



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

CARL ZEISS INDUSTRIAL METROLOGY, LLC
 6250 Sycamore Lane
 Minneapolis, MN 55369
 Glenn Knight Phone: 763 744 2468

CALIBRATION

Valid To: November 30, 2020

Certificate Number: 2216.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,7}:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Coordinate Measuring Machines (CMM) ³ –			
Length Accuracy	Up to 700mm Up to 1060 mm (1060 to 1540) mm	(0.05 + 0.15L) μm (0.08 + 0.25L) μm (0.1 + 0.4L) μm	Step gage ^{5,6}
	(10 to 50) mm (100 to 500) mm 1000 mm	(0.2 + 0.18L) μm (0.1 + 0.5L) μm (0.05 + 0.5L) μm	Gage block ⁶
	Up to 5000 mm	(0.1 + 1L) μm	Ball bar ^{5,6}
	Up to 113 mm	1.0 μm	3D sphere plate ⁶
Probe Performance	(8 to 30) mm	0.02 μm	Sphere ^{5,6}
4 th Axis Performance	(25 to 30) mm	0.36 μm	Sphere ^{5,6}
Scanning Performance	50 mm	0.13 μm	Ring gage ⁶
	25 mm	0.08 μm	Sphere ^{5,6}
Multiple Stylus	(25 to 30) mm	0.04 μm	Sphere ^{5,6}

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. 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.

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 meters.

⁵ Calibration method utilizing associated section(s) of ISO 10360 for defined parameter.

⁶ Calibration method utilizing CZIM internal method CL-1001.

⁷ This scope meets A2LA's *P112 Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

CARL ZEISS INDUSTRIAL METROLOGY, LLC

Minneapolis, MN

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 17th day of January 2019.

A blue ink signature of the Senior Director of Accreditation Services, written over a horizontal line.

Senior Director, Accreditation Services
For the Accreditation Council
Certificate Number 2216.01
Valid to November 30, 2020

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