

Rapid Cooling Sterilizers

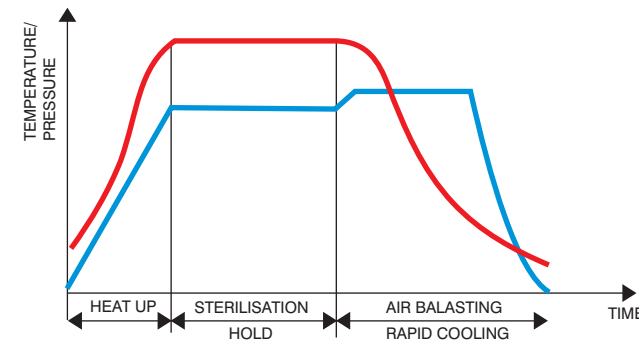
Conventional Steam Sterilisation suffers from several disadvantages when processing glass ampoules / bottles or PVC pouches.

- Product is cooled naturally. Hence cooling slow.
- Steam cannot be exhausted rapidly to achieve faster production rates. Fast exhaust can cause pressure imbalance between the container and the chamber which will ultimately destroy the load.
- Slow cooling will have disastrous effect when sterilising heat labile medications.
- Standard steam sterilisation fails to provide necessary counter-pressure for sterilisation of PVC Pouches

Pharma Access Rapid Cooling systems have been designed to overcome all the draw backs discussed above. The system design ensures automatic regulation of counter pressure using compressed air. The over pressure not only accelerates steam evacuation from the chamber but also provides necessary counter pressure to ensure container integrity. After complete exhaust of steam and marginal cooling of the load, an atomised water spray, from scientifically designed and accurately located nozzle manifold, rapidly cools down the load.

Applications

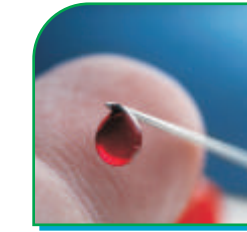
- Terminal sterilisation of Ampoules and glass bottles to achieve faster production rates.
- Sterilisation of heat labile products.
- Processing of I.V. Fluids in non-toxic PVC pouches.



Applications



Generation Storage, Monitoring and Distribution system for purified water



Blood Plasma



Syrup and Suspension



Cream, Ointment, Lotion, Gel and Suppository



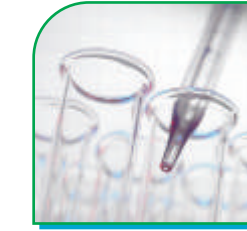
Vaccines



Hi Potent drugs, Cytotoxic, Anticancer, Hormones and Steroids



Parenteral Formulation Compounding



Biotech Modules Superskid



Insulin

Global Presence

- Algeria
- Canada
- Egypt
- Ghana
- Iran
- Iraq
- Jordan
- Nigeria
- Romania
- Russia
- Saudi Arabia
- Sudan
- Syria
- Turkey
- USA



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Steam Sterilisers



We at Pharma Access will take up any special assignment of non-standard nature and go through from conceptualisation to validation. Pharma Access sterilisers offer the user maximum reliability in terms of material quality and operations and the manufacturer is in close co-operation with the user throughout the product life cycle.

