



PHARMA DEVILS

PRODUCTION DEPARTMENT

STANDARD OPERATING PROCEDURE

Department: Production	SOP No.:
Title: Cleaning, Calibration and Operation of Weighing Balances (ESSAE 3000 gm)	Effective Date:
Supersedes: Nil	Review Date:
Issue Date:	Page No.:

1.0 OBJECTIVE:

To lay down a procedure for Cleaning, Calibration and Operation of Weighing Balances (ESSAE 3000 gm).

2.0 SCOPE:

The procedure is applicable to the cleaning, calibration and operation of Weighing balances (ESSAE) in Production area.

3.0 RESPONSIBILITY:

Technical associate, Officer, Executive: Following the SOP procedure for usage, cleaning and calibration.
Manager: SOP compliance

4.0 DEFINITION (S):


NA

5.0 PROCEDURE:

5.1 CLEANING:

- 5.1.1 Ensure that the power supply is OFF and electric connection is disconnected to the balance.
- 5.1.2 Clean the platform with clean wet lint free cloth followed by clean dry lint free cloth.
- 5.1.3 Clean the main body of the balance with dry clean lint free cloth.

5.2 OPERATION:

- 5.2.1 Ensure the cleanliness of the weighing balance.
- 5.2.2 Check the spirit level of the balance by the spirit leveler (which is attached to the balance) the air bubble should be in the middle of the circus, if the bubble is not in order, correct it by adjusting the base screws. Record it on the respective Annexure-I and Annexure -II as 'OK /Not OK'
- 5.2.3 Ensure zero reading on screen before any weighing (to correct the zero error press  icon on display). Place the object to be weighed on the weighing platform of the balance. Balance will measure the weight of the object and display it. Wait till the reading on screen stabilize. Remove the Object.

5.3 General Calibration of 3000.0 gm weighing balance

- 5.3.1 Operate the balance as per step no. 5.2
- 5.3.2 Ensure the cleanliness of the weighing balance
- 5.3.3 Check the spirit level of the balance by the spirit leveler (which is attached to the balance) the air bubble should be in the middle of the circus, If the bubble is not in order, correct it by adjusting the base screws. Record it on the respective Annexure-I and Annexure -II as 'OK /Not OK'



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5.3.4 Switch "ON" the balance, display shows 0.0 g

5.3.5 Press "MENU" following screen will be displayed:

SCALE			
COMMUNICATION			
SETTING			
APPLICATION			
MAPPING LOGICAL DIVICE			
Select	Back	Down	Up

5.3.6 Press the 'DOWN' Key and select the "SETTING"

5.3.7 Display will show following contents:

DATE TIME --- D -M -Y and H - M - S			
ALARM			
KEY BUZZER			
MACHINE NUMBER			
MACHINE NAME			
Select	Back	Down	Up

5.3.8 Press DOWN button and select "CALIBRATE SCALE".

5.3.9 "CALIBRATE SCALE" message will show on display.

1. Calibrate scale #1

2. Calibrate scale #2

NOTE: At this time weighing scale platform should be empty.

5.3.10 Select CALIBRATE SCALE#1

5.3.11 Instrument will demand "PASSWORD". Enter the password with the help of numeric key on the panel.

5.3.12 Display will show following contents:

Scale # 1	Cal. Wt.	5000.0 g	S- ON	
IR : 00000000		WT : 0.0 g		
Raw : 00000000				
Quit	Back	Zero cal	Spam	Clear

5.3.13 We can edit "Cal. Wt ." value by pressing CLEAR button and every time we have to enter that weight with which we are calibrating the instrument.

5.3.14 Press the "ZERO CAL" screen will display "Zero CalPass"

5.3.15 Now put pre calibrated weight on the plate form and press "SPAM CAL" and display will show "Spam Cal Pass"



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5.3.16 For exit press 'quit Key'.

