

## 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

**BRAND GMBH + CO KG**  
**Otto-Schott-Str. 25, 97877 Wertheim**

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

**Chemical and medical quantities**

**Chemical analysis, reference materials**

- **Volume of liquids**

The accreditation certificate shall only apply in connection with the notice of accreditation of 15.03.2022 with the accreditation number D-K-18572-01. It comprises the cover sheet, the reverse side of the cover sheet and the following annex with a total of 6 pages.

Registration number of the certificate: **D-K-18572-01-00**

Berlin,

15.03.2022

Dipl.-Wirtsch.-Ing. (FH) Tim  
Harnisch

Head of technical unit

Translation issued:

15.03.2022



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 at <https://www.dakks.de/en/accredited-bodies-search.html>.*

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

See notes overleaf.

# Deutsche Akkreditierungsstelle GmbH

Standort Berlin  
Spittelmarkt 10  
10117 Berlin

Standort Frankfurt am Main  
Europa-Allee 52  
60327 Frankfurt am Main

Standort Braunschweig  
Bundesallee 100  
38116 Braunschweig

Die auszugsweise Veröffentlichung der Akkreditierungsurkunde bedarf der vorherigen schriftlichen Zustimmung der Deutsche Akkreditierungsstelle GmbH (DAkKS). Ausgenommen davon ist die separate Weiterverbreitung des Deckblattes durch die umseitig genannte Konformitätsbewertungsstelle in unveränderter Form.

Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt, die über den durch die DAkKS bestätigten Akkreditierungsbereich hinausgehen.

Die Akkreditierung erfolgte gemäß des Gesetzes über die Akkreditierungsstelle (AkkStelleG) vom 31. Juli 2009 (BGBl. I S. 2625) sowie der Verordnung (EG) Nr. 765/2008 des Europäischen Parlaments und des Rates vom 9. Juli 2008 über die Vorschriften für die Akkreditierung und Marktüberwachung im Zusammenhang mit der Vermarktung von Produkten (Abl. L 218 vom 9. Juli 2008, S. 30).

Die DAkKS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der European co-operation for Accreditation (EA), des International Accreditation Forum (IAF) und der International Laboratory Accreditation Cooperation (ILAC). Die Unterzeichner dieser Abkommen erkennen ihre Akkreditierungen gegenseitig an.

Der aktuelle Stand der Mitgliedschaft kann folgenden Webseiten entnommen werden:

EA: [www.european-accreditation.org](http://www.european-accreditation.org)

ILAC: [www.ilac.org](http://www.ilac.org)

IAF: [www.iaf.nu](http://www.iaf.nu)

## Deutsche Akkreditierungsstelle GmbH

### Annex to the Accreditation Certificate D-K-18572-01-00 according to DIN EN ISO/IEC 17025:2018

**Valid from:** 15.03.2022

Date of issue 15.03.2022

Holder of certificate:

**BRAND GMBH + CO KG**  
**Otto-Schott-Str. 25, 97877 Wertheim**

Calibration in the fields:

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

**The testing laboratory is permitted to use the standardized or equivalent test procedures marked with \* with different issue dates without being required to inform and obtain prior approval from DAkkS.**

**The test laboratory has an up-to-date list of all test procedures in the flexible accreditation area.**

*The management system requirements in DIN EN ISO/IEC 17025 are written in language relevant to operations of calibration laboratories and operate generally in accordance with the principles of DIN EN ISO 9001.*