Gravity Displacement Steam Sterilizers

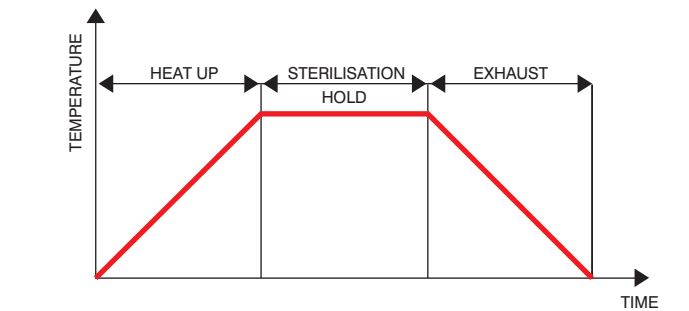
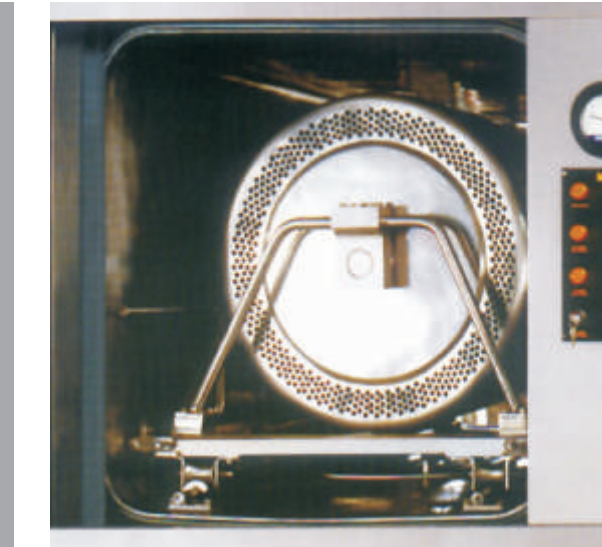
Gravity Displacement sterilisation cycle has been the workhouse in the pharmaceutical industry, hospitals and research institutions for the last century. Pharma Access where research and developments is a way of life now offers this system with the latest engineering to meet all norms of cGMP as regards design, process, documentation and validation.

The technique uses the method of gravity air removal to ensure uniform steam distribution & Penetration.

Special venting systems maximum air removal.

Application

- Solutions in glass containers like ampoule, vials, glass bottles, etc.
- Empty glass ware, utensils, vessels instruments, rubber articles, etc.
- Sterilisation in laboratory and hospitals.



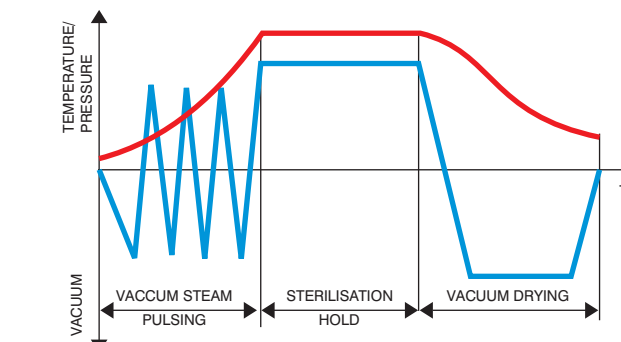
Vacuum Steam Sterilisers

This technique uses mechanical air removal with the help of a vacuum pump (water or water jet injector) and offers several advantages over gravity displacement sterilization cycle.

- Near 100% air removal from the sterilisation chamber.
- Better temperature uniformity in the chamber because of the absence of air pockets from which result in cold spots.
- Good penetration of steam porous products from which removal of air is difficult.
- Vacuum drying at the end of the sterilization hold period ensures drying of the material which has been sterilized.

Applications

- Porous materials like garments, fabrics, etc
- Items where drying is essential - closures, vessels, machine and charge parts, etc.
- Sterilisation of bulk powders.



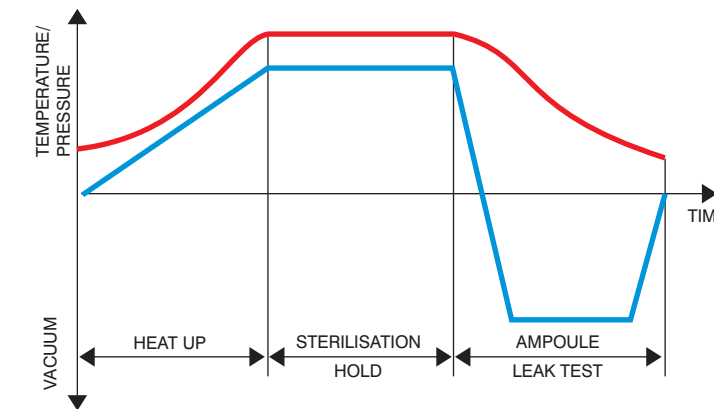
Turnkey Facility Solutions
From Conceptual Designs to Commissioning & Validation.

