

FULL SCALE CALIBRATION AND ZERO ERROR RECORD

(Analytical and precision weighing balance)

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Dept. : Compression-3 Month and year: Apr 2026
Code No. : T-554 Capacity(a) : 220.000 (gm)
Make: Mettler Model: ML203T/A00
Standard Weight Box Id : T-515, Least Count(e) : 0.001 (gm)

1. Calibration using standard weights :

Tolerance: +/- Least count of the balance OR +/- 0.1 % of Standard weight whichever is higher and value should be rounded off on lower side as per display capacity of balance.

Standard weights for calibration (gm)		Tolerance (gm)	Accuracy Limits (Std wt +/- Tolerance) (gm)
20e	100.000	± 0.100	99.900 - 100.100
20% of a	200.000	± 0.200	199.800 - 200.200
50% of a	0.020	± 0.001	0.019 - 0.021
80% of a	0.100	± 0.001	0.099 - 0.101
	0.500	± 0.001	0.499 - 0.501
	1.000	± 0.001	0.999 - 1.001
	10.000	± 0.010	9.990 - 10.010

Note:

1. Adjust zero error before commencing the weighing operation.
2. Check against standard weights on every month.

Date	Time	Cleanliness (Clean / Unclean)	Spirit Level (Ok / Not Ok)	Zero Error	Standard weights kept on the balance (gm)		Readings shown (gm)	Done by
13.04.2026	16:28:13	16:28:13	OK	No Zero Error	20e	100.000	100.000	Kiran
					20% of a	200.000	200.003	Kiran
					50% of a	0.020	0.020	Kiran
					80% of a	0.100	0.100	Kiran
						0.500	0.500	Kiran
						1.000	1.000	Kiran
						10.000	10.000	Kiran

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2. Uncertainty test :

Sr. No.	Standard Weight (gm)	Reading displayed on the balance (gm)	Remarks
1	0.100	0.100	Ok
2	0.100	0.099	Ok
3	0.100	0.101	Ok
4	0.100	0.100	Ok
5	0.100	0.099	Ok
6	0.100	0.100	Ok
7	0.100	0.100	Ok
8	0.100	0.099	Ok
9	0.100	0.100	Ok
10	0.100	0.101	Ok
Mean		0.100	-
Standard Deviation (S.D.)		0.001	-

$$\text{Uncertainty} = \frac{3 \times \text{SD}}{\text{Reported Standard Weight (gm)}} = 0.030$$

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

Result : Not Complies

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3. Repeatability test :

Sr. No.	Standard Weight (gm)	Reading displayed on the balance (gm)	Remarks
1	100.000	100.000	Ok
2	100.000	99.998	Ok
3	100.000	100.002	Ok
4	100.000	100.001	Ok
5	100.000	99.999	Ok
6	100.000	100.003	Ok
7	100.000	99.997	Ok
8	100.000	100.000	Ok
9	100.000	100.002	Ok
10	100.000	99.998	Ok
Mean		100.000	-
Standard Deviation (S.D.)		0.002	-

$$\text{Repeatability (\%)} = \frac{2 \times (0.41 \times d)}{\text{Reported standard weight (gm)}} \times 100 = 0.00$$

Acceptance criteria : Repeatability is NMT 0.10 %

Result : Complies

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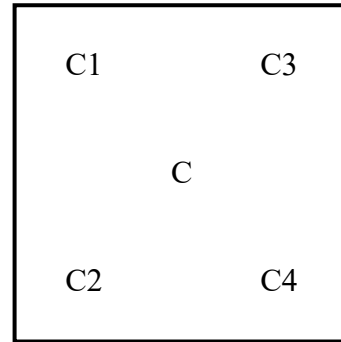
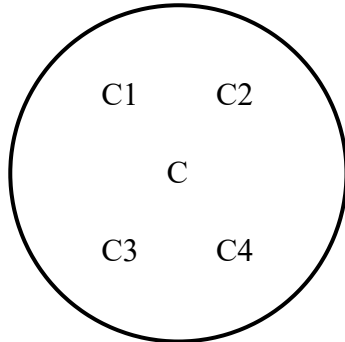
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4. Eccentricity test :

Note: Adjust zero error before commencing the weighing operation.



Sr No.	Standard Weight (gm)	Position	Reading displayed by the balance (gm)	Deviation from center = X - C	Remark
1	100.000	C	100.000		Ok
2	100.000	C1	100.000	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%

Result: Not Complies

Comment: _____

Calibration performed by : Kiran (2)

Checked by :

Date: 13.04.2026

Date: