



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

METROLOGY QC LTD  
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CALIBRATION

Valid To: April 30, 2022

Certificate Number: 4844.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1,5</sup>:

I. Dimensional

| Parameter/Equipment        | Range  | CMC <sup>2</sup> (±)                           | Comments  |
|----------------------------|--|--|---|
| Calipers –                 | Up to 300 mm<br>(300 to 500) mm<br>(500 to 1500) mm                                      | 20 µm<br>31 µm<br>59 µm                        | Gage blocks   |
| Caliper Depth              | Up to 300 mm   | 38 µm  |   |
| Feeler Gages               | Up to 1.0 mm   | 2.9 µm   | Mitutoyo measuring machine                            |
| Micrometers –              | Up to 100 mm<br>(100 to 200) mm<br>(200 to 300) mm<br>(300 to 400) mm<br>(400 to 500) mm | 2.5 µm<br>3.3 µm<br>4.5 µm<br>5.8 µm<br>6.5 µm | Gage blocks<br>DIN 863/1                              |
| Micrometer Depth           | Up to 50 mm<br>(50 to 100) mm<br>(100 to 200) mm<br>(200 to 300) mm                      | 3.4 µm<br>4.4 µm<br>5.1 µm<br>5.5 µm           | Gage blocks<br>JIS B 7544                             |
| Micrometer Inside 3 points | Up to 100 mm   | 5.1 µm   | Plain ring gage<br>DIN 863/4                          |
| Micrometer Inside 2 points | Up to 100 mm<br>(100 to 200) mm<br>(200 to 300) mm                                       | 4.8 µm<br>6.1 µm<br>6.6 µm                     | Plain ring gage<br>DIN 863/4<br>SIP measuring machine |

| Parameter/Equipment                    | Range   | CMC <sup>2</sup> (±)                                     | Comments   |
|--|---|--|--|
| Extension Rods                         | Up to 25 mm<br>(25 to 100) mm<br>(100 to 200) mm<br>(200 to 300) mm<br>(300 to 400) mm<br>(400 to 500) mm | 1.0 µm<br>1.1 µm<br>1.8 µm<br>2.7 µm<br>3.5 µm<br>4.3 mm | Gage blocks<br>SIP measuring machine                                 |
| Length Indicators –                    |   |  |  |
| Tester                                 | Up to 5 mm<br>(5 to 25) mm  | 0.71 µm<br>1.0 µm  | Gage block<br>comparator TESA  |
| Dial                                   | Up to 1.0 mm<br>(1.0 to 12.5) mm<br>(12.5 to 50.0) mm   | 1.0 µm<br>1.4 µm<br>7.2 µm                               | Indicator tester<br>DIN 878  |
| Lever                                  | Up to 0.2 mm<br>(0.2 to 0.8) mm   | 1.5 µm<br>6.1 µm   | Indicator tester<br>BS 2795  |
| Height Gages <sup>3</sup>              | Up to 300 mm<br>(300 to 600) mm   | 4.4 µm<br>6.7 µm   | Gage blocks  |
| Bore Gages                             | Up to 150 mm  | 2.8 µm   | Dial calibration tester<br>comparator TESA,<br>SIP measuring machine |
| Cylindrical and Taper<br>Gages –       |   |  |  |
| Pin Gage                               | Up to 25 mm   | 1.5 µm   | Mitutoyo measuring<br>machine  |
| Plain Ring Gage,<br>Parallel           | Up to 100 mm  | 2.2 µm   | SIP measuring machine<br>DIN 2250                                    |
| Diameter Thread Ring<br>Gage, Parallel | Up to 100 mm  | 2.7 µm   | Check plugs, SIP<br>measuring machine                                |
| Diameter Thread Plug<br>Gage, Parallel | Up to 100 mm  | 2.9 µm   | SIP measuring machine<br>FED-STD H-28<br>ISO 1502                    |

