DAkkS
Deutsche
Akkreditierungsstelle

Accreditation

The Deutsche Akkreditierungsstelle attests with this **Accreditation Certificate** that the calibration laboratory

Günther GmbH Temperaturmesstechnik
Bauhofstraße 12, 90571 Schwaig b. Nürnberg

meets the requirements according to DIN EN ISO/IEC 17025:2018 for the conformity assessment activities listed in the annex to this certificate. This includes additional existing legal and normative requirements for the calibration laboratory, including those in relevant sectoral schemes, provided they are explicitly confirmed in the annex to this certificate.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and they conform to the principles of DIN EN ISO 9001.

This accreditation was issued in accordance with Art. 5 Para. 1 Sentence 2 of Regulation (EC) 765/2008, after an accreditation procedure was carried out in compliance with the minimum requirements of DIN EN ISO/IEC 17011 and on the basis of a review and decision of the appointed accreditation committees.

This accreditation certificate only applies in connection with the notices of 16.12.2024 with accreditation number D-K-15220-01.
It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 4 pages.

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

Berlin, 16.12.2024
Dipl.-Wirtsch.-Ing. (BA) Tim Harnisch
Head of Technical Unit

Translation issued:
16.12.2024
Dipl.-Wirtsch.-Ing. (BA) Tim Harnisch
Head of Technical Unit

The certificate together with the annex reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH (www.dakks.de).

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

See notes overleaf

Deutsche Akkreditierungsstelle GmbH

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The Deutsche Akkreditierungsstelle GmbH (DAkkS) is the entrusted national accreditation body of the Federal Republic of Germany according to § 8 section 1 AkkStelleG in conjunction with § 1 section 1 AkkStelleGBV. DAkkS is designated as the national accreditation authority by Germany according to Art. 4 Para. 4 of Regulation (EC) 765/2008 and clause 4.7 of DIN EN ISO/IEC 17000.

Pursuant to Art. 11 section 2 of Regulation (EC) 765/2008, the accreditation certificate shall be recognised as equivalent by the national authorities within the scope of this Regulation as well as by the WTO member states that have committed themselves in bilateral or multilateral mutual agreements to recognise the certificates of accreditation bodies that are members of ILAC or IAF as equivalent.

DAkkS is a signatory to the multilateral agreements for mutual recognition of the European co-operation for Accreditation (EA), International Accreditation Forum (IAF) and International Laboratory Accreditation Co-operation (ILAC).

The up-to-date state of membership can be retrieved from the following websites:
EA: www.european-accreditation.org
ILAC: www.ilac.org
IAF: www.iaf.nu

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Annex to the Accreditation Certificate D-K-15220-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: **16.12.2024**

Date of issue: 16.12.2024

Holder of accreditation certificate:

Günther GmbH Temperaturmesstechnik
Bauhofstraße 12, 90571 Schwaig b. Nürnberg

with the location

Günther GmbH Temperaturmesstechnik
Bauhofstraße 12, 90571 Schwaig b. Nürnberg

The calibration laboratory meets the requirements of DIN EN ISO/IEC 17025:2018 to carry out the conformity assessment activities listed in this annex. The calibration laboratory meets additional legal and normative requirements, if applicable, including those in relevant sectoral schemes, provided that these are explicitly confirmed below.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of calibration laboratories and they conform to the principles of DIN EN ISO 9001.

Calibration in the fields:

Thermodynamic quantities

Temperature quantities

- **Temperature indicators and simulators** [a)]
- **Thermocouples**
- **Resistance thermometers**

[a)] **also on-site calibration**

This certificate annex is only valid together with the written accreditation certificate and reflects the status as indicated by the date of issue. The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at https://www.dakks.de.

The calibration laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use calibration standards or equivalent calibration procedures listed here with different issue dates.

The calibration laboratory maintains a current list of all calibration standards / equivalent calibration procedures within the flexible scope of accreditation.

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
Temperature Resistance thermometers	–20 °C to 100 °C	DKD-R 5-1:2023 in liquid bath	0.2 K	Comparison with standard resistance thermometer interpolation of the characteristic curve according to DKD-R 5-6:2018
	–100 °C to 150 °C	DKD-R 5-1:2023 in dry block calibrator	0.15 K	
	> 150 °C to 400 °C		0.50 K	
Noble metal thermocouples	–20 °C to 100 °C	DKD-R 5-3:2018 in liquid bath	0.6 K	Comparison with standard resistance thermometer interpolation of the characteristic curve according to DKD-R 5-6:2018
	–40 °C to 150 °C	DKD-R 5-3:2018 in dry block calibrator	0.5 K	
	50 °C to 600 °C		1.2 K	Comparison with standard thermocouple interpolation of the characteristic curve according to DKD-R 5-6:2018
	> 600 °C to 1000 °C		1.4 K	
	> 1000 °C to 1200 °C		1.9 K	
	> 1200 °C to 1300 °C		6.7 K	
	> 600 °C to 900 °C	DKD-R 5-3:2018 in tube furnace	1.2 K	
	> 900 °C to 1300 °C		1.4 K	
	> 1300 °C to 1500°C		2.5 K	

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
Base metal thermocouples	–20 °C to 100 °C	DKD-R 5-3:2018 in liquid bath	0.5 K	Comparison with standard resistance thermometer
	–100 °C to –40 °C	DKD-R 5-3:2018 in dry block calibrator	0.8 K	interpolation of the characteristic curve according to DKD-R 5-6:2018
	> –40 °C to 150 °C		0.5 K	
	50 °C to 600 °C		1.2 K	Comparison with standard thermocouple
	> 600 °C to 1000 °C		1.7 K	interpolation of the characteristic curve according to DKD-R 5-6:2018
	> 1000 °C to 1200 °C		3.2 K	
	> 1200 °C to 1300 °C		6.7 K	
	> 600 °C to 900 °C	DKD-R 5-3:2018 in tube furnace	1.2 K	
	> 900 °C to 1300 °C		1.5 K	
Temperature indicators and simulators for resistance thermometers	–200°C to 850 °C	DKD-R 5-5:2018	0.25 K	Characteristic curve according to DIN EN IEC 60751:2023-06
Temperature indicators and simulators for noble metal thermocouples	–50 °C to 1820 °C	DKD-R 5-5:2018 with or without reference junction compensation	1.0 K	Characteristic curve according to DIN EN 60584-1:2014-07
Temperature indicators and simulators for base metal thermocouples	–270 °C to 1370 °C		0.5 K	

On-site Calibration

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement	Remarks
Temperature Temperature indicators and simulators for resistance thermometers	–200 °C to 850 °C	DKD-R 5-5:2018	0.25 K	Characteristic curve according to DIN EN IEC 60751:2023-06
Temperature indicators and simulators for noble metal thermocouples	–50 °C to 1820 °C	DKD-R 5-5:2018 with or without reference junction compensation	1.0 K	Characteristic curve according to DIN EN 60584-1:2014-07
Temperature indicators and simulators for base metal thermocouples	–270 °C to 1370 °C		0.5 K	

Abbreviations used:

CMC	Calibration and measurement capabilities
DIN	Deutsches Institut für Normung e.V. – German institute for standardization
DKD-R	Calibration Guide of Deutscher Kalibrierdienst (DKD), published by the Physikalisch-Technischen Bundesanstalt
EN	Europäische Norm – European Standard
IEC	International Electrotechnical Commission
ISO	International Organization for Standardisation