

Autoclave SOP

This document (SOP) is created by **Stericox Sterilizer Systems India** for all laboratory personals, who operate autoclave. This document contains all necessary information that every responsible person should know prior using the autoclave; it will ensure safety and ease of operation in future. This Autoclave SOP should be hanged on the wall within eye contact near to machine.

Knowledge is prime; your staff, operator and technicians must be aware the operation and safety parameters of autoclave to take efficient use of the machine. This document is created after thorough research on Indian make autoclave machines and it covers almost everything from start to finish operating autoclaves of all types (Vertical, Horizontal and Double Door autoclaves).

Safety

As autoclave is very high steam pressure equipment, it may create serious health risks to operators and surrounding people if not handled properly; therefore, it becomes mandatory for all staff to understand important information including risk factors, safe operation, cleaning and maintenance etc.

1. Autoclaves should be installed away from the main working area as they are noisy and hot, release steam and may be a source of major hazards.
2. There should be proper fittings of water inlet and drain to boiler and water source
3. Autoclave door must away from main walking area
4. Never overload the trolley beyond the advised limit
5. Make sure that the rubber gasket is in its groove
6. Proper training must be given to operators and related staff
7. Do not let the unauthorized / untrained person to operate the autoclave

Operation

1. Before switching ON the autoclave machine, always check proper water level
2. Always use purified water (RO / DM water) to fill the boiler to avoid scaling in boiler and piping
3. Do not put multiple category items in the sterilization chamber
4. Keep waste to sterilize in autoclavable biohazard bags and put these bags to chamber shelf or container
5. Do not overload the chamber with items, there must be some enough space between items to sterilize
6. Use sterilization indicator tape to ensure proper sterilization process
7. If there is spill during sample placement in chamber, wipe it with clean and lint-free cloth
8. Close the door tightly and ensure door is properly closed
9. Ensure all release valves are closed
10. Switch ON the machine
11. Set temperature (121°C) and time using controller
12. When pressure reaches approx 20 psi in jacket shift lever to chamber (only for manual models)

13. Let the sterilization process complete until finishes set time
14. Turn off the machine
15. Release the chamber pressure using release valve (only for manual models)
16. Ensure chamber has 0 psi pressure and no hissing sound from the release valve
17. Open the door and remove the sterilized items
18. If required fill the results in log book
19. If water filling is required during operation, first switch off the machine and release pressure from chamber and gasket

Autoclave cleaning & maintenance

In order to extend autoclave life and utilize maximum performance, periodic cleaning and maintenance of autoclave is necessary. Before carrying out cleaning work, visual inspection should be done to check if any sign of fault or contamination appears on surface and instruments. If found any critical problem, it is advised not to use the machine and contact the technician or manufacturer.

Please read the following useful cleaning points that are needed by autoclave operator or any authorized person in your laboratory.

Always disconnect power supply from your autoclave before initiating cleaning process

1. Make sure there is no pressure inside jacket and chamber and machine is cool to room temperature
2. Never use steel wire brush or steel wool for cleaning door, chamber and other parts.
3. Always use lint-free cotton cloth or sponge for wiping and cleaning
4. Use mild detergent or suitable cleaning agent (70% IPA) to clean the surface
5. Never use chloride-based cleaners
6. Check that the door is opening and closing smoothly without any noise of friction
7. Put a few drops of oil on the door hinge and radial lock tightening bolts and shafts.
8. Check effectiveness of safety valves every week
9. Check pressure gauges if there is moisture inside, replace them immediately
10. Clean the gasket to keep it dust free
11. Calibrate temperature controller every 12 months