

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Caley & Whitmore Corporation 500 West Cummings Park, Suite 4850 Woburn, MA 01801

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document. The current scope of accreditation can be verified at <u>www.anab.org</u>.



Jason Stine, Vice President

Expiry Date: 03 December 2025 Certificate Number: L2150

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. 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).



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Caley & Whitmore Corporation

500 West Cummings Park, Suite 4850 Woburn, MA 01801 Mark LaScola 617-623-7430

CALIBRATION

Valid to: December 3, 2025

Certificate Number: L2150

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Electrical Simulation of Thermocouple Indicating Devices ¹	Type J $(-210 \text{ to } -180) \circ C$ $(-180 \text{ to } -50) \circ C$ $(-50 \text{ to } 500) \circ C$ $(500 \text{ to } 1 \ 200) \circ C$ Type K $(-230 \text{ to } -100) \circ C$ $(-100 \text{ to } 1 \ 050) \circ C$ $(1 \ 050 \text{ to } 1 \ 371) \circ C$ Type T $(-260 \text{ to } -200) \circ C$ $(-200 \text{ to } -50) \circ C$ $(-50 \text{ to } 0) \circ C$ $(0 \text{ to } 400) \circ C$	0.41 °C 0.32 °C 0.25 °C 0.32 °C 0.74 °C 0.33 °C 0.42 °C 1.3 °C 0.64 °C 0.32 °C 0.32 °C	Thermocouple Calibrator

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Analytical Balances ¹			ASTM E617
(0.01 mg resolution)	(0 to 30) g	0.09 mg	Class 1 weights and
			SOP CWPRO 2.0 utilized
(0.1 mg resolution)	(0 to 200) g	0.41 mg	for the calibration of the
			weighing system.





Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Balances ¹			ASTM F617
(1 mg resolution)	(0 to 1) kg	3.7 mg	Class 1 weights and
(10 mg resolution)	(0 to 5) kg	23 mg	SOP CWPRO 2.0 utilized
(10 mg resolution)	(0 10 5) Kg	23 mg	for the calibration of the
(0.1 g resolution)	(0 to 10) kg	217 mg	weigning system.
			ASTM E617
Scales ¹ (1 g resolution)	(0 to 30) kg	2.2 g	Class 1 weights and
			SOP CWPRO 2.0 utilized
			for the calibration of the
			weighing system.

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Chambers, Freezers, Incubators, Ovens ¹	(-35 to 300) °C	0.29 °C	RTD Probe, Digital Indicator
	(-35 to 200) °C	0.48 °C	Type T Thermocouple Probes, Fluke 51 or Fluke 52 Digital Thermometer
Digital Thermometers with Probes, Bi-metal Thermometers, Thermocouple Probes, Liquid-in-Glass Thermometers (Partial/Total Immersion)	(-35 to 300) °C	0.29 °C	Liquid Baths, RTD Probe, Digital Indicator

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (*k*=2), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.

2. This scope is formatted as part of a single document including Certificate of Accreditation No. L2150.

Jason Stine, Vice President Version 009 Issued: November 17, 2023



www.anab.org