

Your Company Name / Logo	DISSOLVED OXYGEN ANALYSER CALIBRATION SOP	Doc no: SOP ANA 005	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To keep DO readings accurate for aeration control and boiler water monitoring.

2. Scope

Optical (luminescent) and galvanic or polarographic DO sensors with online transmitters.

3. References

- Analyser manual
- Local barometric pressure
- Site DO control 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.
- Wastewater basins: use fall protection and avoid contact with wastewater.

6. Tools and equipment

- Calibration sleeve or bottle with damp sponge
- Barometer or site pressure value
- Zero oxygen solution for zero check if required
- Soft brush and clean water

7. Prerequisites

- Aeration control in manual or a fixed blower setting agreed with operations.

8. Procedure

8.1 Clean and inspect

- 8.1.1 Remove the sensor, clean the cap or membrane gently.
- 8.1.2 Replace the sensor cap or membrane if damaged or due.

8.2 Air calibration

- 8.2.1 Place the sensor in water saturated air in the calibration sleeve and let temperature stabilise.
- 8.2.2 Enter barometric pressure if not measured automatically.
- 8.2.3 Start the air calibration (100 % saturation).

8.3 Zero check (if required)

- 8.3.1 Immerse in zero oxygen solution and check the reading is near zero.

8.4 Return to service

- 8.4.1 Reinstall and compare with a portable reference meter in the basin.

8.4.2 Restore automatic control.

9. Acceptance criteria

- Air calibration accepted by the analyser within slope limits.
- Zero check near 0 mg/L where performed.
- Process reading within the agreed limit of a portable reference.

10. Records

- Calibration master list (free template: instrumentationblog.in/downloads/templates/calibration-master-list/)
- Instrument maintenance log (free template: instrumentationblog.in/downloads/templates/instrument-maintenance-log/)

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.