

FULL SCALE CALIBRATION AND ZERO ERROR RECORD
(Analytical and Precision Weighing Balance)

Unit : X
Department : QC
Balance Code No. : BAL-231225
Make : Sartorius
Std. Weight Box ID. : new wgtbx

Month and year : December 2025
Capacity (a) (g) : 320.000
Model : BC-ED
Least Count (e) (g) 0.001

Std. Weight Box Certificate No. 451

Std. Weight Box Valid Upto 30-12-2039

Tolerance: +/- Least count of the balance OR +/- 0.1 % of Standard weight whichever is higher.

Standard weights for calibration (g)		Tolerance (g)	Accuracy Limits(Std wt +/- Tolerance) (g)
Lower(20.e)/(5% of a)/Minimum capacity of the checkweigher / weighing balance	0.020	± 0.010	0.010 - 0.030
Middle-I(20% of a)	0.500	± 0.050	0.450 - 0.550
Middle-II(50% of a)	64.000	- 0.001 + 0.200	63.999 - 64.200
Upper(80% of a)	120.000	- 0.001 + 0.100	119.999 - 120.100

Note:

1. Adjust zero error before starting the weighing operation.
2. Check against standard weights daily before starting the activity.
3. If more than one standard weight is used for verification then record the standard weight / identification No. of all individual weights used for verification. (E.g. For verification of 200g, if three weights viz. 50g, 50g & 100g is used then record standard weight/identification No. of all the three weights)

Date	Time	Spirit Level (Ok/ Not Ok)	Zero Error	Standard weights kept on the balance (g)		Readings shown (g)	Remark
30.12.2025	15:22	OK	Nil	Lower(20.e)/(5% of a)/Minimum capacity of the checkweigher / weighing balance	0.020	0.020	Ok
				Middle-I(20% of a)	0.500	0.500	Ok
				Middle-II(50% of a)	64.000	64.000	Ok
				Upper(80% of a)	120.000	120.000	Ok

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2. Uncertainty test:

Sr. No.	Standard Weight (g)	Reading displayed on the balance (g)	Remarks
1	0.020	0.020	Ok
2	0.020	0.020	Ok
3	0.020	0.020	Ok
4	0.020	0.020	Ok
5	0.020	0.020	Ok
6	0.020	0.020	Ok
7	0.020	0.020	Ok
8	0.020	0.020	Ok
9	0.020	0.020	Ok
10	0.020	0.020	Ok
Mean		0.020	-
Standard Deviation (S.D.)		0.0000	-

$$\text{Uncertainty} = \frac{3 \times \text{S.D.}}{\text{Standard Weight (g)}} = 0.150$$

Acceptance criteria : Value of uncertainty should be NMT 0.001 g.

Remark : Not Complies

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3. Repeatability test:

Sr. No.	Standard Weight (g)	Reading displayed on the balance (g)	Remarks
1	0.020	0.020	Ok
2	0.020	0.020	Ok
3	0.020	0.020	Ok
4	0.020	0.020	Ok
5	0.020	0.020	Ok
6	0.020	0.020	Ok
7	0.020	0.020	Ok
8	0.020	0.020	Ok
9	0.020	0.020	Ok
10	0.020	0.020	Ok
Mean		0.020	-
Standard Deviation (S.D.)		0.0000	-

$$\text{Repeatability (\%)} = \frac{2 \times (0.41 \times d)}{\text{Standard weight (g)}} \times 100 = 4.10$$

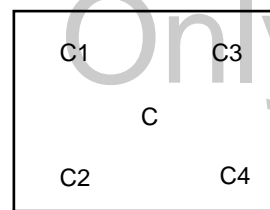
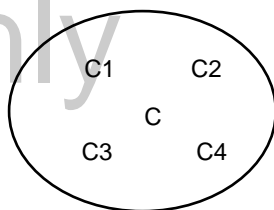
Acceptance criteria : Repeatability is NMT 0.10 %

Remark : Not Complies

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4. Eccentricity test :

Note: Adjust zero error before commencing the weighing operation .



Sr No.	Standard Weight (g)	Position	Reading displayed by the balance (g)	Deviation from center =X-C	Remark
1	0.020	C	0.020	-----	Ok
2	0.020	C1	0.020	0.000	Ok
3	0.020	C2	0.020	0.000	Ok
4	0.020	C3	0.020	0.000	Ok
5	0.020	C4	0.020	0.000	Ok

Where, X=C1, C2, C3, C4 i.e. different corners of the balance.

Acceptance criteria : Deviation is not more than 0.05%.

Remark: Complies

Comment: _____

	Signature	Date & Time
Performed By	yogita (1234)	30.12.2025 & 15:22:55
Checked By	Tantra (22)	30.12.2025 & 15:24:33
Checked By (Quality Assurance)		