5.4 Daily Calibration:

5.4.1 Operate the balance as per step no. 5.2

Balance Capacity	Operating Range (1 to 80% of balance capacity)	Standard Weights to be used for calibration			
3000 g	30.0 g to 2400.0 g	30.0 g	600.0 g	1500.0 g	2400.0 g

5.4.2 Put the standard weight on the weighing platform as per mention table for respective balance

5.4.3 Record the readings in the respective format as given in the Annexure-I.

Note: Reading observed on balance should not vary more than 0.1 % of the standard weight will that used for calibration. In case, if 0.1 % tolerance is not practically readable on balance, least count of that particular balance shall be considered as tolerance limit for the respective standard weight or nearest possible readable weight w.r.t. 0.1 % tolerance shall be considered as tolerance for respective standard weight.

5.4.4 A balance is considered satisfactory for use if the readings are found within acceptance limit of the balance as mentioned in the respective annexure for a balance.

5.4.5 If the reading is exceeding the acceptable limit, write remarks as 'General Calibration Required'. Perform general calibration then perform daily calibration. If then also balance do not measure weight within limit affix "OUT OF CALIBRATION" tag and inform the head of the department and engineering department for necessary action and record the same in balance calibration record.

5.4.6 Do not use a balance till the problem is rectified.

5.4.7 After rectification, re-calibrate the balance before use.

5.4.8 Use the Standard weights duly certified by the Weights and Measures Department.

5.5 Monthly Eccentricity Check:

5.5.1 Operate the balance as per step no. 5.2.

5.5.2 Perform the General calibration as per step no 5.3

5.5.3 Now select the standard weight of checking the Eccentricity accuracy for balance based on the capacity as mentioned below:

Balance capacity	Standard weights to be used	Tolerance* ($\pm 0.1\%$ or least count)	Acceptance Limit
3000.0 g	300 g	± 0.2 Kg	299.8 g – 300.2 g

***Note:** Reading observed on balance should not vary more than 0.1 % of the standard weight will that used for calibration. In case, if 0.1 % tolerance is not practically readable on balance, least count of that particular



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balance shall be considered as tolerance limit for the respective standard weight or nearest possible readable weight w.r.t. 0.1 % tolerance shall be considered as tolerance for respective standard weight

5.5.4 Place the standard weights at five different points of the platform (all the four corners and middle as per the below figure) for the checking the eccentric accuracy of the balance and record the same in Annexure- II.

1. : Left (upper corner) of platform
2. : Left (Lower corner) of platform
3. : Right (Upper corner) of Platform
4. : Right (Lower corner) of platform
5. : Middle of platform

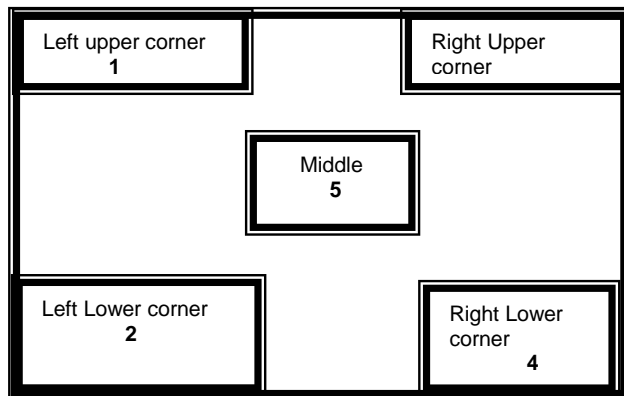


Fig. Standard weight five different location

5.5.5 Display weight at five locations shall be approximately same. Reading observed on balance should not vary more than 0.1 % of the standard weight.

5.5.6 If the results are exceeding the acceptable limit, inform to maintenance department for necessary corrective action.

5.5.7 Ensure that the standard weights are certified by the measures department

5.5.8 **Frequency:**

1. Daily Calibration of the balance to be done start of shift and record in Annexure -I.
2. Monthly Eccentricity check of the balance to be done monthly and record in Annexure -II.

Note: The standard weights used for calibration of the balances should be cleaned with a dry lint free cloth and are to be kept in Weight Box / trolley. Handling of the standard weights used for calibration should be done with cotton gloves.

5.6 Precaution

- 5.6.1 Keep the machine on stable surface
- 5.6.2 Ensure no strong wind drift / wind currents.



