

FULL SCALE CALIBRATION AND ZERO ERROR RECORD

(Analytical and precision weighing balance)

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Dept. : MFG-8 IPQC(DT) Month and year: Apr 2026
Code No. : GE-235 Capacity(a) : 220.0000 (gm)
Make: Mettler Model: AB204-S/FACT
Standard Weight Box Id : G/WB-003, Least Count(e) : 0.0001 (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	0.0020	± 0.0001	0.0019 - 0.0021
20% of a	44.0000	± 0.0440	43.9560 - 44.0440
50% of a	88.0000	± 0.0880	87.9120 - 88.0880
80% of a	132.0000	± 0.1320	131.8680 - 132.1320

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
18.04.2026	10:19:55	Clean	OK	No Zero Error	20e	0.0020	0.0020	Kiran
					20% of a	44.0000	44.0000	Kiran
					50% of a	88.0000	88.0000	Kiran
					80% of a	132.0000	132.0000	Kiran

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2. Uncertainty test :

Sr. No.	Standard Weight (gm)	Reading displayed on the balance (gm)	Remarks
1	0.0020	0.0020	Ok
2	0.0020	0.0019	Ok
3	0.0020	0.0021	Ok
4	0.0020	0.0020	Ok
5	0.0020	0.0021	Ok
6	0.0020	0.0020	Ok
7	0.0020	0.0020	Ok
8	0.0020	0.0021	Ok
9	0.0020	0.0019	Ok
10	0.0020	0.0020	Ok
Mean		0.0020	-
Standard Deviation (S.D.)		0.0001	-

$$\text{Uncertainty} = \frac{3 \times \text{SD}}{\text{Reported Standard Weight (gm)}} = 0.1500$$

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	100.0000	100.0002	Ok
2	100.0000	99.9997	Ok
3	100.0000	99.9998	Ok
4	100.0000	100.0001	Ok
5	100.0000	100.0000	Ok
6	100.0000	99.9999	Ok
7	100.0000	100.0003	Ok
8	100.0000	100.0001	Ok
9	100.0000	100.0000	Ok
10	100.0000	100.0002	Ok
Mean		100.0000	-
Standard Deviation (S.D.)		0.0002	-

$$\text{Repeatability (\%)} = \frac{2 \times (0.41 \times d)}{\text{Reported standard weight (gm)}} \times 100 = 0.0001$$

Acceptance criteria : Repeatability is NMT 0.10 %

Result : Complies

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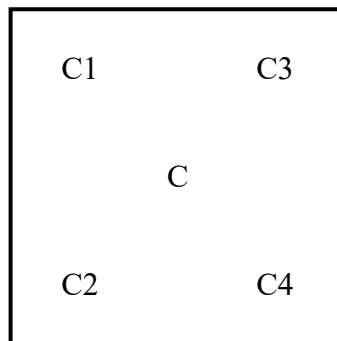
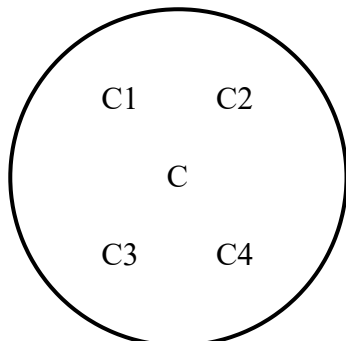
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4. Eccentricity test :

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	100.0000	C	100.0000		Ok
2	100.0000	C1	100.0005	0.0005	Ok
3	100.0000	C2	99.9996	-0.0004	Ok
4	100.0000	C3	100.0007	0.0007	Ok
5	100.0000	C4	99.9995	-0.0005	Ok

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

Acceptance criteria : Deviation is not more than 0.05%

Result: Complies

Comment: _____

Calibration performed by : Kiran (2)

Checked by : Tushar (1)

Date: 18.04.2026

Date: 18.04.2026