

CALIBRATION LABORATORIES

NVLAP LAB CODE 201048-0


SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

<p>Absolute Calibration and Consulting Services LLC 11403 W. Delano Street Wichita, KS 67212 Mr. Kraig Rowe Phone: 316-616-7402 Fax: 888-571-2173 E-mail: kraig@accs-llc.com URL: http://www.ACCS-LLC.com</p>	<p>Fields of Calibration Dimensional Electromagnetics – DC/Low Frequency Mechanical Thermodynamic</p> <p>This laboratory is compliant to ANSI/NCSL Z540-1-1994; Part 1. (NVLAP Code: 20/A01)</p>
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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
DIMENSIONAL			
ANGULAR (20/D01)			
Rotary Stroke – Clockwise and Counterclockwise	2.6° to 225°	0.04 % + 0.024°	Internal Procedure AACS-CP-2015
LENGTH and DIAMETER; STEP GAGES (20/D05)			
Testing Machines Displacement Measuring System, field calibration ^{Note 4}	0.04 in to 10.0 in	0.04 % + 0.0004 in	ASTM E2309/2309M
Testing Machines Speed Displacement component ^{Note 4}	0.05 in/min to 9 in/min	0.05 % + 0.0004 in/min	ASTM E2658
Extensometer Systems Strain and micro-displacement ^{Note 4}	0.0026 in to 2 in	0.03 % + 0.00009 in	ASTM E83
ELECTROMAGNETICS – DC/LOW FREQUENCY			
DC VOLTAGE (20/E06)			
DC Voltage ^{Note 4}	0.001 V to 10.0 V	0.03 % + 0.58 μV	A/D, D/A, and gain
MECHANICAL			
FORCE (20/M06)			
Testing Machines Force ^{Note 4}	0.1 lbf to 1100 lbf 20 lbf to 1100 lbf 162 lbf to 5500 lbf	0.21 % + 0.00001 lbf 0.12 % + 0.025 lbf 0.12 % + 0.35 lbf	ASTM E4

2020-12-21 through 2021-12-31
Effective dates


For the National Voluntary Laboratory Accreditation Program


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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
	500 lbf to 25 000 lbf 2000 lbf to 100 000 lbf 10 000 lbf to 220 000 lbf 50 000 lbf to 1 000 000 lbf	0.12 % + 0.7 lbf 0.12 % + 1.3 lbf 0.12 % + 15 lbf 0.12 % + 22 lbf	Compression force only
TORQUE (20/M15)			
Testing Machines Torque ^{Note 4}	28.1 lbf·in to 1000 lbf·in 352 lbf·in to 5000 lbf·in 2000 lbf·in to 50 000 lbf·in	0.08 % + 0.032 lbf·in 0.09 % + 0.81 lbf·in 0.15 % + 0.4 lbf·in	ASTM E2624
THERMODYNAMIC			
PRESSURE INDICATORS (20/T05)			
Testing Machines Pressure ^{Note 4}	12 psig to 50 psig	0.19 % + 0.02 psi	ASTM D5720, limited to readings at ascending pressures
END			

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Notes

Note 1: A Calibration and Measurement Capability (CMC) is a description of the best result of a calibration or measurement (result with the smallest uncertainty of measurement) that is available to the laboratory's customers under normal conditions, when performing more or less routine calibrations of nearly ideal measurement standards or instruments. The CMC is described in the laboratory's scope of accreditation by: the measurement parameter/device being calibrated, the measurement range, the uncertainty associated with that range (see note 3), and remarks on additional parameters, if applicable.

Note 2: Calibration and Measurement Capabilities are traceable to the national measurement standards of the U.S. or to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.

Note 3: The uncertainty associated with a measurement in a CMC is an expanded uncertainty with a level of confidence of approximately 95 %, typically using a coverage factor of $k = 2$. However, laboratories may report a coverage factor different than $k = 2$ to achieve the 95 % level of confidence. Units for the measurand and its uncertainty are to match. Exceptions to this occur when marketplace practice employs mixed units, such as when the artifact to be measured is labeled in non-SI units and the uncertainty is given in SI units (Example: 5 lb weight with uncertainty given in mg).

Note 3a: The uncertainty of a specific calibration by the laboratory may be greater than the uncertainty in the CMC due to the condition and behavior of the customer's device and specific circumstances of the calibration. The uncertainties quoted do not include possible effects on the calibrated device of transportation, long term stability, or intended use.

Note 3b: As the CMC represents the best measurement results achievable under normal conditions, the accredited calibration laboratory shall not report smaller uncertainty of measurement than that given in a CMC for calibrations or measurements covered by that CMC.

Note 3c: As described in Note 1, CMCs cover calibrations and measurements that are available to the laboratory's customers under *normal conditions*. However, the laboratory may have the capability to offer special tests, employing special conditions, which yield calibration or measurement results with lower uncertainties. Such special tests are not covered by the CMCs and are outside the laboratory's scope of accreditation. In this case, NVLAP requirements for the labeling, on calibration reports, of results outside the laboratory's scope of accreditation apply. These requirements are set out in Annex A.5. of NIST Handbook 150, Procedures and General Requirements.

Note 4: Uncertainties associated with field service calibration may be greater as they incorporate on-site environmental contributions, transportation effects, or other factors that affect the measurements. (This note applies only if marked in the body of the scope.)

Note 5: Values listed with percent (%) are percent of reading or generated value unless otherwise noted.

Note 6: NVLAP accreditation is the formal recognition of specific calibration capabilities. Neither NVLAP nor NIST guarantee the accuracy of individual calibrations made by accredited laboratories.

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