 900 °C to 1300 °C		1,5 K	

Abbreviations used:

DKD-R Calibration Guide of Deutscher Kalibrierdienst (DKD), published by the Physikalisch-Technischen Bundesanstalt

¹⁾ The expanded uncertainties according to EA-4/02 M:2013 are part of CMC and are the best measurement uncertainties within accreditation. They have a coverage probability of approximately 95 % and have a coverage factor of $k = 2$ unless stated otherwise. Uncertainties without unit are relative uncertainties referring to the measurement value unless stated otherwise.