

# Calibration Management Framework

## Instrument Calibration Schedule — QC Laboratory

All calibrations performed per documented procedures with NIST-traceable reference standards. Out-of-tolerance conditions trigger OOT Response Protocol (SOP-CAL-008).

Instrument	ID	Procedure	Frequency	Acceptance Criteria	Last Cal.	Next Due	Status
Analytical Balance Mettler Toledo XPR205	BAL-001	SOP-CAL-00 1	Monthly + Annual (ext.)	±0.05 mg	01/15/26	02/15/26	Current
Analytical Balance Mettler Toledo XPR205	BAL-002	SOP-CAL-00 1	Monthly + Annual (ext.)	±0.05 mg	01/15/26	02/15/26	Current
pH Meter Mettler Toledo S220	PHM-001	SOP-CAL-00 2	Daily (before use)	±0.02 pH units	02/14/26	02/15/26	Current
pH Meter Mettler Toledo S220	PHM-002	SOP-CAL-00 2	Daily (before use)	±0.02 pH units	02/14/26	02/15/26	Current
Conductivity Meter Hach HQ440d	CON-001	SOP-CAL-00 3	Weekly	±1% of standard value	02/10/26	02/17/26	Current
Turbidimeter Hach TL2300	TUR-001	SOP-CAL-00 4	Monthly	±0.02 NTU (<1 NTU)	01/20/26	02/20/26	Current
Incubator (35°C) Thermo Fisher	INC-001	SOP-CAL-00 5	Daily temp log Annual mapping	35.0°C ± 0.5°C	02/14/26	02/15/26	Current
Incubator (44.5°C) Thermo Fisher	INC-002	SOP-CAL-00 5	Daily temp log Annual mapping	44.5°C ± 0.2°C	02/14/26	02/15/26	Current
Autoclave Tuttnauer 3870	AUT-001	SOP-CAL-00 6	Quarterly (BI) Annual (full)	121°C / 15 min BI kill confirmed	12/01/25	03/01/26	Current
Pipette Set (100µL, 1mL, 10mL)	PIP-001 to 006	SOP-CAL-00 7	Semi-annual (ext.)	±0.8% of nominal vol.	09/15/25	03/15/26	Current
Reference Thermometer	THR-001	Ext. only	Annual (NIST cert.)	Per certificate	08/01/25	08/01/26	Current

### Out-of-Tolerance Response Protocol (SOP-CAL-008)

1. Remove instrument from service immediately. Apply "DO NOT USE" label.
2. Initiate OOT Investigation. Document last known good calibration date.
3. Evaluate all results produced since last successful calibration for impact.
4. If results affected, initiate OOS Investigation per SOP-QA-003. Notify QC Supervisor.
5. Recalibrate or send for external service. Do not return to service until acceptance criteria met.

This is a sample excerpt from the 60-Day Lab Audit Infrastructure Build. The full calibration framework includes individual calibration SOPs for each instrument type, calibration log templates, traceability documentation, and status identification systems.

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