



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

VISIONAL TECHNOLOGY, SRL
 Flexipark Free Zone Building A8
 San Rafael de Alajuela, Costa Rica 00918
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CALIBRATION

Valid To: October 31, 2023

Certificate Number: 4111.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1, 6}:

I. Dimensional Testing/Calibration⁷

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Vision Measurement System and Multi-Sensors ³ –			
Length Accuracy	Up to 500 mm	$(0.63 + 0.0056L) \mu\text{m}$	Glass line scale
Z-Axis Linear Error (1D tactile)	Up to 203.2 mm	$(0.087 + 0.008L) \mu\text{m}$	Gage blocks
EUV – Length Error of Imaging Probe	Up to 110 mm	$(1.0 + 0.00058L) \mu\text{m}$	Glass line scale
Probing Error (PF2D) ⁹	Up to 14 mm circle	0.52 μm	Glass reticle
Probing Error of the Imaging Probe (PFV2D) ⁹	Up to 14 mm circle	0.76 μm	
Coordinate Measuring Machines (CMM) ³ –			
Length Accuracy	Up to 1000 mm	$(0.58 + 0.0063L) \mu\text{m}$	Step gage ⁸
Probe Performance	(8 to 30) mm	0.38 μm	Sphere ⁸
Scanning Performance	25 mm	0.17 μm	Sphere ⁸

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Coordinate Measuring Machines (CMM) and Vision Systems – Specific Equipment ^{3,9,10}			
Length Accuracy	Up to 1000 mm	$(0.09 + L/3333) \mu\text{m}$	Step gage ⁸
Probe Performance	(8 to 30) mm	0.06 μm	Sphere ⁸
Scanning Performance	30 mm	0.06 μm	Sphere ⁸
EUV – Length Error of the Imaging Probe	25 mm	$(0.09 + L/3333) \mu\text{m}$	Sphere ⁸
Optical Comparator ^{3,9} –			
Length Accuracy	Up to 500 mm	$(1.1 + 0.0004L) \mu\text{m}$	Glass line scale
Chart Rotation	Up to 180°	1.3 Arcminutes	Glass reticle
Linear Glass Scales	Up to 300 mm	$(0.65 + 0.005L) \mu\text{m}$	Vision measurement system with comparison to calibrated standards
Glass Grid/Dot Arrays/Checkerboards	Up to 300 mm	$(0.65 + 0.005L) \mu\text{m}$	Vision measurement system with comparison to calibrated standards
Reticles –			
Diameters/Radius	Up to 25 mm	0.60 μm	Vision measurement system with comparison to calibrated standards
Angles	Up to 180°	1.2 Arcminutes	Vision measurement system with comparison to calibrated standards
Distances	Up to 300 mm	$(0.65 + 0.005L) \mu\text{m}$	Vision measurement system with comparison to calibrated standards
Chart Overlays – Diameter	Up to 300 mm	$(1.8 + 0.016L) \mu\text{m}$	Vision measurement system
Steel Rulers	Up to 640 mm	$(9.0 + 0.015L) \mu\text{m}$	Vision measurement system

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Length Standards 1D CMM	Up to 177 mm	$(0.91 + 0.0018L) \mu\text{m}$	CMM with comparison to standards
Circles – Radius/Diameters	Up to 25 mm	0.98 μm	CMM with comparison to standards
Gage Blocks	Up to 25.4 mm	$(0.051 + 0.0002L) \mu\text{m}$	Labmaster Universal 175
	25.4 mm to 152.4 mm	$(0.030 + 0.001L) \mu\text{m}$	Master gage blocks
Pin and Plug Gages	Up to 25.4 mm	$(0.051 + 0.0002L) \mu\text{m}$	Labmaster Universal 175, master gage blocks
Ring Gages	Up to 25.4 mm	$(0.28 + 0.003L) \mu\text{m}$	Labmaster Universal 175, master gage blocks, and master ring gages

II. Dimensional Testing⁵

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
1D Length Measurements	Up to 500 mm	$(1.7 + 0.0040L) \mu\text{m}$	Vision measurement system and CMM
2D Length Measurements	Up to 500 mm	$(1.7 + 0.0040L) \mu\text{m}$	Vision measurement system and CMM
Radius	Up to 300 mm	$(1.7 + 0.00046L) \mu\text{m}$	Vision measurement system and CMM

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Angles	Up to 180°	0.25 Arcminutes	Vision measurement system and CMM

¹ This laboratory offers commercial calibration service, field calibration service, and dimensional testing.

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. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the Calibration and Measurement Capability Uncertainty (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 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 test is not equivalent to that of a calibration.

⁶ This scope meets A2LA's P112 Flexible Scope Policy.

⁷ 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.

⁸ Calibration method utilizing corresponding section(s) of ISO 10360 for defined parameter.

⁹ Repeatability of the Unit Under Test has not been utilized in the calculation of the CMC value for this measurement parameter.

¹⁰ Only applies to Zeiss CMMs.



Accredited Laboratory

A2LA has accredited

VISIONAL TECHNOLOGY, SRL

San Rafael de Alajuela, Costa Rica

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 15th day of June 2021.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4111.02
Valid to October 31, 2023
Revised September 19, 2023

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