DAkkS
Deutsche
Akkreditierungsstelle

Accreditation

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

Rwanda Standards Board
National Metrology Division
KK 15 Rd 49, PO Box: 7099 Kigali-Kicukiro, Rwanda

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 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 with accreditation number D-K-20577-01 is valid to 08.11.2027. It consists of this cover sheet, the reverse side of the cover sheet and the following annex with a total of 6 pages.

Registration number of the accreditation certificate: **D-K-20577-01-00**

Berlin, 05.06.2024

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).

See notes overleaf

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Annex to the Accreditation Certificate D-K-20577-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from:	**05.06.2024**	**Valid to:**	**08.11.2027**
Date of issue:	05.06.2024		

Holder of accreditation certificate:

Rwanda Standards Board
National Metrology Division
KK 15 Rd 49, PO Box: 7099 Kigali-Kicukiro, Rwanda

with the location

Rwanda Standards Board
National Metrology Division
KK 15 Rd 49, PO Box: 7099 Kigali-Kicukiro, Rwanda

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.

Abbreviations used: see last page

Calibration in the fields:

Chemical and medical quantities
- **Chemical analysis, reference materials**
  - **Volume of liquids**

Mechanical quantities
- **Mass (mass standards)**
- **Pressure** [a)]
- **Weighing instruments** [b)]

Thermodynamic quantities
- **Temperature quantities**
  - **Direct reading thermometers**
  - **Liquid-in-glass thermometers**
  - **Resistance thermometers**

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

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 measurement of uncertainty	Remarks
Volume of liquids Single channel pipette	1 µl	to	< 10 µl	DKD-R 8-1 (12/2011) with ISO 8655-06:2002 Gravimetric	1 %	variable and fixed U (k=2) related to nominal volume
	10 µl	to	< 100 µl	DKD-R 8-1 (12/2011) with ISO 8655-06:2002 Gravimetric	0.5 %	variable and fixed U (k=2) related to nominal volume
	100 µl	to	10 ml	DKD-R 8-1 (12/2011) with ISO 8655-06:2002 Gravimetric	0.2 %	variable and fixed U (k=2) related to nominal volume
Multichannel pipette	1 µl	to	< 10 µl	DKD-R 8-1 (12/2011) with ISO 8655-06:2002 Gravimetric	1 %	variable and fixed U (k=2) related to nominal volume
	10 µl	to	< 100 µl	DKD-R 8-1 (12/2011) with ISO 8655-06:2002 Gravimetric	0.6 %	variable and fixed U (k=2) related to nominal volume
	100 µl	to	< 1200 µl	DKD-R 8-1 (12/2011) with ISO 8655-06:2002 Gravimetric	0.3 %	variable and fixed U (k=2) related to nominal volume
Glassware (burettes, bulb pipettes, graduated pipettes)	0.1 ml	to	1 ml	ISO 4787:2021 Gravimetric	0.5 %	U (k=2) related to nominal volume
	> 1 ml	to	10 ml	ISO 4787:2021 Gravimetric	0.1 %	U (k=2) related to nominal volume
	> 10 ml	to	100 ml	ISO 4787:2021 Gravimetric	0.06 %	U (k=2) related to nominal volume
Glassware (flask, measuring cylinders, mixing cylinders)	1 ml	to	10 ml	ISO 4787:2021 Gravimetric	0.1 %	U (k=2) related to nominal volume
	> 10 ml	to	100 ml	ISO 4787:2021 Gravimetric	0.06 %	U (k=2) related to nominal volume
	> 100 ml	to	200 ml	ISO 4787:2021 Gravimetric	0.05 %	U (k=2) related to nominal volume
	> 200 ml	to	1 l	ISO 4787:2021 Gravimetric	0.05%	U (k=2) related to nominal volume
	> 1 l	to	10 l	ISO 4787:2021 Gravimetric	0.05 %	U (k=2) related to nominal volume

