



YEA

☎ : 033 2677 1411/1412, 2667 1909

YOUNG ENGG. & CALIBRATION SERVICES PVT. LTD.

Admn. Office & Lab : Kamardanga Road (Opp. Tarama Ashram), Ichapur, Howrah - 711 104
E-mail : calibration@yeagroup.org ★ Visit us at : www.yeagroup.org
CIN : U74140WB2005PTC106389 ★ Toll Free Help Desk : 1800 345 9001

Calibration Certificate

Certificate No.: YEA(C)/230726S/C875/001
ULR No. : CC222123000009961F

Dated : 31.07.2023

Calibrated for : **Central Pollution Control Board**
Southend Conclave 1582, Rajdanga Main Road,
Kolkata - 700107, West Bengal, India.

Calibrated on.	Next Calibration Due On.	Page No.	No. of Pages
26.07.2023	26.07.2024	1	3

Description of Instrument

Name : Muffle Furnace
Identification : CPCB/GMF-01/21
Working Range : 450 to 900 °C
Least Count : 1 °C
Make : Geotech Instrument

Service Request No. / Order Reference : 230726S/C875/001-005

Receipt of Instrument : 26.07.2023

Location where calibration performed : At site

Applicable Specification of Instrument to be Calibrated : Not Specified

Condition of Instrument to be Calibrated : Satisfactory

Basis of Calibration : Comparison method with reference to YEA/WI/T-04

Environmental Condition during Calibration : *Temp.* : 22±2°C *RH* : 50±10%

Equipment used for Calibration : Standard Data Acquisition System, Standard R Type Thermocouple

Traceability : To National Standard vide Certificate No. YEA(C)/ 221221/Y001/001 valid till 20.12.2023
TL/023/175.1.1 valid till 08.02.2024

Measurement Uncertainty : The figures are stated in the result at coverage factor $k= 2$ corresponding to confidence probability of 95% for normal distribution.

Laboratory Identification : Sticker is affixed for authentication of calibration.



CC-2221

The above Instrument/Equipment/Machine has been calibrated &
The results are given in the page 2 to 3 ...of the Certificate.

Con .2

YEA(C)/F-08



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Calibrated By : S. Jana

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Page 2 of 3 Pages

Calibration Results

Thermal Calibration

Calibration Results of Muffle Furnace

Set Value (°C)	Zone	Observed DUC Value			Standard Value		
		(°C)			(°C)		
		Maximum	Minimum	Average	Maximum	Minimum	Average
1	1	551	550	550	555.51	555.12	555.28
Stability of Furnace :				0.19 °C			
Measurement Uncertainty (±) :				1.82 °C			

Set Value (°C)	Zone	Observed DUC Value			Standard Value		
		(°C)			(°C)		
		Maximum	Minimum	Average	Maximum	Minimum	Average
1	1	601	600	601	606.11	605.65	605.83
Stability of Furnace :				0.23 °C			
Measurement Uncertainty (±) :				1.83 °C			

Set Value (°C)	Zone	Observed DUC Value			Standard Value		
		(°C)			(°C)		
		Maximum	Minimum	Average	Maximum	Minimum	Average
1	1	650	650	650	656.91	656.41	656.62
Stability of Furnace :				0.25 °C			
Measurement Uncertainty (±) :				1.83 °C			

Cont...3



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Page 3 of 3 Pages

Calibrated By : S. Jana

Set Value (°C)	Zone	Observed DUC Value			Standard Value		
		(° C)			(° C)		
		Maximum	Minimum	Average	Maximum	Minimum	Average
1	1	802	800	801	807.05	806.51	806.83
Stability of Furnace :				0.27 ° C			
Measurement Uncertainty (±) :				1.84 ° C			

Set Value (°C)	Zone	Observed DUC Value			Standard Value		
		(° C)			(° C)		
		Maximum	Minimum	Average	Maximum	Minimum	Average
1	1	900	900	900	907.64	907.05	907.37
Stability of Furnace :				0.30 ° C			
Measurement Uncertainty (±) :				1.84 ° C			

Temperature Scale : ITS - 90

DUC : Device Under Calibration

REMARKS : The above Muffle Furnace has been calibrated and the readings are tabulated above.
Non - Uniformity calculation could not be possible for Muffle Furnace because there is no more provision to put into more than one sensor inside the Muffle Furnace .

NOTES : This certificate refers to the results tabulated at the time of calibration only for the above mentioned item submitted for calibration and this should not be reproduced, other than in full except with prior written approval from the head of calibration laboratory.

Authorised By


A. Das

Manager Calibration

*** End of the Calibration Certificate ***