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Vacuum Test For Ampoules

Glass ampoules are susceptible to damage which may occur during manufacture, filling or handling i.e. cracks in the glass ampoule. This test consists of vacuum exposure following the steam sterilisation phase.

Defective, cracked ampoules will burst or leak when exposed to vacuum, due to high pressure differential over the ampoule glass wall. Defective ampoules are then made evident by either being completely destroyed or by lesser volume remaining in the ampoule at the completion of the process.



The Product

Every good product is the result of "Good" Research and Development and ends with "Good" Controls. At Pharma Access we understand the needs of the customer and it is with this aim to satisfy the customer that our Research and Development efforts are aligned.

The Chamber

The Sterilisation Chamber is usually double walled - a inner S.S.316 or S.S.316L chamber and an outer S.S. 304 Jacket. Various features have now been incorporated to improve product value :-

- The sterilisation chambers are provided with a sloping bottom to ensure complete condensate removal from the system.
- Adequately sized condensate line for rapid condensate removal for faster cycle times and better temperature uniformity.
- Special welding technique for welding of nozzles / connectors thereby eliminating all depressions and bubbles.

The Door

Pharma Access now offers the user a choice of two door designs :-

- The conventional radial arm door
- Fully automatic sliding doors.

Both doors are provided with safety features which prevent :-

- Simultaneously opening of both doors.
- Opening of the door when the process is on.
- Process lock to permit opening of unloading door only after successful cycle completion.

Contamination Seal

All double door units are provided with a Contamination Seal to prevent air transfer when the sterilisation chamber is installed between two areas with different contamination levels, e.g. Class 10000 and Class 100.

Process Piping

The sterilisers are provided with pharmaceutical grade S.S.316L pipelines. All pipelines have a 2% slope for full drainability and deadlegs not greater than 3D.

Piping systems are provided with pneumatically actuated valves (piston type or diaphragm) with S.S.316L Contact parts and teflon seats.

Process pipelines have tri-clamp connection and are terminated at single point for easy installation.

Validation Adaptors

To ensure user-friendly compliance with latest regulations our equipments are provided with many superior features :-

- Vacuum Leak Test Programme
- Pressure Leak Test Programme
- Bowie and Dick Test Programme
- Ports for insertion of temperature sensors for profiling
- Steam and Condensate testing and sampling ports

Insulation

The sterilisation chamber and the doors (Sliding type) are insulated with specially compacted mineral glass wool for better temperature uniformity in the sterilisation space and for reducing heat losses. The insulation is held together with stainless steel cladding.

Cabinet Enclosure

The equipment is skid mounted, for easy installation, and is provided with a stainless steel enclosure. Service doors are provided for quick access for maintenance.

Loading Systems

To facilitate quick and easy loading Pharma Access offers customised solution for handling the vast variety of products.

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 economically designed with a view to eliminate operator fatigue and quick and safe operation.

Steriliser Management Systems

Pharma Access sterilisation systems can be equipped with any of the specially designed control systems.

Cost effective Electro-mechanical systems are available for process automation thereby eliminating risk and inaccuracies associated with human errors. These systems are essentially non-microprocessor controlled using hardwire systems in combination with timers, counters and digital temperature indicator controller.

More advanced and versatile microprocessor or computer controlled systems are also available for superior process control and more advanced regulatory requirements.

Additionally several alternatives for process documentation are available:-

- Recorders-analog type with pens for pressure and temperature or additional load temperature.

- Printer with alpha-numeric printout of process parameter.
- PC based software for downloading process data to enable report generation or data archival.

Equipment Qualification

Pharma Access sterilisers are supplied with complete equipment documentation- DQ / IQ / OQ protocols, test and calibration reports, software validation document and pressure vessel certification.