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded measurement of uncertainty	Remarks
Mass standards	1 mg	OIML R 111-1:2004	0.004 mg	Capability to calibrate standard weights up to (including) class F1
	2 mg		0.004 mg	
	5 mg		0.004 mg	
	10 mg		0.006 mg	
	20 mg		0.006 mg	
	50 mg		0.006 mg	
	100 mg		0.007 mg	
	200 mg		0.009 mg	
	500 mg		0.01 mg	
	1 g		0.02 mg	
	2 g		0.02 mg	
	5 g		0.03 mg	
	10 g		0.03 mg	
	20 g		0.04 mg	
	50 g		0.1 mg	
	100 g		0.15 mg	
	200 g		0.2 mg	
	500 g		0.5 mg	
	1 kg		1.5 mg	
	2 kg		2.1 mg	
	5 kg		8.0 mg	
	10 kg		16 mg	
	20 kg		30 mg	
	1 mg to 100 mg		0.05 mg	Capability for free nominal values m_c = conventional mass
	> 100 mg to 200 mg		0.06 mg	
	> 200 mg to 500 mg		0.08 mg	
	> 500 mg to 1 g		0.10 mg	
	> 1 g to 2 g		0.12 mg	
	> 2 g to 5 g		0.16 mg	
	> 5 g to 10 g		0.20 mg	
	> 10 g to 20 g		0.25 mg	
	> 20 g to 50 g		0.30 mg	
	> 50 g to 100 g		0.5 mg	
	> 100 g to 10 kg		$5 \cdot 10^{-6} \cdot m_c$	

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range			Measurement conditions / procedure	Expanded measurement of uncertainty	Remarks
Pressure Gauge pressure p_e	–0.8 bar	to	0 bar	DKD-R 6-1: 2014	1 mbar	Pressure medium: Gas
	> 0 bar	to	1 bar		2 mbar	
	> 1bar	to	35 bar		4.4 mbar + 1.03 · 10^{-3} · p_e	
	> 35 bar	to	120 bar		4.4 mbar + 2 · 10^{-3} · p_e	
	> 0 bar	to	70 bar		0.3 mbar + 2 · 10^{-4} · p_e	Pressure medium: Oil
	> 70 bar	to	1000 bar		6.6 mbar + 2.5 · 10^{-4} · p_e	
Temperature Resistance thermometers; Direct reading thermometers with resistance sensors	–20 °C	to	20 °C	Alcohol bath DKD-R 5-1:2018	50 mK	Comparison with standard resistance thermometer
	> 20 °C	to	70 °C	Water bath DKD-R 5-1:2018	50 mK	
	> 70 °C	to	200 °C	Oil bath DKD-R 5-1:2018	100 mK	
Direct reading thermometers with thermocouple sensors	–20 °C	to	20 °C	Alcohol bath DKD-R 5-3:2018	0.10 K	Comparison with standard resistance thermometer
	> 20 °C	to	70 °C	Water bath DKD-R 5-3:2018	0.15 K	
	> 70 °C	to	200 °C	Oil bath DKD-R 5-3:2018	0.20 K	
Liquid-in-glass thermometers	–20 °C	to	20 °C	Alcohol bath PTB testing instruction Volume 2 (1999)	70 mK	Comparison with standard resistance thermometer
	> 20 °C	to	70 °C	Water bath PTB testing instruction Volume 2 (1999)	70 mK	
	> 70 °C	to	200 °C	Oil bath PTB testing instruction Volume 2 (1999)	100 mK	

On-site calibration

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range			Measurement conditions / procedure	Expanded measurement of uncertainty	Remarks
Pressure Gauge pressure p_e	–0.8 bar	to	0 bar	DKD-R 6-1: 2014	10 mbar	Pressure medium: Gas
	> 0 bar	to	1 bar		20 mbar	
	> 1 bar	to	120 bar		0.50 bar	
	> 0 bar	to	1000 bar		0.40 bar	Pressure medium: Oil
Weighing instruments Non automatic weighing instruments with digital indicator		to	500 g	EURAMET/cg-18/v.04, guidelines on the calibration of non automatic weighing instruments	$2 \cdot 10^{-6}$ g	For weight pieces according to OIML R 111-1:2004, class E2
		to	80 kg		$1 \cdot 10^{-5}$ g	For weight pieces according to OIML R 111-1:2004, class F1 and F2
		to	1000 kg		$4 \cdot 10^{-4}$ kg	For weight pieces according to OIML R 111-1:2004, class M2

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
EURAMET	European Association of National Metrology Institutes
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
OIML R	Recommendation of International Organization of Legal Metrology