

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

Unit : X

Department : QC

Month and year : May 2024

Balance Code No. : BAL001

Capacity (gm) : 320.000

Make : METTLER TOLEDO

Model : ML203

Std. Weight Box ID. : WB001

Least Count (gm) : 0.001

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	10.000	± 1.000	9.000 - 11.000
Middle(1)	30.000	± 1.000	29.000 - 31.000
Middle(2)	50.000	± 1.000	49.000 - 51.000
Upper	70.000	± 1.000	69.000 - 71.000

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
01.05.2024	09:34	OK	Nil	Lower	10.000	10.000	Ok	kuldeep(Z)	Devendra(X)
				Middle(1)	30.000	30.000	Ok	kuldeep(Z)	Devendra(X)
				Middle(2)	50.000	50.000	Ok	kuldeep(Z)	Devendra(X)
				Upper	70.000	70.000	Ok	kuldeep(Z)	Devendra(X)

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

2. Uncertainty test:

Sr. No.	Standard Weight (gm)	Reading displayed on the balance (gm)	Remarks
1	10.000	10.000	Ok
2	10.000	10.000	Ok
3	10.000	10.000	Ok
4	10.000	10.000	Ok
5	10.000	10.000	Ok
6	10.000	10.000	Ok
7	10.000	10.000	Ok
8	10.000	10.000	Ok
9	10.000	10.000	Ok
10	10.000	10.000	Ok
Mean		10.000	-
Standard Deviation (S.D.)		0.000	-

Uncertainty =
$$\frac{3 \times \text{S.D.}}{\text{Standard Weight (gm)}} = 0.00$$

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

Remark : Complies

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

3. Repeatability test:

Sr. No.	Standard Weight (gm)	Reading displayed on the balance (gm)	Remarks
1	30.000	30.000	Ok
2	30.000	30.000	Ok
3	30.000	30.000	Ok
4	30.000	30.000	Ok
5	30.000	30.000	Ok
6	30.000	30.000	Ok
7	30.000	30.000	Ok
8	30.000	30.000	Ok
9	30.000	30.000	Ok
10	30.000	30.000	Ok
Mean		30.000	-
Standard Deviation (S.D.)		0.000	-

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

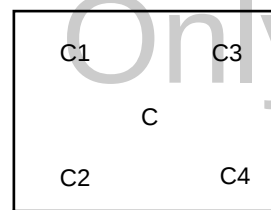
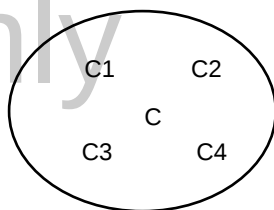
Acceptance criteria : Repeatability is NMT 0.10 %

Remark : Complies

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

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	50.000	C	50.000	-----	Ok
2	50.000	C1	50.000	0.000	Ok
3	50.000	C2	50.000	0.000	Ok
4	50.000	C3	50.000	0.000	Ok
5	50.000	C4	50.000	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%.

Remark: Complies

Comment: _____

Calibration Done By: kuldeep (Z)

Checked By:
(Quality Assurance)

Date : 01.05.2024

Date :