



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:-

RAPID INSTRUMENTATION (PTY) LTD
Co. Reg. No.: 2021/960031/07

Accreditation Number: **CAL 066-03-00**

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

Mr F Osman
Acting Chief Executive Officer

Effective Date: 17 October 2024
Certificate Expires: 19 September 2027

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ANNEXURE A

SCOPE OF ACCREDITATION

TEMPERATURE METROLOGY

Accreditation Number: CAL 066-03-00

Permanent Address of Laboratory: Rapid Instrumentation (Pty) Ltd 38, 1 st Avenue, Boston Bellville 7530 Postal Address: P O Box 1050 Oakdale 7535 Tel: (021) 948-0413 Fax: (021) 948-0435 E-mail: laboratory@rapidza.co.za		Technical Signatories: Mr MP Ackhurst Mr D Theunissen (items 1, 2 & 4) Nominated Representative: Mr D Theunissen Issue No.: 07 Date of Issue: 17 October 2024 Expiry Date: 19 September 2027	
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ITEM	MEASURED QUANTITY OR TYPE OF GAUGE OR INSTRUMENT	RANGE OF MEASURED QUANTITY	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ($\pm$)	METHOD / PROCEDURE
1	THERMOMETRY			
1.1	Thermocouples			
1.1.2	Base Metal	- 25 °C to 200 °C 200 °C to 300 °C	0,4 K 4,0 K	Calibration by comparison with a reference thermometer in a bath, drywell, or furnace.
1.1.3	Compensation and Extension Lead	0 °C to 70 °C	0,4 K	
1.2	Resistance Thermometers			
1.2.1	Platinum Resistance Thermometers (PT 100)	- 80 °C to - 25 °C - 25 °C to 200 °C 200 °C to 300 °C	0,5 K 0,7 K 4,0 K	Calibration by comparison with a reference thermometer in a bath, drywell, or furnace
1.3	Thermometers			
1.3.1	Liquid-in-glass	- 25 °C to 25 °C 25 °C to 250 °C	0,5 K 0,5 K	Calibration by comparison with a reference thermometer in a bath, drywell, or furnace.
1.3.2	Digital Thermometers	- 80 °C to - 25 °C - 25 °C to 200 °C 200 °C to 300 °C	0,5 K 0,5 K 4,0 K	
1.3.3	Mechanical (Bi-Metal) Thermometers	- 25 °C to 25 °C 25 °C to 200 °C 200 °C to 300 °C	1,0 K 2,5 K 6,5 K	

Original Date of Accreditation: 19 September 2012

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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%


 Executive Accreditation

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1.4	Reference Temperature Sources			
1.4.1	Ice point reference	0,0 °C	0.05 K	Prepared in a thermally insulated flask using distilled water and Ice.
1.5	Temperature Measuring & Recording			
1.5.2	Data Loggers	- 80 °C to - 20 °C - 20 °C to 140 °C	0,2 K 0.2 K	Calibration in a chamber or liquid bath against a reference thermometer.
2	ELECTRICAL SIMULATION OF TEMPERATURE			
2.1	Thermocouple Simulation			
2.1.1	Digital Thermometers / Indicators	- 50 °C to 300 °C 300 °C to 1 200 °C	0.6 K 2.5 K	Calibration by the sourcing or measurement of voltages equivalent to the thermocouple type.
2.1.2	Temperature Transmitters			
2.1.3	Temperature calibrators	- 50 °C to 300 °C 300 °C to 1 350 °C 1 350 °C to 1 800 °C	0.6 K 2.5 K 4.0 K	
2.1.4	Cold Junction Compensation	0 °C to 30 °C	0.4 K	Comparison with a reference thermometer.
2.2	Resistance Simulation			
2.2.1	Digital Thermometers / Indicators	- 50 °C to 300 °C 300 °C to 850 °C	0.6 K 2.5 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			
3	TEMPERATURE SOURCES			
3.1	Calibration Sources			
3.1.1	Dry Block Temperature Calibrators	- 20 °C to 130 °C 130 °C to 250 °C	0,7 K 1,0 K	By comparison to a reference thermometer placed into the boring of the calibrator.

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4	TEMPERATURE INSTALLATIONS AND DEVICES			
4.1	Iso-thermal Media evaluation (multi location over time monitoring)			
4.1.1	Steam Sterilizers (Temperature, Pressure Time)	20 °C to - 140 °C 0 to 500 kPa 0 to 120 minutes	1,0 K 2,0 kPa 2,0 sec	Calibration by temperature mapping over time using reference thermometers and/or loggers. including calibration of the timing and pressure indicating device
4.1.2	Environmental Chambers	- 80 °C to - 20 °C - 20 °C to 130 °C 130 °C to 250 °C	3,0 K 0,7 K 1,0 K	
4.1.3	Furnaces / Drying Ovens			
4.1.4	Fridges / Freezers			
4.1.5	Incubators			
4.1.6	Liquid Baths			
4.2	Temperature Installations (single location)			
4.2.1	Furnaces, Ovens	- 80 °C to - 20 °C - 20 °C to 130 °C 130 °C to 250 °C	3,0 K 0,7 K 1,0 K	By comparison to a reference thermometer located at an appropriate location within the device or installation.
4.2.2	Fridges, Freezers			
4.2.3	Incubators			
4.2.4	Liquid baths			
4.2.5	Other Industrial Installations			
5	On-Site Calibration for items 1, 2, 3 and 4 above			

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ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM


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