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| CALIBRATION SOLUTIONS TO IMPROVE YOUR PERFORMANCE |

SAMM 011

Certificate of Calibration

Cert. No. PSYP- 24043760

Reference No	R124135826
Date of Issue	12 Jun 2024
Customer	PRO LAB ENGINEERING SERVICES SDN BHD No.21-G Jalan Bidara 8 Saujana Utama 3 47000 Sungai Buloh Selangor
ID: 039228	
Instrument	Oven (Box Type)
Model	NL1017X/009A
Serial No	0122040143
Control No	CA4622J
Equipment ID	OVEN 2
Capacity/Range	Max. 300 °C
Date of Receipt	10 Jun 2024
Date of Calibration	11 Jun 2024
Recalibration Date (Specified by Customer)	11 Jun 2025 The User should be aware there are many factors may cause this instrument to drift out of calibration limits prior to the stated recalibration date.
Condition of Instrument	
Before Calibration	Good Physical Condition
After Calibration	Calibrated and Serviceable
Location of Calibration	In-situ
Calibration Environment	(29.4 ± 0.6) °C, (42 ± 4) %rh
Calibration Method	LCP 01102

Reference Standard Used

Reference Instrument	Equipment ID	Control No	Certificate No	Traceable to	Due Date
Temperature Recorder With Sensor	PH-ST-RW4	CS9292S	PSYP-23042411	NMIM,NMIA	21 Jun 2024

Calibrated By

Muhammad Iqbal Bin Mohammad Fuad

Approved Signatory

Tamilselvam A/L Chinayah

The reported expanded measurement uncertainty is stated as the standard measurement uncertainty multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95%

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Control No. CA4622J

Cert. No. PSPP-24043760

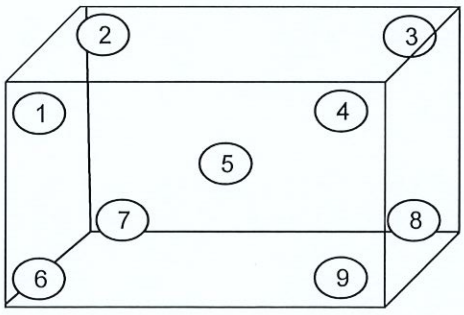
Controller Setting	Resolution	0.1	°C
	Readability	0.1	

Tolerance
N/A

PERFORMANCES (°C)		
Temperature Setpoint	**105.0**	**110.0**
Mean Indicated Temperature	105.0	110.0
Measured Highest Temperature	106.6	111.9
Measured Lowest Temperature	102.6	105.5
Measured Mean Temperature	104.9	110.0
Temperature Fluctuation	0.8	2.8
Temperature Gradient	3.3	5.5
Temperature Variation In Space	3.1	4.3

Measurement Point	Specified Location	Mean Temperature (°C)	
1	Top Corners	102.9	111.2
2		105.0	110.3
3		106.3	110.3
4		105.4	110.8
5	Centre of working space	106.0	110.3
6	Bottom Corners	104.8	111.5
7		106.0	111.1
8		103.8	108.1
9		103.7	106.0
Measurement Uncertainty, ± (k = 2)		**1.0**	**1.4**

Location of sensors



Size of chamber : 0.6 m x 0.5 m x 0.7 m
Volume of chamber : 210 liter
Sensor distance from wall (except no. 5) :
L/10 or minimum 50 mm, where L is the length, width or height of the working space.

Info 1 : Temperature Setpoint : Desired temperature as set by the chamber controls.
Info 2 : Mean Indicated Temperature : Mean temperature reading of the chamber indicator.
Info 3 : Measured Highest Temperature : Highest temperature measured, after stabilization, from all the measurement points in the working space during a specified interval of time.
Info 4 : Measured Lowest Temperature : Lowest temperature measured, after stabilization, from all the measurement points in the working space during a specified interval of time.
Info 5 : Measured Mean Temperature : Mean value calculated from the mean temperature of all points.
Info 6 : Temperature Fluctuation : Greatest difference, after stabilization, between the maximum and minimum temperatures at specified point in the working space during a specified interval of time.
Info 7 : Temperature Gradient : Maximum difference in mean value, after stabilization, at any moment in time between two separate points in the working space.
Info 8 : Temperature Variation In Space : Maximum difference in mean value, after stabilization, at any moment in time between the temperature at the centre of the working space and at any other point in the working space.

ACCEPTABLE TO USE
Izatul Azira
Lab Manager/Approved Signatory
PRO LAB ENGINEERING SERVICES SDN BHD

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