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 (s) 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 www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 14 January 2022
Certificate Number: AC-2834

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

Raeyco Lab Equipment Systems Management Ltd.

4288 Lozells Avenue, Suite 205
Burnaby, BC V5A 0C7
Bohee Kim 877-772-3926

CALIBRATION

Valid to: **January 14, 2022** 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[1,2] (Pipettes)	(1 to 10) µL (10 to 100) µL (100 to 1 000) µL (1 000 to 10 000) µL	0.067 % of reading + 0.025 µL 0.021 % of reading + 0.03 µL 0.045 % of reading + 0.006 µL 0.217 % of reading – 1.7 µL	Analytical Balance and Gravimetric Method per ISO 8655.
Scales and Balances[1,2,3]	(1 to 10) mg (10 to 100) mg (100 to 1 000) mg (1 to 10) g (10 to 100) g (100 to 1 000) g (1 to 25) kg	0.022 % of reading + 19 µg 0.012 % of reading + 20 µg 0.003 % of reading + 30 µg 0.000 3 % of reading + 60 µg 0.000 5 % of reading + 33 µg 0.025 % of reading – 24 mg 2.7 % of reading – 27 g	Master weights and internal calibration procedure utilized in the calibration of the weighing system.
Weights[1] (Mass Determination)	(1 to 10) mg (10 to 100) mg (100 to 1 000) mg (1 to 10) g (10 to 100) g (100 to 1 000) g (1 to 25) kg	0.022 % of reading + 27 µg 0.018 % of reading + 27 µg 0.005 % of reading + 40 µg 89 µg 0.000 8 % of reading + 6.7 µg 0.037 % of reading – 36 mg 3.8 % or reading – 38 g	Electronic Balance, Master Weights

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature – Measure[1,2]	(-80 to 0) °C (0 to 105) °C (105 to 150) °C (150 to 200) °C	0.021 °C 0.021 °C 0.64 % of reading – 0.65 °C 0.26 % of reading – 0.7 °C	Digital Thermometer with PRT

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Humidity – Measure/Source[1,2]	(10 to 90) %RH	1.4 %RH	Thermohygrometer

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. The CMC for scales and balances is highly dependent upon the resolution of the unit under test. The CMC presented here does not include the resolution of the unit under test. The resolution will be included in the reported measurement uncertainty at the time of calibration.
4. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2834.

R. Douglas Leonard Jr., VP, PILR SBU