SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994

METROLOGY SOLUTIONS, INC.
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CALIBRATION

Valid To: September 30, 2021 Certificate Number: 2857.01

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
Contour Projectors[3] – Optical Comparators			
X-Y Linear	Up to 24 in	(200 + 1.7*L*) µin	Glass masters
X-Y Squareness	(18 to 48) in	(200 + 1.7*L*) µin	(Calibration of OGP and Ram optical systems only)
Magnification	10x to 100x	450 µin	
Focal Squareness	4 in	200 µin	
Edge Detection	---	200 µin	
Video Measurement Systems[3] –			
Measuring Stage	(8 in x 6 in) to (18 in x 24 in)	(37 + 4.2*L*) µin	Glass grid
Z-axis Linear	Up to 6 in	(50 + 2.5*L*) µin	Step gage
Z-axis Squareness	Up to 6 in	160 µin	Square
Optical Alignment	---	50 µin	Dot reticle
			(Calibration of OGP and Ram optical systems only)

II. Dimensional Testing[1]

Parameter/Equipment	Range	CMC[2, 5, 8] (±)	Comments
3-Dimensional Geometry[6] – Measure	(700 x 1000 x 700) mm	(20 + 3*L*) µm	CMM

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[1] This laboratory offers dimensional testing, commercial and field calibration 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 inches, unless otherwise noted.

[5] In the statement of CMC, *L* is the measured length in meters, unless otherwise noted.

[6] 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.

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

[8] 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

METROLOGY SOLUTIONS, INC.

Cookeville, TN

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 the requirements of ANSI/NCSL Z540-1-1994 and *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 23rd day of October 2019.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2857.01
Valid to September 30, 2021

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