

# **CERTIFICATE OF ACCREDITATION**

*In terms of section 22(2) (b) of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006), read with sections 23(1), (2) and (3) of the said Act, I hereby certify that:-*

**TESTO SOUTH AFRICA (PTY) LTD**  
**Co. Reg. No.: 2015/403399/07**  
**TEMPERATURE CALIBRATION LABORATORY**  
**CAPE TOWN**

Accreditation Number: **CAL 077-03-00**

is a South African National Accreditation System accredited Calibration Laboratory provided that all SANAS conditions and requirements are complied with

This certificate is valid as per the scope as stated in the accompanying scope of accreditation Annexure "A", bearing the above accreditation number for

**TEMPERATURE METROLOGY**

The facility is accredited in accordance with the recognised International Standard

**ISO/IEC 17025:2017**

The accreditation demonstrates technical competency for a defined scope and the operation of a laboratory quality management system

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant SANAS accreditation symbol to issue facility reports and/or certificates

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**Mr M Phaloane**  
**Acting Chief Executive Officer**

**Effective Date: 24 January 2024**  
**Certificate Expires: 16 September 2025**

## ANNEXURE A

**SCOPE OF ACCREDITATION**

## TEMPERATURE METROLOGY

Accreditation Number: CAL 077-03-00

<b>Permanent Address of Laboratory:</b> Testo South Africa (Pty) Ltd Temperature Calibration Laboratory G1 Pinelands Business Park 4 New Mill Road Pinelands, Cape Town		<b>Technical Signatories:</b> Mr FJ Fernandez-Rivera (All Items) Ms C Korasie (All Items)		
<b>Postal Address:</b> G1 Pinelands Business Park 4 New Mill Road Pinelands, Cape Town 7405  Tel: (021) 300-3260 Fax: (086) 621-6380 E-mail: <a href="mailto:fernandez@testo.co.za">fernandez@testo.co.za</a>		<b>Nominated Representative:</b> Mr FJ Fernandez-Rivera   Issue No.: 08 Date of Issue: 26 February 2024 Expiry Date: 16 September 2025		
ITEM	MEASURED QUANTITY OR TYPE OF GAUGE OR INSTRUMENT	RANGE OF MEASURED QUANTITY	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	METHOD / PROCEDURE
<b>1</b>	<b>THERMOMETRY</b>			
<b>1.1</b>	<b>Thermocouples</b>			
1.1.1	Noble Metal	- 35 °C to 200 °C	0,3 K	Calibration by comparison with a reference thermometer in a bath, drywell or furnace
1.1.2	Base Metal	- 79 °C - 35 °C to 200 °C	0,5 K 0,3 K	
<b>1.2</b>	<b>Resistance Thermometers</b>			
1.2.1	Platinum Thermometers (PT 100)	- 79 °C - 35 °C to 200 °C	0,5 K 0,15 K	Calibration by comparison with a reference thermometer in a bath, drywell or furnace
<b>1.3</b>	<b>Thermometers</b>			
1.3.2	Digital Thermometers	- 79 °C - 35 °C to 200 °C	0,5 K 0,05 K	Calibration by comparison with a reference thermometer in a bath, drywell or furnace
	Incorporating Surface Probes	0 °C to 150 °C	3,5 K + $ 0,01 \times \Delta T $ K	Calibration by comparison with a reference thermometer on a hot plate or similar heat source
1.3.3	Mechanical (dial) thermometers	- 25 °C to 50 °C 50 °C to 200 °C	1,5 K 2,5 K	Calibration by comparison with a reference thermometer in a bath, drywell or furnace
1.3.5	Radiation Thermometers	- 20 °C to 150 °C	2,0 K	Calibration using a radiation source and reference thermometer

Original Date of Accreditation: 13 October 2016

Page 1 of 2

 $\Delta T$  - The difference between the measured and ambient temperatures

The CMC, expressed as an expanded uncertainty of measurement, is stated as the standard uncertainty of measurement multiplied by a coverage factor  $k = 2$ , corresponding to a confidence level of approximately 95%

**Accreditation Manager**

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<b>1.4</b>	<b>Reference Temperature Sources</b>			
1.4.1	Ice point reference	0 °C	0,05 K	Prepared in a thermally insulated flask using distilled water and Ice
<b>1.5</b>	<b>Temperature Measuring and Recording</b>			
1.5.2	Data Loggers: Internal Probe	- 40 °C to 140 °C	0,3 K	Calibration in a chamber, liquid bath or dry ice against a reference thermometer.
	Data Loggers: External Probe	- 79 °C - 35 °C to 200 °C	0,5 K 0,3 K	
<b>2</b>	<b>ELECTRICAL SIMULATION OF TEMPERATURE</b>			
<b>2.1</b>	<b>Thermocouple Simulation</b>			
2.1.1 2.1.2 2.1.3	Indicators Transmitters Calibrators	- 200 °C to 1 370 °C	0,3 K	Calibration by the sourcing or measurement of voltages equivalent to the thermocouple type.
2.1.4	Cold Junction Compensation	0 °C to 30 °C	0,3 K	Comparison with a reference thermometer.
<b>2.2</b>	<b>Resistance Simulation</b>			
2.2.1	Digital Thermometers / Indicators	- 200 °C to 850 °C	0,3 K	Calibration by the application or measurement of electrical resistance equivalent to the resistance thermometer type.
2.2.2	Temperature Transmitters			
2.2.3	Temperature calibrators			
<b>4</b>	<b>TEMPERATURE INSTALLATIONS AND DEVICES</b>			
<b>4.1</b>	<b>Iso-thermal Media evaluation (multi point over time monitoring)</b>			
4.1.1	Steam Sterilizers: Temperature Pressure Time	80 °C to 125 °C 0 kPa to 200 kPa 0 min to 120 minutes	1,0 K 20 kPa 5 seconds	Calibration by temperature mapping over time using reference thermometers and/or loggers including calibration of the timing and pressure indicating device.
4.1.2 4.1.3	Environmental chambers Furnaces / Drying ovens	- 35 °C to 200 °C	0,3 K	Calibration by temperature mapping over time using reference thermometers and/or loggers
<b>4.2</b>	<b>Temperature Installations (Single Point)</b>			
4.2.1 4.2.2 4.2.4 4.2.5	Furnaces and Ovens Fridges and Freezers Stirred Water baths Other Industrial installations	- 35 °C to 200 °C	0,3 K	By comparison to a reference thermometer located at an appropriate location within the device or installation.
<b>5</b>	On-site Calibration for items 1, 2, and 4 above			

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Page 2 of 2

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ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

**Accreditation Manager**