

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

Unit : X
Department : NA
Balance Code No. : BAL-005
Make : METTLER TOLEDO
Std. Weight Box ID. : WGT-001,WGT-002

Month and year : November 2025
Capacity (a) (g) : 300.000
Model : ML203
Least Count (e) (g) 0.001

Std. Weight Box Certificate No. 10102025-001WB,10102025-002WGTBOX

Std. Weight Box Valid Upto 2039-12-24,2038-11-01

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	10.000	± 2.000	8.000 - 12.000
Middle-I(20% of a)	20.000	- 2.000 + 3.000	18.000 - 23.000
Middle-II(50% of a)	30.000	- 3.000 + 2.000	27.000 - 32.000
Upper(80% of a)	40.000	- 2.000 + 4.000	38.000 - 44.000

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
04.11.2025	09:45	OK	Nil	Lower(20.e)/(5% of a)/Minimum capacity of the checkweigher / weighing balance	10.000	10.203	Ok
				Middle-I(20% of a)	20.000	20.203	Ok
				Middle-II(50% of a)	30.000	30.203	Ok
				Upper(80% of a)	40.000	40.203	Ok

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2. Uncertainty test:

Sr. No.	Standard Weight (g)	Reading displayed on the balance (g)	Remarks
1	10.000	10.213	Ok
2	10.000	10.213	Ok
3	10.000	10.213	Ok
4	10.000	10.213	Ok
5	10.000	10.213	Ok
6	10.000	10.213	Ok
7	10.000	10.213	Ok
8	10.000	10.213	Ok
9	10.000	10.213	Ok
10	10.000	10.213	Ok
Mean		10.213	-
Standard Deviation (S.D.)		0.0000	-

Uncertainty = $\frac{3 \times \text{S.D.}}{\text{Standard Weight (g)}}$ = 0.000

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

Remark : Complies

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3. Repeatability test:

Sr. No.	Standard Weight (g)	Reading displayed on the balance (g)	Remarks
1	10.000	10.213	Ok
2	10.000	10.213	Ok
3	10.000	10.213	Ok
4	10.000	10.213	Ok
5	10.000	10.213	Ok
6	10.000	10.213	Ok
7	10.000	10.213	Ok
8	10.000	10.213	Ok
9	10.000	10.213	Ok
10	10.000	10.213	Ok
Mean		10.213	-
Standard Deviation (S.D.)		0.0000	-

Repeatability (%) = $\frac{2 \times (0.41 \times d)}{\text{Standard weight (g)}} \times 100 = 0.01$

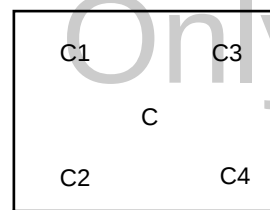
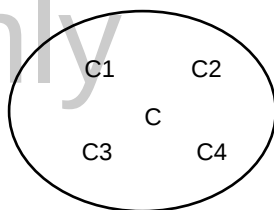
Acceptance criteria : Repeatability is NMT 0.10 %

Remark : 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	10.000	C	10.213	-----	Ok
2	10.000	C1	10.213	0.000	Ok
3	10.000	C2	10.213	0.000	Ok
4	10.000	C3	10.213	0.000	Ok
5	10.000	C4	10.213	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	Dipti (D)	04.11.2025 & 09:45:37
Checked By	kuldeep (Z)	04.11.2025 & 09:50:52
Checked By (Quality Assurance)		