	PHARMA DEVILS		
	PRODUCTION DEPARTMENT		

STANDARD OPERATING PROCEDURE				
Title: Load Cell Verification and Calibration of Manufacturing Vessels				
SOP No.:		**Department:**	Production	
		Effective Date:		
Revision No.:	00	**Revision Date:**		
Supersede Revision No.:	Nil	**Page No.:**	1 of 5	

1.0 OBJECTIVE:
To lay down a procedure for Load Cell Verification and Calibration of Manufacturing Vessels.

2.0 SCOPE:
This SOP is applicable to Load Cell Verification and Calibration of Manufacturing Vessel used in Production dept.

3.0 RESPONSIBILITY:
Officer / Executive-Production & IPQA

4.0 ACCOUNTABILITY:
In charge - Concern Production Line

5.0 ABBREVIATIONS:
Ltd.   Limited
Pvt.   Private
SOP   Standard Operating Procedure
No.   Number
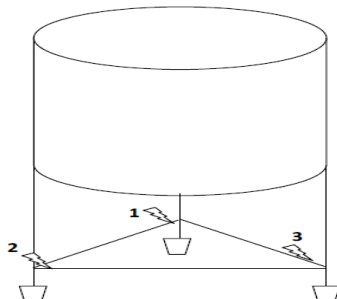QA   Quality Assurance
Kg   kilogram

6.0 PROCEDURE:

6.1 PERFORMANCE VERIFICATION OF LOAD CELL:

6.1.1   Daily verification shall be done by corner test at each load cell.

6.1.2   Load cell performance shall be verified before commencement of each batch operation in manufacturing area.

6.1.3   Verify the Load cell performance by placing 10 Kg standard (Class-M1) weight on each identified location (as per figure below) and record the Value shown in Display.

6.1.4   Record the observation in **Annexure-I**.\

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6.1.5   **Acceptance criteria:** Tolerance limit for load cell is ± 1% of standard weight.

6.1.6   **Frequency:** Before Commencement of Every Batch.

6.2   LOAD CELL CALIBRATION THROUGH AUTO CAL PROGRAMMING MODE:

6.2.1   Make the tank empty to be calibrated.

6.2.2   Ensure that during calibration there should not be any extra load on the tank and proceed as per below flow chart:

6.2.3   Switch on the panel.

6.2.4   Press ⬜→key and hold for 3 sec.

6.2.5   Press © key once.

6.2.6   Press ⬜→key.

6.2.7   Press © key twice and select Step Cal by press⬜→

6.2.8   Add 40% Purified Water of vessel capacity at room temperature.
6.2.9   Set the weight by using the up/down and left/right keys.

6.2.10   Press ⬜→key twice.

6.2.11   Calibration completed and press © key to exit.

Note: Add successively 20 Kg. of purified water at room temperature by weighing on calibrated weighing balance up to 40% of vessel capacity by following sequential step of above flow chart.
For e.g.:   If vessel capacity is 500 ltr., then fill 200 Kg purified water (40% of vessel capacity).

6.2.12   To assure that calibration successful done, further add 20 kg of purified water in vessel.

6.2.13   After addition 20 Kg purified water, load cell PLC display should be show total weight (40% of vessel capacity + additional 20 Kg) to confirm the performance of load cell.

6.2.14   **Acceptance criteria:** Tolerance limit for load cell is ± 0.2% of Total weight.

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6.2.15 **Frequency:** Monthly or when required.

6.2.16 After successful calibration, perform the daily verification of load cell as per section 5.1 and record the observation in **Annexure-I**.

6.2.17 If observations during calibration and verification are out of Tolerance Limit, affix **"Under Maintenance"** tag, sign & date and discontinue use of manufacturing Vessel.

6.2.18 Inform maintenance department for corrective action.

6.2.19 After rectification, calibrate the load cell again and record the observation in **Annexure-II**.

6.2.20 After calibration, Verify the Load cell and record as per **Annexure-I**.

7.0 ANNEXURES:

Annexure No.	Title of Annexure	Format No.
Annexure-I	Load Cell Verification Record	
Annexure-II	Load Cell Calibration Record	

ENCLOSURES: SOP Training Record

8.0 DISTRIBUTION:
- Controlled Copy No. 01   Quality Assurance
- Controlled Copy No. 02   Production
- Master Copy   Quality Assurance

9.0 REFERENCES:
Not Applicable

10.0 REVISION HISTORY:

CHANGE HISTORY LOG

Revision No.	Change Control No.	Details of Changes	Reason for Change	Effective Date	Updated By

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ANNEXURE-I
LOAD CELL VERIFICATION RECORD

Month		Year	
Department		**Location**	
Vessel ID No.		**Vessel Capacity (In liter)**	
Least Count		**Acceptance Limit**	9.9 Kg to 10.1 Kg
Actual weight of Standard Weight Used			

Date & Time	Previous Product Name	Batch No.	Location No.	Standard Weight (Kg) A	Displayed Weight (Kg) B	Variation (C= ΔAB) NMT 0.100 Kg	Done By Sign & Date (Production)	Checked By Sign & Date (QA)	Remarks
			1						
			2						
			3						
			1						
			2						
			3						
			1						
			2						
			3						
			1						
			2						
			3						

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ANNEXURE-II
LOAD CELL CALIBRATION RECORD

Department		**Vessel ID NO.**	
Section		**Vessel Capacity (In liter)**	
Line		**Tolerance Limit**	± 0.2% of Total Weight

Date	Quantity of Purified Water before calibration (Kg.) (A)	Quantity of Purified Water after calibration (Kg.) (B)	Total weight of purified water (Kg) C= A+B	Displayed Weight (Kg.) (D)	Variation (V= ΔCD)	Tolerance (%) T=Vx100/C	Done By Sign & Date (Production)	Checked By Sign & Date (QA)	Remarks