



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

FULL SPECTRUM GROUP, LLC
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CALIBRATION

Valid To: October 31, 2023

Certificate Number: 4098.01

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. Mechanical

Parameter/Equipment	Range	CMC ^{2, 5} (±)	Comments
Pressure ³ – Measure Pneumatic	(-30 to 30) inH ₂ O	0.035 inH ₂ O	Additel ADT155- DP30-760

II. Thermodynamics

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Temperature ³ – Measure	(-95 to 0) °C	0.089 °C	Fluke 1524 w/ 5606
	(0 to 140) °C	0.11 °C	
	(-95 to 0) °C	0.32 °C	JRI 12409
	(0 to 80) °C	0.40 °C	
	(80 to 140) °C	0.58 °C	
	(0 to 70) °C	0.48 °C	JRI 12347

Parameter/Equipment	Range	CMC ^{2, 4} ($\pm$)	Comments
Temperature – Measure	(-95 to 0) °C	0.033 °C	Fluke 1594A w/ 5628
	(0 to 140) °C	0.016 °C	
	(-95 to -38) °C	0.029 °C	Fluke 1594A w/ 5699
	(-38 to 0) °C	0.020 °C	
	(0 to 140) °C	0.022 °C	
Humidity – Measuring Equipment	(10 to 95) % RH	0.69 % RH	Thunder Scientific 2500-LT
Humidity ³ – Measure	(10 to 80) % RH	1.3 % RH	BioMerieux 416045
	(80 to 95) % RH	1.9 % RH	
	(10 to 80) % RH	1.2 % RH	Rotronic HC2-S
	(80 to 95) % RH	1.7 % RH	
	(10 to 80) % RH	1.5 % RH	JRI 12367
	(80 to 95) % RH	2.3 % RH	
	(10 to 80) % RH	2.5 % RH	JRI 12347
	(80 to 95) % RH	3.1 % RH	

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. 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 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.

⁵ This scope meets A2LA's *PI12 Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

FULL SPECTRUM GROUP, LLC

Morrisville, NC

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 17th day of September 2021.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4098.01
Valid to October 31, 2023
Revised September 29, 2022

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