Form No.: QRF/2022-27/Rev-5

CALIBRATION CERTIFICATE OF : ELECTRONIC BALANCE	PAGE 01 OF 5

1.0 SCOPE

1.1 Service Request No. : CA/0021/11-22

1.2 Calibration Certification No. : ERTL(E)/CAL/C158/0026/11-22 /NABL
Date : 28-11-2022

ULR No. : CC200822000001238F

1.3 **Requested by (Name & address of the organisation)** : **CENTRAL POLLUTION CONTROL BOARD**
502 SOUTHEND CONCLAVE, 6TH FL..1582 RAJDANGA MAIN ROAD
KOLKATA-700107
WEST BENGAL

1.4 Description Identification of the item to be calibrated

Item	:	ELECTRONIC BALANCE
Make	:	CONTECH
Model		CAS-164
sl.No.	:	1565971
Id No.	:	NIL

1.4.1 Applicable Specification : Not mentioned

1.4.2 Characterisation and condition of item
Characterisation : Not applicable/
Condition : Satisfactory

1.5 Date of receipt of item : 23-11-2022

1.6 Date of start of calibration : 23-11-2022

1.6.1 Date of completion of calibration : 23-11-2022

1.7 Location where calibration performed : ON SITE (Refer section 3.0 for address)

1.8 Ambient condition during measurement : 27+/-5 °C
45-70 %RH

1.9 Discipline (NABL) : OPTICAL DISCIPLINE

1.9.1 Calibration procedure followed : EP15/OPN062

1.9.2 Details of non standard method followed (if any):

1.10 Measurement Uncertainty : The uncertainty figure is stated in the result.

1.11 Traceability : NPL,NEW DELHI ,

The following Standards / Equipment have been used .

EQPT_NO	ITEM	MAKE	MODEL	CAL.VALID UPTO
1366	STANDARD WEIGHT SET	SARTORIUS AG	YCS011-612-02	26-10-2024

Note: All calibration were conducted within the validity period of respective equipment shown above.

CALIBRATION CERTIFICATE NO :					ERTL(E)/CAL/C158/0026/11-22/NABL
CALIBRATION CERTIFICATE OF:		ELECTRONIC BALANCE		DATE	CALIBRATION ENGINEER
TYPE : SINGLE PAN	MAKE: CONTECH		MODEL: CAS-164	23-11-2022	P.DHABAL RAVI RANJAN
JOB NO:	0026/CA/11-22	SL NO :	1565971	ID NO :	NIL
Range: upto 160 g	Readability : '0.0001 g				Accuracy : Not Specified
TEST CONDITION:	Amb. Temp. 25.6		Relative Humidity 57 % R.H.		Location BALANCE ROOM
Measurement Results	MECHANICAL DISCIPLINE				

(a) Linearity Test : (Varified against Calibrated Mass)
The measurement of indication error (i.e. depature of displayed reading from nominal Value) at three points evenly spread across the Calibration range.

Cal. Point	Standard Mass value in g	Balance Reading in g	*Expanded Uncertainty at 95% CL & k=2 in mg.(+/-)*
1	0.002000	0.0018	0.10
2	0.004999	0.0051	0.10
3	0.010004	0.0101	0.10
4	0.020003	0.0199	0.10
5	0.050004	0.0500	0.10
6	0.100007	0.1001	0.10
7	0.200007	0.2001	0.10
8	0.500009	0.5002	0.10
9	0.999994	0.9999	0.10
10	2.000003	2.0002	0.10
11	5.000004	5.0004	0.10
12	10.000012	10.0015	0.10
13	20.000021	20.0034	0.10
14	50.000010	50.0076	0.10
15	99.999920	100.0168	0.10
16	149.999930	150.0261	0.12
17	154.999934	155.0265	0.16

Thermal Stabilisation Hour : 2

Calibration Certificate issued for balance shall be used for Scientific or Industrial purpose only

Authorised Signatory :
Date : 25/11/22

Paresh Dhabal
Scientist 'C'
STQC, ERTL (E)
Govt. of India, Min. of Electronics & IT
Block-DN, Sector-V, Salt Lake, Kolkata-91

