



INTRODUCTION

The ever growing demand for more efficient and advanced Hospital, Pharmaceutical, Industrial and scientific equipment with better performance and higher capacity, providing very effective and efficient steam sterilization, has led the development of “Medipharm” sterilizers throughout the years.

Medipharm sterilizers offer maximum reliability in terms of material, quality and operation.

APPLICATION

Medipharm autoclaves is a sterilizer designed to cover a wide range of applications in Hospitals, Laboratories, Pharmaceutical and Bio Technological Industries. The autoclave operates with saturated steam as the sterilization agent, working up to 2.2 kg/cm² corresponding to temperature up to 134°C, Special temperature settings are available on request.

STANDARDS

All our sterilizer are manufactured in accordance with Bureau of Indian standards specification IS:382:9: Part-I under their licence and also bear the marking on our products.

STEAM STERILIZERS (STANDARD)

Standard Sterilization cycle has been the workhorse in Hospitals, Pharmaceuticals Industries and research institutions for the last century. ‘Medipharm’ now offers this sytem with advance and latest engineering to meet all norms of CGMP as regards process, documentation and validation. The technique used is the method of air removal by gravity to ensure uniform steam distribution and penetration.

Stream traps equipped with air vent ensure maximum air removal.

Applications: Sterilization in Hospitals’, Nursing Homes’ and Laboratores’ Instruments, utensils, vessels, empty glass ware, rubber articles etc.

Solutions in glass such as ampule, vials, glass bottles etc.

STEAM STERILIZERS (H.P./H.V.)

This technique uses air removal with the help of a vacuum pump (water ring or water jet ejectors) and offers several advantages over standard sterilization cycle.

- Near 100% air removal form the sterilizer.
- Better temperature uniformity int he chamber due to elimination of cold spots.
- Good penetration of steam in porous products.
- Vacuum drying at the end of the sterilization hold-on period ensures quick drying of the sterilized material.

Application:

- Porous materials like garments, fabrics etc.
- Instruments, rubber bungs, vessels, machine parts, change parts etc.



CONSTRUCTION

The Chamber

The sterilizer chamber is usually double walled-a liner S.S. 316 chamber and an outer Carbon Steel or S.S. 304/316 jacket, the jacket in addition to improving the temperature uniformity in the sterilization zone also re-inforces the chamber. Various features have now been incorporated to improve product value.

- For complete condensate removal, sterilization chambers are provided with a sloping bottom
- For faster cycle times and better temperature uniformity, adequate condensate line is provided.
- Backing S.S. strips are welded in between the jacket and chamber to ensure special reinforcement pattern to eliminate direct welding of Carbon Steel with the inner chamber.
- TIG welding ensures elimination of welding defects.
- Various Chamber sizes are available in addition to standard sizes.

THE DOOR

Depending upon the process and space availability 'Medipharm' now offers the user following options.

- Conventional radial arm door with hinge.
- Sliding door (both vertical & horizontal)

Doors are provided with safety features which prevent

- Simultaneous opening of both doors.
- Opening the door when the process is on.

Double Door units are provided with the following:

- A flush mounted panel is isolate the sterile side from the non sterile side.
- Door Interlocking system to prevent both the doors from being opened simultaneously.
- A 0.01 micron sterile air filter for vacuum break is installed on the sterile side.

PIPING

The pipe and fittings are of stainless steel.

INSULATION

The sterilizer insulated with Resin-bonded glass wool for better temperature uniformity and reduction of heat losses. The insulation is covered with stainless steel cladding.

INSTALLATION

The sterilizer are mounted on Mild Steel or Stainless Steel stand with level adjuster. No foundation is required.



PLC BASED CONTROL SYSTEM

PLC based control system ensures precise control of process parameters. The process control by PLC is on the basis of temperature signal from the PT-100 sensor installed inside the chamber. This system eliminates the human error.

Generally the following three present programs are provided in this automatic PLC system.

- a) Fabrics
- b) Instruments
- c) Liquid

Generally Allan Bradley / GE / LG make PLC along with operator panel and 80 column Dot Matrix Printer is provided to record the various process parameters like temperature, time etc.

- All PLC system automation provided with pneumatic valves which are actuated by solenoid valves.
- This system has efficiently overcome the problems associated with electric fitted on high temperature process steam line.
- Bypass valves are provided for manual operation in the event of system failure.

LOADING SYSTEMS

Pull-out trays, trolleys, carriages are available to assist with the loading and unloading process.

Specially designed stainless steel carriages are used for material handling. Carriages are designed keeping in mind loading pattern for better steam penetration and temperature uniformity. Fabrication techniques ensure easy cleaning for higher hygiene.

Floor trolleys have also been developed for carriage transfer between the different work zones. The trolleys are ergonomically designed with a view to eliminate operator fatigue and quick and safe operation. All sterilization systems are supplied with 100% in-house testing and can be accompanied with complete set of documentation, validation reports, test certificates etc. to meet stringent quality norms.