



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

LABCAL SOLUTIONS CC  
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CALIBRATION

Valid To: May 31, 2021

Certificate Number: 4067.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1,4</sup>:

I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Electrical Simulation of RTD Devices <sup>3</sup>	(-180 to 150) °C (>150 to 800) °C	0.40 °C 0.45 °C	LCS03/003A
Electrical Simulation of TC Devices – Measuring Equipment <sup>3</sup>			
Base Metal Thermocouples (Type J and K)	(-100 to 1000) °C	0.9 °C	LCS03/003A
Base Metal Thermocouples (Type T)	(-100 to 350) °C	0.9 °C	
Noble Metal Thermocouples (Type R and S)	(0 to 1500) °C	1.1 °C	

## II. Mechanical

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Pneumatic Pressure – Measuring Equipment <sup>3</sup>			
Absolute Pressure	(15 to 800) kPa	3.1 kPa	LCS13/015A
Gauge Pressure	(-85 to 2000) kPa	2.1 kPa	LCS03/011A
Differential Pressure	(0 to 250) Pa (250 to 2000) Pa	4.0 Pa 8.0 Pa	LCS03/012A
Pipettes	(2 to 20) µL (>20 to 100) µL (>100 to 500) µL (>500 to 1000) µL (>1000 to 5000) µL	0.4 µL 1.1 µL 2.0 µL 2.4 µL 4.5 µL	LCS03/017A (single channel), LCS09/028A (multi-channel)
Scales and Balances <sup>3</sup>	(1 to 5) mg (>5 to 500) mg (>0.5 to 200) g (>200 to 3000) g	0.029 mg 0.066 mg 0.97 mg 0.52 g	LCS04/016A

## III. Thermodynamics

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Temperature – Measuring Equipment <sup>3</sup>			
Platinum Resistance Thermometers	-80 °C (-25 to 150) °C (>150 to 300) °C	0.50 °C 0.34 °C 0.80 °C	LCS03/001A
Ice Point Reference	0 °C	0.12 °C	LCS07/023A

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Temperature – Measuring Equipment <sup>3</sup>			
Liquid in Glass Thermometers Total Immersion	0 °C (25 to 75) °C (>75 to 150) °C (>150 to 250) °C	0.2 °C 0.2 °C 0.32 °C 0.33 °C	LCS11/029A
Partial Immersion	0 °C (25 to 75) °C (>75 to 150) °C (>150 to 250) °C	0.2 °C 0.53 °C 0.6 °C 1.2 °C	LCS19/034A
Digital Thermometers	-80 °C (-25 to 150) °C (>150 to 300) °C	0.50 °C 0.34 °C 0.80 °C	LCS03/006A, LCS03/007A
Mechanical (Dial) Thermometers	-80 °C (-25 to 300) °C	1.2 °C 1.2 °C	LCS03/006A
Temperature Loop Line (Sensor and Display)	-80 °C (-25 to 150) °C (>150 to 300) °C	0.50 °C 0.34 °C 0.80 °C	LCS03/004A, LCS08/027A, LCS04/026A
Data Loggers	(-80 to -25) °C (>-25 to 150) °C (>150 to 300) °C	0.70 °C 0.41 °C 0.80 °C	LCS03/006A, LCS11/030A, LCS13/032A
Temperature – Measure <sup>3</sup>			
Autoclaves	(20 to 150) °C	0.47 °C	LCS03/008A
Environmental Chambers, Sterilizers, Warehouses	(-25 to 150) °C (>150 to 300) °C	0.41 °C 0.80 °C	LCS03/008A, LCS03/010A
Temperature Installations (Ovens, Incubators, Stirred Water Baths, Fridges, Freezers)	(-80 to -25) °C (>-25 to 150) °C (>150 to 300) °C	0.70 °C 0.41 °C 0.80 °C	LCS03/009A, LCS11/010A1, LCS10/025A

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Relative Humidity – Measuring Equipment <sup>3</sup>			
Digital Hygrometers and Data Loggers (15 to 30) °C	10 % RH 35 % RH 50 % RH 65 % RH 75 % RH 95 % RH	1.1 % RH 1.1 % RH 1.4 % RH 1.4 % RH 1.6 % RH 1.6 % RH	LCS03/018A / LCS13/032A / LCS06/021A
(10 to 60) °C	(10 to 95) % RH (10 to 60) °C	3.3 % RH 0.44 °C	LCS11/030A / LCS13/032A / LCS06/021A
Humidity Mapping Environmental Chambers, Storage Areas	(10 to 90) % RH	3.7 % RH	LCS03/010A / LCS11/010A1

#### IV. Time & Frequency

Parameter/Equipment	Range	CMC <sup>2,3</sup> (±)	Comments
Rotational Speed (Contact) <sup>3</sup>			
Tachometers, Centrifuges, Stirrer	(5 to 500) rpm (>500 to 3000) rpm	2 rpm 5 rpm	LCS03/019A
Rotational Speed – (Non-Contact) <sup>3</sup>			
Tachometers, Centrifuges, Stirrer	(5 to 1000) rpm (>1000 to 50 000) rpm	1 rpm 6 rpm	LCS05/020A
Timers <sup>3</sup>	5 s to 240 min	0.5 s	LCS03/013A

<sup>1</sup> This laboratory offers commercial calibration service.

<sup>2</sup> 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.

<sup>3</sup> Field calibration service is available for this calibration and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. 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.

<sup>4</sup> This scope meets A2LA's *P112 Flexible Scope Policy*.

<sup>5</sup> Approved signatories:

S. Chesneau: All items in Scope.

T. Singizi: Items I, II, and III, excluding Pipettes and Scales/Balances.

M. Phokanoka: Pipettes and Scales/Balances.

K. Williams: All items in Scope.



## *Accredited Laboratory*

A2LA has accredited

### **LABCAL SOLUTIONS CC**

*Kyalami, South Africa, AFRICA*

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 2<sup>nd</sup> day of July 2019.

A blue ink signature of the Vice President of Accreditation Services, written over a horizontal line.

Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 4067.01  
Valid to May 31, 2021

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