



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

H & H ENVIRONMENTAL SYSTEMS, INC.
385 Adirondack Street
Rochester, NY 14606
Frank Imburgia Phone: 585 506 9095

MECHANICAL

Valid to: December 31, 2020

Certificate Number: 5022.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on Military, Aerospace, Automotive and Commercial Products:

Test Technology:

Test Specification/Method(s):

Temperature Chambers from (1.2 to 64) cubic feet	MIL-STD 810G, Method 501.5
Ambient Temperature Chambers from (-150 to 350) °F	MIL-STD 810G, Method 502.5 ¹
Relative Humidity (10% to 90%)	MIL-STD 810G, Method 507.6 ¹
Vibration Random Sinusoidal, Sine on Random (SoR), Random on Random (RoR) (2 to 2200 Hz, 8800 FLb, 3.5” Peak Displacement)	MIL-STD-167-1A; MIL-STD-810G Method 514.7; MIL-STD-202 ¹
Altitude	MIL-STD 810G 500.5 ¹
Combined Environment HALT/HASS	Client Specified/Designed
Combined Environment Temp/Humidity, Altitude/Temp	MIL-STD 810G 520.4 ¹
Mechanical Shock Sinusoidal Sawtooth Trapezoidal	MIL-STD-810G Method 516.7 ¹

¹Also using customer-specified methods directly related to the parameters and tests listed above.



Accredited Laboratory

A2LA has accredited

H & H ENVIRONMENTAL SYSTEMS, INC.

Rochester, NY

for technical competence in the field of

Mechanical Testing

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 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 9th day of April 2019.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5022.01
Valid to December 31, 2020

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



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Calibration

Valid to: December 31, 2020

Certificate Number: 5022.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,5}:

I. Electrical – DC Low Frequency

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Electrical Simulation of Thermocouples ³ Type T	(-20 to 0) °C (0 to 100) °C	1.1 °C 0.70 °C	Fluke 725 process calibrator
Electrical Simulation of Relative Humidity ³	(0 to 100) %RH (0 to 10) VDC (0 to 20) mA	 0.024 % + 0.012 %RH 0.028 % + 0.018 %RH	Fluke 725 process calibrator

II. Mechanical

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Accelerometers	(2.5 to 100) Hz 100 Hz (100 to 1000) Hz (1000 to 2000) Hz (2000 to 3500) Hz	2.7 % 1.6 % 2.5 % 3.1 % 5.5 %	Vibration research VR9500, PCB Piezotronics 301A10 reference accelerometer

III. Thermodynamics

Parameter/Equipment	Range	CMC ^{2, 6} (±)	Comments
Relative Humidity – Measure ³	(20 to 80) %RH	1.5 %RH	Vaisala HMI141, HMP46

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 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, the percentages are percentages of reading, unless otherwise noted.

⁵ This scope meets A2LA's *P112 Flexible Scope Policy*.

⁶ 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.



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Rochester, NY

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 9th day of April 2019.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5022.02
Valid to December 31, 2020

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