| Parameter/Equipment                               | Range   | CMC <sup>2</sup> (±)                   | Comments                                 |
|---|---|--|--|
| Thread Wires                                      | Up to 3.2 mm  | 0.88 μm                                | SIP measuring machine<br>FED-STD H-28    |
| Gage Blocks                                       | Up to 25 mm<br>(25 to 50) mm<br>(50 to 100) mm                      | 0.5 μm<br>0.6 μm<br>0.7 μm             | Comparator TESA                          |
| Length Measuring Machine <sup>3</sup>             | Up to 50 mm<br>(50 to 100) mm<br>(100 to 200) mm<br>(200 to 300) mm | 0.45 μm<br>0.84 μm<br>1.4 μm<br>1.8 μm | Gage blocks                              |
| Gage Blocks Comparator <sup>3</sup>               | Up to 3.0 mm  | 0.32 μm                                | Comparator TESA,<br>gage blocks          |
| Angle, Bevel Protractor                           | Up to 360°  | 4.0'                                   | Angle blocks<br>GGG-P-676                |
| “V” Block –<br>Form, Straightness                 | Up to 50 mm   | 3.6 μm                                 | Comparator TESA<br>gage blocks, sine bar |
| Granite Surface Plates <sup>3</sup> –<br>Flatness | Up to 3.0 m   | 5.5 μm                                 | GGG-P-463<br>Digital level meter         |
| Repeatability<br>{Local Area<br>Flatness}         | Up to 3.0 m   | 6.5 μm                                 | Repeat O meter                           |
| Profile Projectors <sup>3</sup>                   | Up to 200 mm  | 3.8 μm                                 | Optical bar                              |

## II. Mechanical

| Parameter/Equipment                        | Range  | CMC <sup>2,4</sup> (±)             | Comments  |
|--|--|------------------------------------|---|
| Torque, Torque Wrenches and Torque Drivers | Up to 20 N·m<br>(20 to 300) N·m<br>(300 to 1000) N·m             | 0.14 N·m<br>0.55 N·m<br>3.0 N·m    | Sandoo calibrator,<br>Stahlwille Torque<br>calibrator,<br>ISO 6789:2017 (E) |
| Gage Pressure –                            |  |                                    |   |
| Pneumatic                                  | (-1 to 20) bar   | 0.0042 bar                         | Druck pressure<br>calibrator  |
| Hydraulic                                  | Up to 300 bar<br>(300 to 700) bar<br>(700 to 1000) bar           | 0.33 bar<br>0.42 bar<br>1.0 bar    | Druck pressure<br>calibrator  |
| Scales and Balances <sup>3</sup>           | Up to 200 g<br>(200 to 5000) g<br>(5 to 50) kg<br>(50 to 150) kg | 0.62 mg<br>0.02 g<br>2.7 g<br>26 g | Mass standards.   |

## III. Thermodynamics

| Parameter/Equipment   | Range   | CMC <sup>2,4</sup> (±)      | Comments                                      |
|---|---|-----------------------------|---|
| Temperature <sup>3</sup> –                                  |   |                             |   |
| Mechanical and Electrical Indicators with Probe(s)          | (-30 to 100) °C<br>(100 to 300) °C<br>(300 to 500) °C | 0.22 °C<br>1.4 °C<br>3.2 °C | Temperature calibrator,<br>Testo 735, IS 1291 |
| Chambers (Furnaces, Refrigerators, Incubators and Freezers) | (-30 to 70) °C<br>(70 to 200) °C<br>(200 to 500) °C   | 1.1 °C<br>1.2 °C<br>4.0 °C  | Testo 174, data logger                        |
| Relative Humidity – Measuring Equipment                     | (11 to 75) % RH                                       | 1.7 % RH                    | Humidity standards                            |

<sup>1</sup> This laboratory offers commercial calibration service.

<sup>2</sup> Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMC's represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of  $k = 2$ . The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

<sup>3</sup> Field calibration service is available for this calibration and this laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

<sup>4</sup> The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

<sup>5</sup> This scope meets A2LA's *P112 Flexible Scope Policy*.



## *Accredited Laboratory*

A2LA has accredited

**METROLOGY QC LTD**

*Petah Tikva, ISRAEL*

for technical competence in the field of

**Calibration**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).



Presented this 16<sup>th</sup> day of April, 2020.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 4844.01  
Valid to April 30, 2022

*For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.*