

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

Unit : X

Department : QC Month and year : October 2024

Balance Code No. : BAL003 Capacity (gm) : 320.0000

Make : METTLER TOLEDO Model : ML303

Std. Weight Box ID. : WBI_1,WT-0953,WB003,WB001 Least Count (gm) : 0.0001

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)
Lower	40.0000	± 1.0000	39.0000 - 41.0000
Middle(1)	64.0000	± 1.0000	63.0000 - 65.0000
Middle(2)	80.0000	± 1.0000	79.0000 - 81.0000
Upper	120.0000	± 1.0000	119.0000 - 121.0000

Note: 1. Adjust zero error before commencing the weighing operation.

2. Check against standard weights on quarterly.

Date	Time	Spirit Level (Ok/ Not Ok)	Zero Error	Standard weights kept on the balance (gm)		Readings shown (gm)	Remark	Performed by	Checked By
07.10.2024	13:55	OK	Nil	Lower	40.0000	40.0000	Ok	Manish(C)	Jordan(23)
				Middle(1)	64.0000	64.0000	Ok	Manish(C)	Jordan(23)
				Middle(2)	80.0000	80.0000	Ok	Manish(C)	Jordan(23)
				Upper	120.0000	120.0000	Ok	Manish(C)	Jordan(23)

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2. Uncertainty test:

Sr. No.	Standard Weight (gm)	Reading displayed on the balance (gm)	Remarks
1	40.0000	40.0000	Ok
2	40.0000	40.0000	Ok
3	40.0000	40.0000	Ok
4	40.0000	40.0000	Ok
5	40.0000	40.0000	Ok
6	40.0000	40.0000	Ok
7	40.0000	40.0000	Ok
8	40.0000	40.0000	Ok
9	40.0000	40.0000	Ok
10	40.0000	40.0000	Ok
Mean		40.0000	-
Standard Deviation (S.D.)		0.0000	-

$$\text{Uncertainty} = \frac{3 \times \text{S.D.}}{\text{Standard Weight (gm)}} = 0.0000$$

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

Remark : Complies

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3. Repeatability test:

Sr. No.	Standard Weight (gm)	Reading displayed on the balance (gm)	Remarks
1	64.0000	64.0000	Ok
2	64.0000	64.0000	Ok
3	64.0000	64.0000	Ok
4	64.0000	64.0000	Ok
5	64.0000	64.0000	Ok
6	64.0000	64.0000	Ok
7	64.0000	64.0000	Ok
8	64.0000	64.0000	Ok
9	64.0000	64.0000	Ok
10	64.0000	64.0000	Ok
Mean		64.0000	-
Standard Deviation (S.D.)		0.0000	-

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

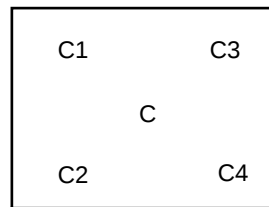
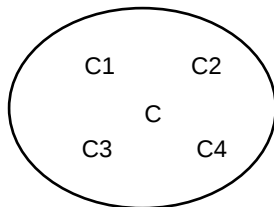
Acceptance criteria : Repeatability is NMT 0.10 %

Remark : Complies

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4. Eccentricity test :

Note: Adjust zero error before commencing the weighing operation .



Sr No.	Standard Weight (gm)	Position	Reading displayed by the balance (gm)	Deviation from center =X-C	Remark
1	80.0000	C	80.0000	-----	Ok
2	80.0000	C1	80.0000	0.0000	Ok
3	80.0000	C2	80.0000	0.0000	Ok
4	80.0000	C3	80.0000	0.0000	Ok
5	80.0000	C4	80.0000	0.0000	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: _____

Calibration Done By: Manish (C)

Checked By:
(Quality Assurance)

Date : 07.10.2024

Date :