*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>*

**Permanent Laboratory**

**Calibration and Measurement Capabilities (CMC)**

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement <sup>1)</sup>	Remarks
<b>Piston-operated volumetric apparatus</b> Piston pipettes*	0.10 µL to < 0.15 µL	Adjusted to deliver	8.0 % <sup>a) b) c)</sup>	The CMC refers to nominal volume. To state the best CMC value the reference temperature shall be set equal to the temperature of the test liquid.  <sup>a)</sup> Instruments with fixed volume or upper test volume ( $V_P = 1.0 \cdot V_N$ ) for instruments with variable volume <sup>b)</sup> Medium test volume (e.g. $V_P = 0.5 \cdot V_N$ ) for instruments with variable volume <sup>c)</sup> Lower test volume (e.g. $V_P = 0.1 \cdot V_N$ ) for instruments with variable volume  $V_N$ : Nominal volume $V_P$ : Test volume
	0.15 µL to < 0.25 µL	Gravimetric method	4.0 % <sup>a) b) c)</sup>	
	0.25 µL to < 0.75 µL	DIN EN ISO 8655-6: 2002 and DKD-R 8-1:2011	1.6 % <sup>a)</sup> 1.2 % <sup>b) c)</sup>	
	0.75 µL to < 2.5 µL		0.80 % <sup>a)</sup> 0.60 % <sup>b)</sup> 0.40 % <sup>c)</sup>	
	2.5 µL to < 21 µL		0.40 % <sup>a)</sup> 0.30 % <sup>b)</sup> 0.20 % <sup>c)</sup>	
	21 µL to 50 µL		0.30 % <sup>a)</sup> 0.23 % <sup>b)</sup> 0.15 % <sup>c)</sup>	
	> 50 µL to 100 µL		0.18 % <sup>a)</sup> 0.15 % <sup>b)</sup> 0.090 % <sup>c)</sup>	
	> 100 µL to 10 mL		0.12 % <sup>a)</sup> 0.090 % <sup>b)</sup> 0.060 % <sup>c)</sup>	
Multichannel piston pipettes *	0.10 µL to < 0.15 µL		15 % <sup>a) b) c)</sup>	
	0.15 µL to < 0.25 µL		7.5 % <sup>a) b) c)</sup>	
	0.25 µL to < 0.75 µL		3.0 % <sup>a)</sup> 2.3 % <sup>b) c)</sup>	
	0.75 µL to < 2.5 µL		1.5 % <sup>a)</sup> 1.1 % <sup>b)</sup> 0.80 % <sup>c)</sup>	
	2.5 µL to < 21 µL		0.78 % <sup>a)</sup> 0.59 % <sup>b)</sup> 0.39 % <sup>c)</sup>	
	21 µL to < 100 µL		0.46 % <sup>a)</sup> 0.35 % <sup>b)</sup> 0.23 % <sup>c)</sup>	
	100 µL to 1250 µL		0.18 % <sup>a)</sup> 0.12 % <sup>b)</sup> 0.090 % <sup>c)</sup>	

<sup>1)</sup> The expanded uncertainties according to EA-4/02 M:2021 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.

Annex to the accreditation certificate D-K-18572-01-00

Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement <sup>1)</sup>	Remarks
<b>Automated Liquid-Handling-Systems</b> Single channel units	5.0 µL to 50 µL	Adjusted to deliver Gravimetric method SOP 1935:2021	0.60 % <sup>a)</sup> 0.40 % <sup>b)</sup> 0.20 % <sup>c)</sup>	The CMC refers to nominal volume. To state the best CMC value the reference temperature shall be set equal to the temperature of the test liquid. <sup>a)</sup> Instruments with fixed volume or upper test volume ( $V_P = 1.0 \cdot V_N$ ) for instruments with variable volume <sup>b)</sup> Medium test volume (e.g. $V_P = 0.5 \cdot V_N$ ) for instruments with variable volume <sup>c)</sup> Lower test volume (e.g. $V_P = 0.1 \cdot V_N$ ) for instruments with variable volume $V_N$ : Nominal volume $V_P$ : Test volume
	> 50 µL to 200 µL		0.35 % <sup>a)</sup> 0.30 % <sup>b)</sup> 0.20 % <sup>c)</sup>	
	> 200 µL to 1.0 mL		0.24 % <sup>a)</sup> 0.20 % <sup>b)</sup> 0.12 % <sup>c)</sup>	
Multichannel units	5.0 µL to 50 µL	Adjusted to deliver; dilutors also adjusted to contain gravimetric method DIN EN ISO 8655-6:2002 DKD-R 8-3:2020	0.60 % <sup>a)</sup> 0.40 % <sup>b)</sup> 0.30 % <sup>c)</sup>	
	> 50 µL to 300 µL		0.50 % <sup>a)</sup> 0.30 % <sup>b)</sup> 0.20 % <sup>c)</sup>	
	>300 µL to 1000 µL		0.27 % <sup>a)</sup> 0.20 % <sup>b)</sup> 0.14 % <sup>c)</sup>	
<b>Piston-operated volumetric apparatus</b> Dispensers, dilutors*	1.0 µL to < 2.5 µL	Adjusted to deliver; dilutors also adjusted to contain gravimetric method DIN EN ISO 8655-6:2002 DKD-R 8-3:2020	3.0 %	The CMC refers to nominal volume. To state the best CMC value the reference temperature shall be set equal to the temperature of the test liquid.
	2.5 µL to < 7.5 µL		1.0 %	
	7,5 µL to < 25 µL		0.80 %	
	25 µL to < 75 µL		0.40 %	
	75 µL to < 250 µL		0.30 %	
	250 µL to < 500 µL		0.23 %	
	500 µL to 1250 µL		0.19 %	
>1250 µL to 200 mL	0.14 %			

