National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES **NVLAP LAB CODE 200582-0**

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Thunder Scientific Corporation	**Fields of Calibration**
623 Wyoming Blvd SE Albuquerque, NM 87123-3198 Ms. Jeri Thompson Phone: 505-265-8701 Fax: 505-266-6203 E-mail: jthompson@thunderscientific.com URL: http://www.thunderscientific.com	Thermodynamic This laboratory is compliant to ANSI/NCSL Z540-1-1994; Part 1. (NVLAP Code: 20/A01)

CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) Notes 1,2

Measured Parameter or Device Calibrated	**Range**	**Expanded Uncertainty** Note 3, 5	**Remarks**
THERMODYNAMIC			
HUMIDITY (20/T02)			
Humidity Generation Field calibrations available Note 4 Relative Humidity			*Temperature range of 0 °C to 72 °C (Limited to generation of 70°C Dew Point)*
	> 0 % RH to <5 % RH	0.020 %RH	*(Low Humidity Generator)*
	5 % RH to 98 % RH	(0.0017R + 0.016) %RH (where R is reading in %RH)	*(High Humidity Generator)*
Frost Point Temperature	-95.0 °C to < -90.0 °C -90.0 °C to < -22.0 °C	(0.017|R| - 1.415) °C (0.0005|R| + 0.07) °C (where R is reading in frost point)	*(Low Humidity Generator)* *(Low Humidity Generator)*
Dew/Frost Point Temperature	-22.0 °C to 70.0 °C	0.030 °C	*(High Humidity Generator)*
Humidity Measurement Frost Point Temperature	-90.0 °C to < -70.0 °C	0.20 °C	*(Chilled Mirror Hygrometer)*

2026-11-09 through 2027-06-30
Effective dates

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) [Notes 1,2]

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty [Note 3, 5]	Remarks
Dew/Frost Point Temperature	-70.0 °C to 70.0 °C	0.10 °C	*(Chilled Mirror Hygrometer)*
PRESSURE (20/T05)			
Pneumatic Absolute Pressure	12 psia to 500 psia	0.0020 %	Primary Piston Pressure Gage
RESISTANCE THERMOMETRY (20/T07)			
Platinum Resistance Thermometers	-80 °C to 85 °C	0.0035 °C	Comparison to TPW and SPRT
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. Field service capability is only for Thunder Scientific 1200, 2500 and 2900 series units.

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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