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- 5.6.3 Don't put any object on the balance while the scale is in off position.
- 5.6.4 Warm up the machine 15 to 20 minutes before operation.
- 5.6.5 Do not apply strong solvent for cleaning the scale.
- 5.6.6 Avoid to apply the over load, it may damage the load cell permanently.
- 5.6.7 Handling of the standard weights used for calibration should be done with cotton gloves.

6.0 ABBREVIATION (S):

SOP : Standard Operating Procedure

7.0 REFERENCE (S):

SOP: Status labeling

8.0 ANNEXURE (S):

Annexure-I: Daily Balance Calibration Record (ESSAE 3000 gm)

Annexure II: Monthly Balance Eccentricity Inspection Record (ESSAE 3000 gm)

9.0 DISTRIBUTION:

Master Copy : Quality Assurance

Controlled Copy (S) : Production department, Quality Assurance

Reference Copy (S) : Production department



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Annexure I

Daily Balance Calibration Record (ESSAE 3000 gm)

Month / Year: _____

Standard weights		Tolerance	Acceptance limit
Lower (1 %)	30.0 g	$\pm 0.03 \text{ g} \approx \pm 0.2 \text{ g}$	29.8-30.2 g
Middle-I (20 %)	600.0 g	$\pm 0.6 \text{ g}$	599.4-600.6 g
Middle-II (50 %)	1500.0 g	$\pm 1.5 \text{ g} \approx \pm 1.4 \text{ g}$	1498.6-1501.4 g
Upper (80 %)	2400.0 g	$\pm 2.4 \text{ g}$	2397.6-2402.4 g

Date	Spirit Level	Reading shown on Balance					Checked By
		30.0 g	600.0 g	1500.0 g	2400.0 g	Remarks	

Note: *Record the Spirit level as Ok / Not Ok (Bubble position in center)



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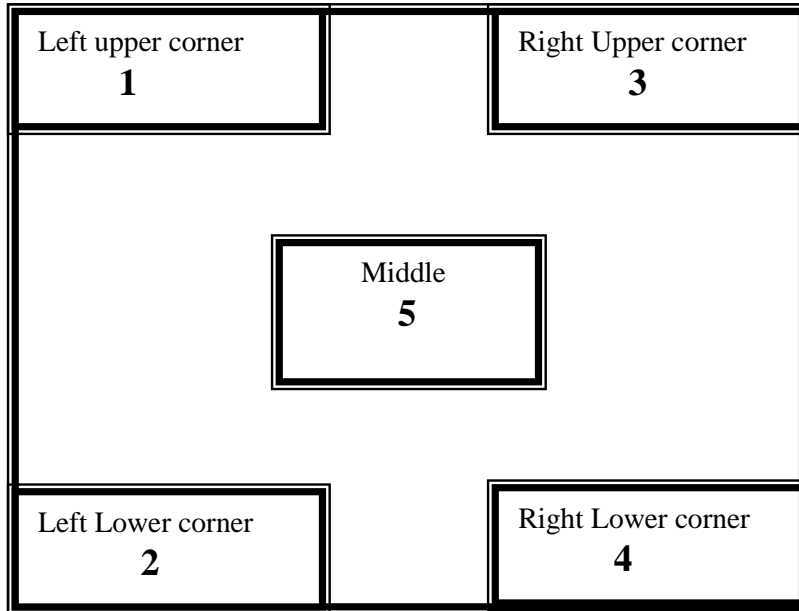
Annexure II
Monthly Balance Eccentricity Inspection Record
(ESSAE 3000 gm)

Standard weight used: _____

Month / Year: _____

Certificate No.: _____

General Calibration Performed: Yes/No



The platform weighing balance

Date	Spirit Level*	Observed weight (in Kg)					Done by	Ckd. By
		Limit: 299.8 g – 300.2 g						
		1 Left (upper corner) of platform	2 Left (Lower corner) of platform	3 Right (Upper corner) of Platform	4 Right (Lower corner) of platform	5 Middle of platform		

Note: *Record the Spirit level as Ok / Not Ok (Bubble position in center)