



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

SCIENTIFIC CALIBRATION, INC.
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CALIBRATION

Valid To: October 31, 2025

Certificate Number: 5345.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1,4}:

I. Chemical

Parameter/Equipment	Range	CMC ^{2,5} (±)	Comments
CO ₂ Sensors ³	(0% to 20%) CO ₂	0.51 % CO ₂ + 2 % of Reading	%CO ₂ Meter

II. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Micrometers	Up to 16 in	0.000 12 in	Grade 0 gauge blocks
Calipers	Up to 16 in	0.000 42 in	Grade 0 gauge blocks
Tape Measures & Rulers	Up to 480 in (480 to 1200) in	0.063 in 0.089 in	Calibrated tape measure

III. Fluid Quantities

Parameter/Equipment	Range	CMC ^{2, 6} (±)	Comments
Gas Flow (Air, Helium, Hydrogen, Nitrogen) – Measure ³	(50 to 400) ml/min	0.39 ml/min + Greater of 2 % of reading or 0.2 ml/min	Restek Proflow 6000
	(2 to 10) l/min	0.15 l/min	Alborg GFM17
	(40 to 200) l/min	3.3 l/min	Alborg GFM57
Liquid Flow (Water) – Measure ³	(0.2 to 2.0) ml/min	1 % of reading + 0.014 ml/min	Liquid Flow Meter

IV. Electrical

Parameter/Equipment	Range	CMC ^{2, 7} (±)	Comments
DC Voltage – Measure	Up to 100 mV (>0.1 to 3) V (>3 to 30) V (>30 to 300) V	0.02 % + 0.005 mV 0.02 % + 0.000 05 V 0.02 % + 0.0005 V 0.05 % + 0.05 V	Fluke 753
DC Current – Measure	Up to 30 mA (>30 to 100) mA	0.015 % + 0.005 mA 0.014 % + 0.02 mA	Fluke 753
DC Resistance – Measure	Up to 10 Ω (>10 to 100) Ω (>0.1 to 1) kΩ (>1 to 10) kΩ	0.33 % + 0.05 Ω 0.05 % + 0.05 Ω 0.05 % + 0.005 kΩ 0.1 % + 0.01 kΩ	Fluke 753

Parameter/Range	Frequency	CMC ^{2, 7} (±)	Comments
AC Voltage – Measure (>0.1 to 3) V (>3 to 30) V (>30 to 300) V	 (40 to 500) Hz (40 to 500) Hz (40 to 500) Hz	 0.53 % + 0.002 V 0.5 % + 0.02 V 0.5 % + 0.2 V	Fluke 753

Parameter/Equipment	Range	CMC ^{2, 6} (±)	Comments
Electrical Simulation of RTD - Source Pt100 385	 (-200 to 100) °C (>100 to 800) °C	 0.060 °C 0.15 °C	 Fluke 753
Electrical Simulation of RTD - Measure Pt100 385	 (-200 to 100) °C (>100 to 800) °C	 0.10 °C 0.32 °C	 Fluke 753
Electrical Simulation of Thermocouples – Source Type J Type K Type T	 (-210 to -100) °C (>-100 to 800) °C (>800 to 1200) °C (-200 to -100) °C (>-100 to 400) °C (>400 to 1200) °C (>1200 to 1372) °C (-250 to -100) °C (>-100 to 0) °C (>0 to 400) °C	 0.44 °C 0.40 °C 0.35 °C 0.53 °C 0.45 °C 0.39 °C 0.36 °C 1.1 °C 0.44 °C 0.49 °C	 Fluke 753
Electrical Simulation of Thermocouples – Measure Type J Type K Type T	 (-210 to -100) °C (>-100 to 800) °C (>800 to 1200) °C (-200 to -100) °C (>-100 to 400) °C (>400 to 1200) °C (>1200 to 1372) °C (-250 to -100) °C (>-100 to 0) °C (>0 to 400) °C	 0.67 °C 0.45 °C 0.53 °C 0.75 °C 0.38 °C 0.53 °C 0.72 °C 1.7 °C 0.63 °C 0.49 °C	 Fluke 753

V. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Scales, Balances & Weighing Systems ³	(0.002 to 0.5) g	23 µg	Class 1 weights
	(0.5 to 5) g	47 µg	
	(5 to 20) g	91 µg	
	(20 to 50) g	0.14 mg	
	(50 to 100) g	0.3 mg	
	(100 to 150) g	0.44 mg	
	(150 to 200) g	0.6 mg	
	(200 to 500) g	3.9 mg	
	(500 to 1000) g	4.6 mg	
	(1 to 100) g	1.9 mg	Class 3 weights
	(100 to 200) g	2.8 mg	
	(200 to 500) g	6.1 mg	
	500 g to 1 kg	12 mg	
	(1 to 2) kg	24 mg	
	(2 to 5) kg	59 mg	
	Up to 300 lbs	0.04 lbs	Class 6 weights
	(>300 to 600) lbs	0.08 lbs	
	10 kg	1.2 g	
	25 kg	3.0 g	

