



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

TRINIDAD AND TOBAGO BUREAU OF STANDARDS
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 Macoya, Tunapuna, TRINIDAD AND TOBAGO
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CALIBRATION

Valid To: April 30, 2025

Certificate Number: 5800.02

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's Calibration Program Requirements), accreditation is granted to this laboratory to perform the following calibrations^{1, 5}:

I. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Mass – Weights and Artifacts	0.001 g	0.0020 mg	Mass comparator
	0.002 g	0.0020 mg	
	0.005 g	0.0020 mg	
	0.01 g	0.0020 mg	
	0.02 g	0.0023 mg	
	0.05 g	0.0030 mg	
	0.1 g	0.0038 mg	
	0.2 g	0.0046 mg	
	0.5 g	0.0049 mg	
	1 g	0.0076 mg	
	2 g	0.011 mg	
	5 g	0.014 mg	
	10 g	0.017 mg	
	20 g	0.022 mg	
	50 g	0.027 mg	
	100 g	0.045 mg	
	200 g	0.085 mg	
	500 g	0.22 mg	
	1000 g	0.44 mg	
	2000 g	0.85 mg	
5000 g	2.3 mg	OIML Class F2 for 20 kg	
10 000 g	4.4 mg		
20 000 g	40 mg		

Parameter/Equipment	Range	CMC ² (±)	Comments
Non–Automatic, Electronic, Digital, Weighing Instruments	0.5 g 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg 50 kg 100 kg 200 kg 500 kg 1000 kg	0.0063 mg 0.0082 mg 0.010 mg 0.014 mg 0.020 mg 0.031 mg 0.063 mg 0.12 mg 0.24 mg 0.61 mg 1.2 mg 2.4 mg 6.1 mg 12 mg 26 mg 230 mg 4 g 8.8 g 21 g 42 g	OIML Class E ₁ weights, Class E ₂ weights, Class F ₁ weights, and Class M ₁ weights OIML Class F ₁ weights, and Class M ₁ weights OIML Class M ₁ weights
Volumetric Flasks	1 mL 2 mL 5 mL 10 mL 20 mL 25 mL 50 mL 100 mL 200 mL 250 mL 500 mL 1 L 2 L	0.0063 mL 0.0063 mL 0.0063 mL 0.0063 mL 0.010 mL 0.010 mL 0.015 mL 0.024 mL 0.035 mL 0.035 mL 0.056 mL 0.089 mL 0.13 mL	Gravimetric method
Pipettes	1 mL 2 mL 5 mL 10 mL 20 mL	0.0019 mL 0.0026 mL 0.0033 mL 0.0043 mL 0.0062 mL	Gravimetric method

Parameter/Equipment	Range	CMC ² (±)	Comments
Pipettes (cont)	25 mL 50 mL 100 mL	0.0064 mL 0.010 mL 0.14 mL	Gravimetric method
Pneumatic Pressure – Measuring Equipment ³	(0 to 30) psi (0 to 207) kPa (30 to 60) psi (207 to 414) kPa (60 to 100) psi (414 to 690) kPa (100 to 300) psi (690 to 2068) kPa (300 to 600) psi (2068 to 4137) kPa (600 to 1000) psi (4137 to 6895) kPa Up to 100 psi 690 kPa Up to 1000 psi 6895 kPa	0.0028 % of range 0.0022 % of range 0.0021 % of range 0.0020 % of range 0.0020 % of range 0.0020 % of range 0.0098 % of range 0.0084 % of range	Fluke PPC2+, Fluke PPC4 Reference pressure gauges
Hydraulic Pressure – Measuring Equipment ³	Up to 5800 psi 40 000 kPa Up to 29 000 psi 200 000 kPa Up to 3000 psi 20 684 kPa Up to 30 000 psi 206 843 kPa	0.0040 % of range 0.0040 % of range 0.0011 % of range 0.0029 % of range	Fluke PPCH Reference pressure gauges



II. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Platinum Resistance Thermometers (PRT) – Fixed Points ⁴ TP Mercury TP Water MP Gallium FP Tin FP Zinc FP Aluminum	 -38.8344 °C 0.01 °C 29.7646 °C 231.928 °C 419.527 °C 660.323 °C	 0.005 °C 0.003 °C 0.005 °C 0.007 °C 0.006 °C 0.011 °C	 Fixed point cells with bridge and standard resistor, with all points except the TPW being referenced with a SPRT
Temperature Indicators w/ Probes	0 °C (-20 to 100) °C (100 to 250) °C	0.033 °C 0.14 °C 0.14 °C	Reference thermometer and bath
Liquid in Glass Thermometers	0 °C (-20 to 100) °C (100 to 250) °C	0.033 °C 0.18 °C 0.18 °C	Reference thermometer and bath, +1/5 scale division
Chilled Mirror Hygrometers	(10 to 95) % RH	1% RH	Humidity chamber with chilled mirror
Hygrometers	(10 to 95) % RH	1.6% RH	Humidity chamber with digital hygrometer

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 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.

⁴ In the case of Platinum Resistance Thermometers, TP represents triple point, MP represents melting point, and FP represents freezing point of their respective materials.

⁵ This scope meets *A2LA's P112 Flexible Scope Policy*.

A handwritten signature in blue ink, consisting of a stylized, cursive 'A' followed by a horizontal line.



Accredited Laboratory

A2LA has accredited

THE TRINIDAD AND TOBAGO BUREAU OF STANDARDS

Macoya, Tunapuna, Trinidad and Tobago

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 13th day of September 2023.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5800.02
Valid to April 30, 2025



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