

CALIBRATION REQUIREMENTS for LABORATORY EQUIPMENT
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1. PURPOSE

The purpose of this Standard Operational Procedure is to provide a standard calibration procedure and standard calibration sheets for the calibration of all types of laboratory equipment.

2. Responsibility

- ① - Symbol indicates routine calibration performed by the departmental staff.
- ② - Symbol indicates twice annual calibration performed by metrology department
- ③ - Symbol indicates annual or biannual calibration performed by an external contracted third party metrology firm.

3. Equipment

As defined on the calibration sheet and equipment specific SOPs

4. Frequency

Internal laboratory calibration ; Prior to routine use of equipment (e.g. daily balance calibration, system suitability test, pH meter etc.) ①

Metrology department ② calibration ; Monthly (Analytical balances only)

Metrology department ② calibration ; Twice per year

Metrology department ② ; and after equipment maintenance or relocation

Metrology department ② ; and after repair of critical part replacement

External calibration ③ ; Annually or biannually calibration by contracted Third Party according to equipment specific SOP

5. Procedure

5.1 Operate the equipment in accordance with the relevant Operating Instructions.

5.2 Perform the equipment calibration according to the equipment specific SOP

5.3 Fill out form "Calibration Record" Sheet, see Attachment 2.

5.4 Evaluate if "SUITABILITY Sticker" has been compromised, [Attachment 1].

5.5 In cases where the SUITABILITY of equipment has been compromised (e.g dissolution equipment) due to the re-calibration the technician will deface and cross-out the "SUITABILITY Sticker" and attach a note stating "Performance Verification Invalidated Due To Re-Calibration"

5.6 Attach "Calibration Sticker", to equipment [Attachment 1].

5.7 The performance verification of the equipment (only where necessary) shall be repeated prior to routine laboratory use.

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6. Re-calibration

- 6.1 If the calibration does not conform, repeat the procedure.
- 6.2 If the second calibration does not conform, clean and check equipment according to the manufacturer's instructions. Then, repeat the procedure.

7. Limits

Calibration Instructions must be applied in accordance with equipment specific SOP

7.1 General limit of accuracy and sensitivity

Acceptance limits :

Minimum: 95%, maximum 105%.

7.2 If the manufacturer specifies stricter requirements, these specification may be used.

7.3 If, after the second calibration the equipment still does not conform, replace or repair the non-functional part or unit.

8. Documentation

Document calibration results as per the attached "Calibration Record" Sheet. Refer to attached "Calibration Record" Sheets as guidance.

9. Labeling

- 9.1. White label (stuck on the apparatus after apparatus SUITABILITY test).
- 9.2. Green label (stuck on the apparatus after CALIBRATION of apparatus).

WHITE LABEL
SUITABILITY TEST

ANALYST:
Date:
Next Date: _____

GREEN LABEL
CALIBRATION

Metrology Dept.:
Date:
Next Date: _____

☰
[End of Document]
① ② ③ ④ ⑤ ⑥ ⑦ **① ② ③**

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STANDARD OPERATING PROCEDURES

CALIBRATION REQUIREMENTS for LABORATORY EQUIPMENT

STANDARD CALIBRATION RECORD

Equipment:		I. D. No.		PLANT
Location		Installation Date		
SOP Number		Out-of-Use Date		
Last Calibrated		Inventory No		
Scheduled For		Classification		
Next Calibrated				
Calibration Expiry				
			CRITICAL <input type="checkbox"/>	
			MAJOR <input type="checkbox"/>	MINOR <input type="checkbox"/>
			System <input type="checkbox"/>	Line <input type="checkbox"/>

TYPE OF EQUIPMENT				
Manufacturer			ACCURACY	
TYPE:			Max. Deviation	
MODEL:		TOLERANCE		
RANGE:		GRADUATION		
			Acceptance Limits	NLT 95 - NMT 105 %

CALIBRATED AGAINST STANDARD				
TESTER ID			TRACE TO NATIONAL STANDARDS YES <input type="checkbox"/> - NO <input type="checkbox"/> / Certificate <input type="checkbox"/> - No <input type="checkbox"/>	
WEIGHT ID				
WEIGHT ID				

REFERENCE VALUE	TEST BEFORE CALIBRATION		AFTER CALIBRATION	
	MEASURED	DEVIATION	MEASURED	DEVIATION
RESULTS	<input type="checkbox"/> CALIBRATED		<input type="checkbox"/> NOT CALIBRATED	

Comments:

CALIBRATION DATES	CALIBRATED BY	METROLOGIST	<input type="checkbox"/> IN-HOUSE <input type="checkbox"/> EXTERNAL	SIGNATURE

Approved by _____ DATE _____ SIGNATURE _____

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