



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

FLORIDA METROLOGY, LLC
 645 NW Enterprise Dr.
 Port St. Lucie FL 34986
 Ron Kupper Phone: (772)212-7158

CALIBRATION

Valid To: October 31, 2019

Certificate Number: 3864.01

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

I. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Video Measuring Device ³			
X, Y Linearity	Up to 200 mm Longest Axis	$(0.80 + 0.003 L) \mu\text{m}$ [(32 + 3.5L) μin]	Optical Grid, optical scales
X, Y Linearity	(200 to 400) mm Longest Axis	$(1.1 + 0.004L) \mu\text{m}$ [(43 + 3L) μin]	
X, Y Linearity	(400 to 900) mm Longest Axis	$(1.6 + 0.005L) \mu\text{m}$ [(48 + 4.8L) μin]	
Z Linearity	Up to 300 mm	$(4.1 + 0.002L) \mu\text{m}$ [(160 + 2.4L) μin]	Gage blocks & dial indicator
Optical Comparator ³ –			
X, Y Linearity	Up to 12 in	$(94 + 1.2L) \mu\text{in}$	Optical scale
Angle	(0 to 90) ^o	0.38 ^o	Angle blocks

Parameter/Equipment	Range	CMC ² (±)	Comments
Height Gages ³	Up to 12 in (12 to 24) in	(170 + 2.0L) μin (170 + 3.1L) μin	Gage blocks
Micrometers ³ –			
Outside	(0.05 to 6) in	(48 + 11L) μin	Gage blocks, Grade 0
Inside	(0.05 to 6) in	(75 + 8L) μin	
Calipers ³	Up to 24in	(290 + 2.3L) μin	Gage blocks, Grade 0
Length Indicators ³ – (Dial, Digital, Electronic)	(0.05 to 4)	(110 + 5L) μin	Gage blocks, Grade 0

II. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Balances ³ –			Handbook 44, ASTM E898
Analytical Class I	(1 to 320) g	(0.12 + 2.7 x 10 ⁻⁶ Wt) mg	Class 2 weights
Electronic – Top Loader, Class I	(1 to 1200) g	(1.2 + 2.1 x 10 ⁻⁶ Wt) mg	Class 2 weights
Scales ³ –			Handbook 44, ASTM E898
Bench, Class III/IIIL	(1 to 250) kg	(1.1 + 1.1 x 10 ⁻⁴ Wt) g	Class F weights
Force –			
Compression and Tension ³	227 g to 100 kg	(12 + 5.1 x 10 ⁻⁵ Wt) g	Class 7 weights



Parameter/Equipment	Range	CMC ² (±)	Comments
Pressure Gages ^{3, 4}	(0 to 15) psi (0 to 30) psi (0 to 100) psi (0 to 500) psi (0 to 1000) psi	0.012 psi 0.023 psi 0.061 psi 0.29 psi 0.60 psi	Fluke 744 w/ pressure modules
Indirect Verification of Rockwell Hardness Testers ³	HRC: (20 to 30) HRC (35 to 55) HRC (60 to 65) HRC HRBW: (40 to 59) HRBW (60 to 79) HRBW (80 to 100) HRBW	1.3 HRC 1.3 HRC 0.68 HRC 1.9 HRBW 1.2 HRBW 1.3 HRBW	Master blocks

III. Electrical DC/Low Frequency

Parameter/Equipment	Range	CMC ² (±)	Comments
Electrical Calibration of Temperature Indicators ³ –			
Type E ⁴	(-200 to -100) °C (-100 to 600) °C (600 to 1000) °C	0.44 °C 0.72 °C 0.67 °C	Fluke 744
Type J	(-200 to -100) °C (-100 to 800) °C (800 to 1200) °C	0.47 °C 0.35 °C 0.66 °C	Fluke 744
Type K	(-200 to -100) °C (-100 to 400) °C (400 to 1200) °C (1200 to 1372) °C	0.53 °C 0.37 °C 0.44 °C 0.47 °C	Fluke 744
Type R ⁴	(0 to 100) °C (100 to 1767) °C	1.8 °C 1.6 °C	Fluke 744



Parameter/Equipment	Range	CMC ² (±)	Comments
Electrical Calibration of Temperature Indicators ³ – (cont)			
Type S ⁴	(0 to 200) °C (200 to 1400) °C (1400 to 1767) °C	1.8 °C 1.9 °C 1.8 °C	Fluke 744
Type T ⁴	(-200 to 0) °C (0 to 400) °C	0.71 °C 0.61 °C	Fluke 744

IV. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature ³ – Measuring Equipment	(30 to 200) °C	0.32 °C	Dry block temperature calibrator
Temperature – Measure	(50 to 600) °C	5.3 °C	Fluke 744 and thermocouple probe

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 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 Applicable to digital controllers only.





Accredited Laboratory

A2LA has accredited

FLORIDA METROLOGY, LLC

Port St. Lucie, FL

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets 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 8 January 2009).



Presented this 6th day of December 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 3864.01
Valid to October 31, 2019

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