CALIBRATION CERTIFICATE NO :			ERTL(E)/CAL/C158/0026/11-22/NABL		
CALIBRATION CERTIFICATE OF:	ELECTRONIC BALANCE			DATE	CALIBRATION ENGINEER
	MAKE: CONTECH		MODEL: CAS-164	23-11-2022	P.DHABAL RAVI RANJAN
JOB NO:	0026/CA/11-22	SL NO :	1565971	ID NO :	NIL
Range: upto 160 g	Readability : '0.0001 g			Accuracy : Not Specified	
TEST CONDITION:	Amb. Temp. 25.6	Humidity 57 % R.H.		Location BALANCE ROOM	
Measurement Results	MECHANICAL DISCIPLINE				

(b) Repeatability Test : (Verified against Calibrated Mass)
The Measurement of the ability to display the same result when repeated measurement are made under the same weighing Condition.

Cal. Point	Std. Mass Used in g	Unloaded Reading in g	Loaded Reading in g	Max Difference in g	*Expanded Uncertainty in ± mg at k=2 & 95% C.L*
1	99.99992	0.0000	100.0168	0.0004	*0.10*
2		0.0000	100.0167		
3		0.0000	100.0168		
4		0.0001	100.0165		
5		0.0000	100.0168		
6		0.0001	100.0167		
7		0.0000	100.0168		
8		0.0000	100.0166		
9		0.0000	100.0167		
10		0.0001	100.0166		

(c) Eccentricity Test : (Varified against Calibrated Mass)
The measurement of the indicated error when the load is applied off centre.
The mass position as per figure 1.

Load Position	Standard Value in g	Balance Reading in g	Max Ecentricity Error in g	*Expanded Uncertainty in ± mg at k=2 & 95% C.L*
1	99.99992	100.0167	0.0005	*0.27*
2		100.0166		
3		100.0165		
4		100.0170		
5		100.0172		
6		100.0168		

Thermal Stabilisation Hour : 2

Calibration Certificate issued for balance shall be used for Scientific or Industrial purpose only

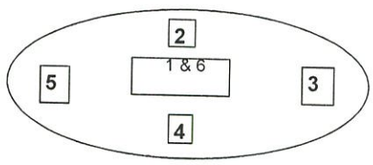

Figure: 1

Authorised Signatory :
Date : 25/11/22

Paresh Dhabal
Scientist 'C'
STQC, ERTL (E)
Govt. of India, Min. of Electronics & IT
Block-DN, Sector-V, Salt Lake, Kolkata-91

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CALIBRATION CERTIFICATE OF : ELECTRONIC BALANCE	PAGE 4 OF 5

Calibration Certification No. : ERTL(E)/CAL/C158/0026/11-22 /NABL
Date : 28-11-2022

ULR No. : CC200822000001238F

3.0 Remarks (if any) :

Performance check has been carried out.

ON SITE Address

Same as 1.3

4.0 Ref. of sticker alloted : 03421

5.0 Next Calibration due date : 23-11-2023

Scan to verify the originality of the report

CC2008

Scan to verify NABL certificate

Form No.: QRF/2022-27/Rev-5

CALIBRATION CERTIFICATE OF : ELECTRONIC BALANCE	PAGE 5 OF 5

Calibration Certification No. : ERTL(E)/CAL/C158/0026/11-22 /NABL
Date : 28-11-2022

ULR No. : CC200822000001238F

NOTES

1. This certificate/ report refer only to the particular item submitted for calibration/test.

2. The certificate/report, if reproduced for any purpose, commercial or otherwise, should be reproduced in full. The reproduction of a part, or an abstract thereof, has to be got specially approved from Director, Electronics Regional Test Laboratory (East).

3.The results reported in the certificate /reports are valid at the time of and under the stated conditions on measurement.

4.Calibration need to be done periodically to maintain the accuracy of the measurement. (in case of calibration report only)

R Bhattacharya.
RELEASED BY
01/12/2022
(Signature & Date)

रत्ना भट्टाचार्य Ratna Bhattacharyya
वैज्ञानिक 'ई' Scientist 'E'
भारत सरकार Government of India
ई आर टी एल (ई) E R T L (East)
सॉल्ट लेक, कोलकाता-700091 Salt Lake, Kolkata-700091