

# CERTIFICATE OF ACCREDITATION

# The ANSI National Accreditation Board

Hereby attests that

# Raeyco Lab Equipment Systems Management Ltd.

4288 Lozells Avenue, Suite 205 Burnaby, BC V5A 0C7 Canada

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 <a href="www.anab.org">www.anab.org</a>.

Jason Stine, Vice President

Expiry Date: 14 January 2026 Certificate Number: AC-2834









## **SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

# Raeyco Lab Equipment Systems Management Ltd.

4288 Lozells Avenue, Suite 205
Burnaby, BC V5A 0C7
Jade Chui (604) 444-0004 qa@raeyco.com

## **CALIBRATION**

Valid to: January 14, 2026 Certificate Number: AC-2834

#### **Mass and Mass Related**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Piston-operated Volumetric Apparatus <sup>1,2</sup> (Pipettes)	(1 to 10) μL (10 to 100) μL (100 to 1 000) μL (1 000 to 10 000) μL	0.4 % of reading + 17 nL 0.2 % of reading + 37 nL 0.12 % of reading + 0.12 μL 0.25 % of reading – 1.2 μL	Analytical Balance and Gravimetric Method per ISO 8655.
Balances and Scales <sup>1,2</sup> (0.001 mg resolution)	(1 to 10) mg (10 to 100) mg (100 to 1 000) mg (1 to 10) g (10 to 100) g	94 μg + 0.8 % of reading 0.021 % of reading + 12 μg 34 μg + 0.001 3 % of reading 0.000 01 % of reading + 21 μg 0.000 14 % of reading + 19 μg	ASTM E617/OIML R111 appropriate class weights and internal calibration procedure utilized in
(0.1 mg resolution) (5 mg resolution)	, , , , , , , , , , , , , , , , , , ,	0.000 22 % of reading – 60 μg 0.000 74 % of reading – 5.3 mg 0.000 61 % of reading – 8 mg	the calibration of the weighing system.
Weights <sup>1</sup> (Mass Determination)	(1 to 10) mg (1 to 100) mg (100 to 1 000) mg (1 to 10) g (10 to 100) g (100 to 1 000) g (1 to 10) kg (10 to 25) kg	0.13 mg – 1.1 % of reading 0.03 % of reading + 17 μg 49 μg – 0.001 9 % of reading 0.000 14 % of reading + 29 μg 0.000 19 % of reading + 24 μg 0.002 9 % of reading – 80 μg 0.001 % of reading + 7.2 mg 0.78 % or reading + 15 mg	Electronic Balance and ASTM E617 / OIML R111 Class Weights





### Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature – Measure <sup>1,2</sup>	(-80 to 0) °C (0 to 105) °C (105 to 150) °C (150 to 200) °C (200 to 500) °C	0.12 °C 0.12 °C 0.12 °C 0.12 °C 0.12 °C	Comparison to Digital Thermometer with PRT
Humidity – Measure/Source <sup>1,2</sup>	(10 to 90) %RH	1.4 %RH	Comparison to Master Thermohygrometer

### **Time and Frequency**

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Centrifuge 1,2,3	Up to 1 000 rpm (1 000 to 2 000) rpm (2 000 to 3 000) rpm	1.7 rpm 3.7 rpm 5.1 rpm	Comparison to Optical Tachometer
	(3 000 to 5 000) rpm (5 000 to 15 000) rpm	8 rpm 23 rpm	

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. Raeyco Lab Equipment Systems Management maintains ISO 17025 qualified resident technicians in Toronto, ON, Hamilton, ON, London, ON, Winnipeg, MB, and Fredericton, NB.
- 3. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2834.

Jason Stine, Vice President

Version 004 Issued: January 12, 2024

