

Your Company Name / Logo	CONDUCTIVITY ANALYSER CALIBRATION SOP	Doc no: SOP ANA 004	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To keep conductivity readings accurate for water quality, blowdown and concentration control.

2. Scope

Contacting and inductive conductivity sensors with online transmitters.

3. References

- Analyser manual
- Standard solution certificate
- Site water chemistry limits

4. Responsibilities

- Instrument technician: carries out the work and records results.
- Instrument engineer or supervisor: reviews and approves the records.
- Operations: grants the permit, isolates the process and returns the equipment to service.

5. Safety precautions

- Work only under a valid permit to work and follow the site isolation (lockout tagout) procedure.
- Wear the PPE required for the area: safety helmet, glasses, gloves and safety shoes as a minimum.
- In hazardous areas use certified or intrinsically safe test equipment, or obtain a gas free certificate and hot work permit.
- Inform the control room before starting, and before returning the instrument to service.
- Wear chemical gloves and eye protection when removing sensors from chemical lines.

6. Tools and equipment

- Certified conductivity standard near the normal reading
- Clean beakers and rinse water
- Reference thermometer
- Cleaning solution as the manufacturer advises

7. Prerequisites

- Loop in manual or alarms inhibited as authorised.

8. Procedure

8.1 Remove and clean

- 8.1.1 Remove the sensor, rinse and clean deposits.
- 8.1.2 Inspect electrodes or toroid for damage.

8.2 Calibrate

- 8.2.1 Immerse in the standard at stable temperature without air bubbles.
- 8.2.2 Check the temperature reading against the reference thermometer.
- 8.2.3 Run the calibration so the analyser adjusts the cell constant to the standard value.

8.3 Verify

- 8.3.1 Rinse, then check a second standard if available.
- 8.3.2 Record cell constant, temperature coefficient and readings.

8.4 Return to service

8.4.1 Reinstall the sensor, confirm a sensible process reading and remove inhibits.

9. Acceptance criteria

- Reading within tolerance of the standard (for example ± 2 % of reading).
- Cell constant change within the manufacturer limit.
- Temperature reading within ± 0.5 °C of reference.

10. Records

- Calibration master list (free template: instrumentationblog.in/downloads/templates/calibration-master-list/)
- Analyser datasheet (free template: instrumentationblog.in/downloads/templates/analyser-datasheet/)

11. Approval

	Prepared by	Reviewed by	Approved by
Name			
Signature			
Date			

This procedure is a generic template. Adapt it to your site permit system, the manufacturer instructions and your quality system before use.