<sup>1)</sup> The expanded uncertainties according to EA-4/02 M:2021 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.

Annex to the accreditation certificate D-K-18572-01-00

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Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement <sup>1)</sup>	Remarks
Multiple-delivery dispensers*	1.0 µL to < 2.5 µL	Adjusted to deliver DIN EN ISO 8655-6:2002 DKD-R 8-2:2018	1.5 %	The CMC refers to nominal volume. To state the best CMC value the reference temperature shall be set equal to the temperature of the test liquid.
	2.5 µL to < 7.5 µL		0.50 %	
	7.5 µL to < 50 µL		0.25 %	
	50 µL to < 250 µL		0.20 %	
	250 µL to < 500 µL		0.15 %	
	500 µL to < 750 µL		0.12 %	
	750 µL to 5 mL		0.080 %	
	> 5 mL to 200 mL		0.070 %	
<b>Piston-operated volumetric apparatus</b> Piston burettes*	1.0 µL to < 2.5 µL	Adjusted to deliver DIN EN ISO 8655-6:2002 DKD-R 8-3:2020	1.5 %	The CMC refers to nominal volume.  To state the best CMC value the reference temperature shall be set equal to the temperature of the test liquid.
	2.5 µL to < 7.5 µL		0.70 %	
	7.5 µL to < 25 µL		0.50 %	
	25 µL to < 250 µL		0.20 %	
	250 µL to < 750 µL		0.15 %	
	750 µL to < 10 mL		0.050 %	
	10 mL to 15 mL		0.030 %	
	> 15 mL to 30 mL		0.020 %	
	>30 mL to 200 mL		0.014 %	
<b>Pycnometer made of glas</b> Pycnometers with ground stopper, oxygen flasks Winkler pattern	1.0 cm <sup>3</sup> to < 2.0 cm <sup>3</sup>	Adjusted to contain  Gravimetric method	$((0.01\% \cdot V_N)^2 + (0.027 \text{ mm}^3 \cdot D^2)^2)^{0.5}$	$V_N$ Nominal Volume $D$ Value of the nominal diameter of the glass joint in mm  The CMC refers to nominal volume.
	2.0 cm <sup>3</sup> to < 100 cm <sup>3</sup>	SOP1088:2017	$((0.007\% \cdot V_N)^2 + (0.027 \text{ mm}^3 \cdot D^2)^2)^{0.5}$	
	100 cm <sup>3</sup> to 300 cm <sup>3</sup>		$((0.005\% \cdot V_N)^2 + (0.027 \text{ mm}^3 \cdot D^2)^2)^{0.5}$	

<sup>1)</sup> The expanded uncertainties according to EA-4/02 M:2021 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.

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Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

