



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

BORBOLLA METROLOGY, S.A. DE C.V.
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CALIBRATION

Valid To: September 30, 2021

Certificate Number: 3486.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Dimensional Testing/Calibration¹

| Parameter/Equipment | Range | CMC ^{2,4} (±) | Comments |
|---|-----------------|--------------------------------|--|
| CMM ^{3,5} – Verification | | | |
| Length Measurement Error & R0 | Up to 1000 mm | $(0.18 + 0.0021L) \mu\text{m}$ | ISO 10360-2; Section 6.3.3, 6.4 and 6.5 -step gage and gage blocks |
| | Up to 30 000 mm | $(0.13 + 0.001L) \mu\text{m}$ | Gage blocks, Renishaw laser |
| Probing Error | 25 mm | 0.31 μm | ISO 10360-5; Section 6.2 - test sphere |
| Optical Comparators & Vision Systems ^{3,5} – | | | JIS B7184:1999 Table 1 and 8; |
| X & Y Axis Length Error of Indication | Up to 140 mm | 2.7 μm | Glass scale |

| Parameter/Equipment | Range | CMC ^{2,4} (±) | Comments |
|---|---|------------------------|-----------------------------------|
| 2D Dimensional Measurement ⁵ – X - Axis Y - Axis | Up to 200 mm Up to 150 mm | 6.0 μm | ASME Y14.5; optical comparator |
| 3D Dimensional Measurement ⁵ – X - Axis Y - Axis Z - Axis | Up to 800 mm Up to 1000 mm Up to 700 mm | (2.4 + L/298) μm | ASME Y14.5; CMM |

¹ This laboratory offers commercial and field calibration and dimensional testing services.

² 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. CMCs 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.

³ 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.

⁴ In the statement of CMC, L is the numerical value of the nominal length of the device measured in millimeters.

⁵ This laboratory meets R205 – *Specific Requirements: Calibration Laboratory Accreditation Program* for the types of dimensional tests listed above and is considered equivalent to that of a calibration.



Accredited Laboratory

A2LA has accredited

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Zona Centro, Saltillo, Coah., MEXICO

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 9th day of October 2019.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3486.01
Valid to September 30, 2021
Revised August 19, 2021

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