SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994 & ANSI/NCSL Z540.3-2006

MOREHOUSE INSTRUMENT CO., INC.
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CALIBRATION

Valid to: June 30, 2024 Certificate Number: 1398.01

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. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC[2, 8] (±)	Comments
DC Voltage – Measure	(0 to 30) V_{DC}	0.001 % of applied	Fluke 8508A
DC Voltage – Measure (mV/V)	(0 to 10) mV/V	0.0012 % (or resolution, whichever is higher).	Agilent 3458A; Fluke 8508A; this is a ratio metric measurement for the range up to 10 V
DC Voltage – Generate; Electrical Calibration of Load Indicators	(0 to 4.4) mV/V	0.000 05 mV/V	Load cell simulator

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II. Mechanical

Parameter/Equipment	Range	CMC[2, 3, 4, 7] (±)	Comments
Force – Measuring Equipment			
Dead Weight Primary	(5 to 105) gf	0.0030 %	Force calibration including ASTM E74 Class A and AA, ISO 376 Class 00, 0.5, 1 and 2 Forces can be applied incrementally and decrementally through 120 000 lbf thus permitting the determination of hysteresis errors
Standards: Tension and Compression	(0.1 to 10) lbf (0.44 to 44) N	0.0025 %	
	(10 to 100) lbf (44 to 444) N	0.0016 %	
	(100 to 12 000) lbf (444 to 53 378) N	0.0016 %	
	(12 000 to 120 000) lbf (53 378 to 533 786) N	0.0016 %	
Force/Force Transducers			
Tension and Compression	(20 000 to 1 000 000) lbf (88.96 to 4 448) kN	1.20 E-05 × F + 14 lbf or, 14 lbf through 26 lbf (62 through 110 N)	
Compression	(150 000 to 2 250 000) lbf (667.2 to 9 786) kN	4.0 E-05 × F + 36 lbf, or 42 lbf through 120 lbf (0.19 kN through 0.55 kN)	Force calibration including ASTM E74 Class A, ISO 376 Class 0, 0.5, 1 and 2
Tension	(1 000 000 to 1 125 000) lbf (4.448 to 5.004) MN	4.0 E-05 × F + 36 lbf 76 lbf through 81 lbf (0.34 kN through 0.36 kN)	

Parameter/Equipment	Range	CMC[2, 3, 7] (±)	Comments
Aircraft Scales/Truck Scales (Portable)[5]	(0 to 60 000) lbf	0.0016 %	Force
Torque – Measuring Equipment, Clockwise & Counter-clockwise			
Dead Weight Primary Standards	(0.37 to 73.75) lbf·ft; (0.5 to 100) N·m	0.0050 %	Primary torque standard, ASTM E2428 and other methods
	(14.75 to 1475) lbf·ft; (20 to 2000) N·m	0.0030 %	

[1] This laboratory offers commercial 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 Uncertainty due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] In the statement of CMC, percentages are to read as percent of the indicated value, unless otherwise noted.

[4] In the statement of CMC, F = Applied force in lbf.

[5] The CMC for this Parameter/Equipment applies for performance verification of the "best existing" device under test and not for the assignment of reference values, and therefore certain characteristics of the "best existing" device under test (e.g. resolution) are not included in this CMC estimate.

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

[7] 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.

[8] The stated measured values are determined using the indicated instrument (see Comments). This capability is suitable for the calibration of the devices intended to measure or generate the measured value in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a percent or fraction of the reading plus a fixed floor specification.

Accredited Laboratory

A2LA has accredited

MOREHOUSE INSTRUMENT COMPANY, INC.

York, PA

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 the requirements of ANSI/NCSL Z540.3-2006 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 3rd day of June 2022.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1398.01
Valid to June 30, 2024
Revised April 9, 2024

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