Measurement quantity / Calibration item	Range	Measurement conditions / procedure	Expanded uncertainty of measurement <sup>1)</sup>	Remarks
<b>Volumetric instruments made of glass</b> Volumetric flasks, bulb pipettes and graduated pipettes adjusted to contain, Reischauer-type pycnometers et al.*	1.0 µL to 10 µL	Adjusted to contain	$((0.005 \mu\text{L})^2 + (0.045 \mu\text{L} \cdot D^2)^2)^{0.5}$	$V_N$ : Nominal volume $D$ : Value of the nominal diameter of the glass joint in mm The CMC refers to nominal volume.
	> 10 µL to < 500 µL	Gravimetric method  DIN EN ISO 4787:2011	$((0.03 \mu\text{L})^2 + (0.045 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	500 µL to < 2.0 mL		$((0.01\% \cdot V_N)^2 + (0.045 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	2.0 mL to < 100 mL		$((0.007\% \cdot V_N)^2 + (0.045 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	100 mL to 10000 mL		$((0.005\% \cdot V_N)^2 + (0.045 \mu\text{L} \cdot D^2)^2)^{0.5}$	
Graduated cylinders*	1.0 µL to 10 µL	Gravimetric method  DIN EN ISO 4787:2011	$((0.005 \mu\text{L})^2 + (0.09 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	> 10 µL to < 500 µL		$((0.03 \mu\text{L})^2 + (0.09 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	500 µL to < 2.0 mL		$((0.01\% \cdot V_N)^2 + (0.09 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	2.0 mL to < 100 mL		$((0.007\% \cdot V_N)^2 + (0.09 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	100 mL to 10000 mL		$((0.005\% \cdot V_N)^2 + (0.09 \mu\text{L} \cdot D^2)^2)^{0.5}$	
Bulb pipettes, graduated pipettes*	1.0 µL to 10 µL	Adjusted to deliver  Gravimetric method  DIN EN ISO 4787:2011	$((0.005 \mu\text{L})^2 + (0.13 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	> 10 µL to < 500 µL		$((0.03 \mu\text{L})^2 + (0.13 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	500 µL to < 2.0 mL		$((0.01\% \cdot V_N)^2 + (0.13 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	2.0 mL to < 100 mL		$((0.007\% \cdot V_N)^2 + (0.13 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	100 mL		$((0.005\% \cdot V_N)^2 + (0.13 \mu\text{L} \cdot D^2)^2)^{0.5}$	
Burettes et al.*	1.0 µL to 10 µL	Adjusted to deliver  Gravimetric method  DIN EN ISO 4787:2011	$((0.005 \mu\text{L})^2 + (0.068 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	> 10 µL to < 500 µL		$((0.03 \mu\text{L})^2 + (0.068 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	500 µL to < 2.0 mL		$((0.01\% \cdot V_N)^2 + (0.068 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	2.0 mL to < 100 mL		$((0.007\% \cdot V_N)^2 + (0.068 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	100 mL		$((0.005\% \cdot V_N)^2 + (0.068 \mu\text{L} \cdot D^2)^2)^{0.5}$	
<b>Volumetric instruments made of plastics</b> Volumetric flasks, graduated cylinders et al.	1.0 µL to 10 µL	Adjusted to contain  Gravimetric Method  SOP1086:2017	$((0.005 \mu\text{L})^2 + (0.18 \mu\text{L} \cdot D^2)^2)^{0.5}$	$V_N$ : Nominal volume $D$ : Value of the nominal diameter of the glass joint in mm The CMC refers to nominal volume. To state the best CMC value the reference temperature shall be set equal to the temperature of the test liquid.
	> 10 µL to < 500 µL		$((0.03 \mu\text{L})^2 + (0.18 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	500 µL to < 2.0 mL		$((0.01\% \cdot V_N)^2 + (0.18 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	2.0 mL to < 100 mL		$((0.007\% \cdot V_N)^2 + (0.18 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	100 mL to 10000 mL		$((0.005\% \cdot V_N)^2 + (0.18 \mu\text{L} \cdot D^2)^2)^{0.5}$	
Bulb pipettes, graduated pipettes, burettes et al.	1.0 µL to 10 µL	Adjusted to deliver  Gravimetric method  SOP1087:2017	$((0.005 \mu\text{L})^2 + (0.27 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	>10 µL to < 500 µL		$((0.03 \mu\text{L})^2 + (0.27 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	500 µL to < 2.0 mL		$((0.01\% \cdot V_N)^2 + (0.27 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	2.0 mL to < 100 mL		$((0.007\% \cdot V_N)^2 + (0.27 \mu\text{L} \cdot D^2)^2)^{0.5}$	
	100 mL		$((0.005\% \cdot V_N)^2 + (0.27 \mu\text{L} \cdot D^2)^2)^{0.5}$	

<sup>1)</sup> The expanded uncertainties according to EA-4/02 M:2021 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.

**Annex to the accreditation certificate D-K-18572-01-00**

**Abbreviations used:**

CMC	Calibration and measurement capabilities (Kalibrier- und Messmöglichkeiten)
DIN	German Institute for Standard e.V.
DKD-R	Guideline of the German Calibration Service (DKD)
EN	European Norms
ISO	International Standard Organization
SOP	Standard operating procedure

<sup>1)</sup> The expanded uncertainties according to EA-4/02 M:2021 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.