Accreditation

The Deutsche Akkreditierungsstelle GmbH attests that the calibration laboratory

ABB Automation Products GmbH
Kalibrierlabor für Durchflussmessgrößen
Dransfelder Straße 2, 37079 Göttingen

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

Fluid Quantities
- Gas flow rate
- Liquid flow rate
- Volume of flowing liquids
- Mass of flowing liquids

The accreditation certificate shall only apply in connection with the notice of accreditation of 01.02.2021 with the accreditation number D-K-15081-01. 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-15081-01-00

Braunschweig, 01.02.2021
Dr Heike Manke
Head of Division

Translation issued: 01.02.2021
Head of Division

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 may be found respectively 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.
The publication of extracts of the accreditation certificate is subject to the prior written approval by Deutsche Akkreditierungsstelle GmbH (DAkkS). Exempted is the unchanged form of separate disseminations of the cover sheet by the conformity assessment body mentioned overleaf.

No impression shall be made that the accreditation also extends to fields beyond the scope of accreditation attested by DAkkS.

The accreditation was granted pursuant to the Act on the Accreditation Body (AkkStelleG) of 31 July 2009 (Federal Law Gazette I p. 2625) and the Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products (Official Journal of the European Union L 218 of 9 July 2008, p. 30). 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 Cooperation (ILAC). The signatories to these agreements recognise each other’s accreditations.

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
Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-K-15081-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 01.02.2021
Date of issue: 01.02.2021

Holder of certificate:

ABB Automation Products GmbH
Kalibrierlabor für Durchflussmessgrößen
Dransfelder Straße 2, 37079 Göttingen

Calibration in the fields:

Fluid Quantities
  – Gas flow rate
  – Liquid flow rate
  – Volume of flowing liquids
  – Mass of flowing liquids

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

Abbreviations used: see last page
### Permanent Laboratory

<table>
<thead>
<tr>
<th>Measurement quantity / Calibration item</th>
<th>Range</th>
<th>Measurement conditions / procedure</th>
<th>Expanded uncertainty of measurement</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass of flowing liquids Mass $m$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 kg to 10 t</td>
<td></td>
<td>0.07 %</td>
<td>Measured fluid: Water mounting orientation: vertical</td>
</tr>
<tr>
<td></td>
<td>10 t to 50 t</td>
<td></td>
<td></td>
<td>Measured fluid: Water mounting orientation: horizontal</td>
</tr>
<tr>
<td>Liquid flow rate Mass flow rate $dm/dt$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 kg to 300 t/h</td>
<td>weighing system with diverter</td>
<td>0.07 %</td>
<td>Measured fluid: Water mounting orientation: vertical</td>
</tr>
<tr>
<td></td>
<td>50 t/h to 3000 t/h</td>
<td>DIN EN 24185:1993</td>
<td></td>
<td>Measured fluid: Water mounting orientation: horizontal</td>
</tr>
<tr>
<td>Volume of flowing liquids Volume $V$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.01 m³ to 16 m³</td>
<td>DIN EN 24185:1993</td>
<td>0.10 %</td>
<td>Measured fluid: Water mounting orientation: vertical</td>
</tr>
<tr>
<td></td>
<td>10 m³ to 50 m³</td>
<td></td>
<td></td>
<td>Measured fluid: Water mounting orientation: horizontal</td>
</tr>
<tr>
<td>Liquid flow rate Volume flow rate $dV/dt$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.2 m³/h to 300 m³/h</td>
<td></td>
<td>0.10 %</td>
<td>Measured fluid: Water mounting orientation: vertical</td>
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<tr>
<td></td>
<td>50 m³/h to 3000 m³/h</td>
<td></td>
<td></td>
<td>Measured fluid: Water mounting orientation: horizontal</td>
</tr>
<tr>
<td>Gas flow rate Volume flow rate $dV/dt$ of flowing gases</td>
<td></td>
<td>critical Venturi nozzle IOM-AA-0136 Version: 25.09.2020</td>
<td>0.4 %</td>
<td>Measured fluid: atmospheric air</td>
</tr>
<tr>
<td></td>
<td>0.8 m³/h to 100 m³/h</td>
<td></td>
<td></td>
<td>calibration of positive displacement and flow gas meters, flow meters (e.g. laminar or thermal flow meter) and pressure differential devices (e.g. nozzles or orifices)</td>
</tr>
<tr>
<td></td>
<td>&gt; 100 m³/h to 7300 m³/h</td>
<td></td>
<td>0.3 %</td>
<td></td>
</tr>
<tr>
<td>Mass flow rate $dm/dt$ of flowing gases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 kg/h to 120 kg/h</td>
<td></td>
<td>0.4 %</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; 120 kg/h to 8800 kg/h</td>
<td></td>
<td>0.3 %</td>
<td></td>
</tr>
</tbody>
</table>

### Abbreviations used:

- **CMC**: Calibration and measurement capabilities
- **DIN**: Deutsches Institut für Normung e.V.
- **IOM-AA**: In house procedure of ABB Automation Products GmbH

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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.