

Your Company Name / Logo	ANALYSER SHELTER ROUTINE INSPECTION SOP	Doc no: SOP ANA 003	Rev: 0
Department: Instrumentation	Standard operating procedure	Date:	Page: see footer

1. Purpose

To keep analysers available and accurate and the shelter safe, by finding sample system and utility problems before they cause bad readings or hazards.

2. Scope

Analyser shelters, houses and cabinets with process gas or liquid analysers, sample conditioning systems and associated utilities.

3. References

- Analyser and sample system manuals
- Shelter ventilation and gas detection design basis
- Site entry and permit procedures

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.
- Before entry, check the shelter gas detection status (flammable, toxic and oxygen) at the door panel. Do not enter on alarm.
- Keep the door closed during work so ventilation and purge stay effective.

6. Tools and equipment

- Portable multigas detector
- Inspection checklist
- Leak detection solution
- Torch and radio

7. Prerequisites

- Routine inspection permit or entry permission as required by the site.
- List of analysers in the shelter and their normal sample flows and pressures.

8. Procedure

8.1 Before entry

- 8.1.1 Check the gas detection panel: no flammable, toxic or low oxygen alarms.
- 8.1.2 Check the HVAC and purge status lights and the shelter differential pressure indicator.

8.2 Shelter and utilities

- 8.2.1 Shelter temperature within the design range; HVAC running without alarms.
- 8.2.2 Instrument air, nitrogen and carrier gas pressures normal; cylinder contents above the replacement level.
- 8.2.3 Vent and drain headers clear; no liquid in drain pots above the normal level.

8.3 Sample systems

- 8.3.1 Sample flows and pressures at their normal values for each analyser.
- 8.3.2 Filters not blocked (check differential pressure or flow drop) and coalescer drains working.
- 8.3.3 Heated lines and enclosures at the correct temperature; no condensation in gas samples.
- 8.3.4 No leaks at fittings (check suspect joints with leak detection solution).

8.4 Analyser status

- 8.4.1 Analysers in measure mode with no active faults; reading reasonable for the process.
- 8.4.2 Last automatic validation or calibration passed; schedule the next one if due.
- 8.4.3 Note any reading that disagrees with laboratory results for follow up.

8.5 Close out

- 8.5.1 Record findings on the checklist, raise work orders for defects and inform the control room of any analyser out of service.

9. Acceptance criteria

- No gas detection alarms and correct shelter ventilation or purge.
- All analysers in service with sample flows and utilities within normal ranges, or defects reported.
- Inspection recorded with work orders for every defect.

10. Records

- Instrument PM schedule (free template: instrumentationblog.in/downloads/templates/instrument-preventive-maintenance-schedule/)
- Breakdown report (free template: instrumentationblog.in/downloads/templates/instrument-breakdown-report/)

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.