

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-K-20153-01-00
according to DIN EN ISO/IEC 17025:2018

Period of validity: 05.03.2020 to 04.03.2025

Date of issue: 05.03.2020

Holder of certificate:

Shanghai DJT-AQRAT Measuring Tools Co., LTD
288-1 Song Hai Road, Qingpu Industrial Zone, CN-201703 Shanghai / P. R. China

Calibration in the fields:

Dimensional quantities

Length

- **Gauge blocks**

Abbreviations used: see last page

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Permanent Laboratory

Calibration and Measurement Capabilities (CMC)

| Measurement quantity / Calibration item | Range | Measurement conditions / procedure | Expanded uncertainty of measurement ¹⁾ | Remarks |
|---|---|---|--|--|
| Length Gauge blocks made of steel or ceramics according to DIN EN ISO 3650:1999 | must be of the same nominal length 0.5 mm to 100 mm | DKD-R 4-3 sheet 3.1:2018 Measurement of the deviation of the central length l_c from the nominal value l_n by comparison measurement | For the central length: $0.09 \mu\text{m} + 0.6 \cdot 10^{-6} \cdot l$ For the deviations f_0 and f_u from the central length: $0.07 \mu\text{m}$ | Calibration and measuring surface quality as stated in QMH resp. in the working instructions $l =$ gauge block length |
| | must be of the same nominal length 0.05 Inch to 4 Inch | Measurement of the deviations f_0 and f_u from the central length by 5 points comparison measurement | For the central length: $0.11 \mu\text{m} + 0.6 \cdot 10^{-6} \cdot l$ For the deviations f_0 and f_u from the central length: $0.07 \mu\text{m}$ | |
| Gauge blocks made of tungsten carbide according to DIN EN ISO 3650:1999 | must be of the same nominal length 0.5 mm to 100 mm | DKD-R 4-3 sheet 3.1:2018 Measurement of the deviation of the central length l_c from the nominal value l_n by comparison measurement | For the central length: $0.09 \mu\text{m} + 1.2 \cdot 10^{-6} \cdot l$ For the deviations f_0 and f_u from the central length: $0.07 \mu\text{m}$ | |
| | must be of the same nominal length 0.05 Inch to 4 Inch | Measurement of the deviations f_0 and f_u from the central length by 5 points comparison measurement | For the central length: $0.11 \mu\text{m} + 1.2 \cdot 10^{-6} \cdot l$ For the deviations f_0 and f_u from the central length: $0.07 \mu\text{m}$ | |

Abbreviations used:

| | |
|-------|--|
| CMC | Calibration and measurement capabilities |
| DIN | Deutsches Institut für Normung e.V. |
| DKD-R | Guideline of Deutscher Kalibrierdienst (DKD), published by Physikalisch-Technische 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.