Parameter/Equipment	Range	CMC ² (±)	Comments
Pipettes ³	(0.1 to 1) µL	0.026 µL	Sartorius Cubis MP6.6S
	(1 to 20) µL	0.12 µL	Gravimetric – Balance, Weights
	(20 to 50) µL	0.16 µL	
	(50 to 100) µL	0.51 µL	
	(100 to 200) µL	0.63 µL	
	(200 to 300) µL	0.96 µL	
	(300 to 1000) µL	3.8 µL	
	(1 to 2) mL	10 µL	
	(2 to 5) mL	13 µL	
	(5 to 10) mL	32 µL	
	(10 to 25) mL	68 µL	
	(25 to 50) mL	0.14 mL	
	(50 to 100) mL	0.59 mL	

Parameter/Equipment	Range	CMC ^{2, 6} (±)	Comments
Titration ³	(25 to 1000) µL (1000 to 5000) µL (5000 to 10 000) µL (10 000 to 20 000) µL (20 000 to 50 000) µL	4.5 µL 13 µL 25 µL 50 µL 150 µL	Gravimetric – Balance, Weights
Pressure & Vacuum – Measuring Equipment ³	(Up to 300) psi (Up to 500) psi (-30 to 30) inH ₂ O (-29.5 to 0) inHg	0.068 psi 0.31 psi 0.013 inH ₂ O 0.16 inHg	Additel 760 Fluke 750P07 Additel 760 DP30 Ashcroft DG25
Force Measuring Devices – Tension & Compression	(0.5 to 5) lbf (230 to 2300) gf (10 to 100) lbf (4500 to 45 000) gf	0.015 lbf 6.8 gf 0.30 lbf 140 gf	Mark-10 MR03-5 Mark-10 MR03-100
Torque – Measure	(5 to 50) lbf·in (5.8 to 58) kgf·cm (20 to 200) lbf·in (23 to 230) kgf·cm	0.27 lbf·in 0.31 kgf·cm 1.7 lbf·in 2.0 kgf·cm	Mark-10 MR52-50 Mark-10 MR55-200

VI. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Digital Thermometers	(-196 to -86) °C (-86 to 0) °C (0 to 140) °C (140 to 400) °C	0.074 °C 0.086 °C 0.1 °C 0.1 °C	Hart 1502A Thermometer, Fluke 5615 probe
LIG Thermometers	(-86 to 0) °C (0 to 140) °C	0.59 °C 0.6 °C	Fluke 1524 Thermometer, Fluke 5623B probe

Parameter/Equipment	Range	CMC ^{2, 6} ($\pm$)	Comments
Thermocyclers ³	(0 to 95) °C	0.69 °C	Quanta Biotech TAS System
Environmental Temperature (Freezers, Incubators, HPLC, Refrigerators, Ovens, Furnaces, & GC) ³	(-86 to -10) °C (0 to 10) °C (10 to 50) °C (30 to 400) °C (-80 to 130) °C	2.1 °C 1.6 °C 1.5 °C 1.9 °C 0.28 °C	Fluke 54 II w/Thermocouple Kaye XC5FVP40-RT
Relative Humidity Measuring Equipment ³	(0% to 90%) RH (15% to 90%) RH (10% to 95%) RH	1.3 % RH 2.5 % RH 1.5 % RH	Vaisala MI70 HMP 77B Kaye X2520-RT Geo Calibration Humidity Chamber 2000 SP-SH

VII. Time & Frequency

Parameter/Equipment	Range	CMC ^{2, 5, 6} ($\pm$)	Comments
Frequency – Measure	(1 to 110) Hz (>0.11 to 1.1) kHz (>1.1 to 22) kHz (>22 to 50) kHz	0.064 Hz 0.51 Hz 0.0070 kHz 0.051 kHz	Fluke 753
Frequency – Measuring Equipment	Up to 10.99 Hz (11 to 109.99 Hz) (110 to 1099.99 Hz) (1.1 to 21.99 kHz) (22 to 50 kHz)	0.007 Hz 0.05 Hz 0.43 Hz 14 kHz 17 kHz	Fluke 753
Centrifuges ³	(100 to 100 000) RPM	1.8 RPM + 0.01 %	Monarch PLT-200 Laser Tachometer
Stopwatches / Timers	(30 to 72 000) s	23 ms	Counter, Stopwatch, Frequency Generator

- 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 This scope meets A2LA's *P112 Flexible Scope Policy*.
- ⁵ In the statement of CMC, the percentage given is the percentage of the reading, unless otherwise noted.
- 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.
- ⁷ 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. CMC's 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

SCIENTIFIC CALIBRATION, INC.

Cary, 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 16th day of October 2023.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5345.01
Valid to October 31, 2025

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