



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

LABORATORIO CENTRAL DE BADER DE MEXICO

Sigma 209, Parque Industrial Delta

Leon, Guanajuato, Mexico 37545

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CALIBRATION

Valid To: December 31, 2024

Certificate Number: 1700.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,5}:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Dial Indicators	Up to 125 mm: 0.001 Resolution 0.01 Resolution	(5.8 + 0.018L) µm (8.2 + 0.014L) µm	Gage blocks
Calipers	Up to 155 mm	10 µm	Gage blocks
Ruler	Up to 1000 mm	(44 + 0.022L) µm	Digital scale

II. Mechanical

Parameter/Equipment	Range	CMC ^{2,6} (±)	Comments
Gauge Pressure – Measure and Generate (Pneumatic)	(3 to 30) psi (30 to 295) psi	0.019 psi 0.18 psi	GE Druck

Parameter/Equipment	Range	CMC ² (±)	Comments
Scales ³	1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg 30 kg 35 kg	0.023 mg 0.028 mg 0.036 mg 0.042 mg 0.056 mg 0.072 mg 0.12 mg 0.22 mg 0.56 mg 8.9 mg 11 mg 19 mg 89 mg 0.11 g 0.13 g 0.14 g	Class E2 and F1 weights

III. Thermodynamics

Parameter/Equipment	Range	CMC ^{2, 6} (±)	Comments
Temperature – Measuring Equipment ³	(-20 to 0) °C (0 to 120) °C (120 to 200) °C	0.082 °C 0.069 °C 0.2 °C	Fluke 1524 with 5616/5627 PRT/RTD with liquid baths or dry well
Relative Humidity – Measuring Equipment	11% RH 33% RH 75% RH 95% RH	1.2% RH 1.3% RH 1.3% RH 1.3% RH	Humidity chamber with salts and Vaisala humidity probe and readout.
Infrared Temperature – Measuring Equipment	0 °C 50 °C 150 °C 230 °C	0.1 °C 0.4 °C 1.7 °C 3.6 °C	Fluke 1524 with 5616/5627 PRT/RTD with fluke 4180

¹ This laboratory offers commercial calibration service and field calibration service.

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. 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 mm.

⁵ This scope meets A2LA's *P112 Flexible Scope Policy*.

⁶ 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.



Accredited Laboratory

A2LA has accredited

LABORATORIO CENTRAL DE BADER DE MEXICO

Leon, Guanajuato, 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 3rd day of July 2023.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1700.02
Valid to December 31, 2024

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