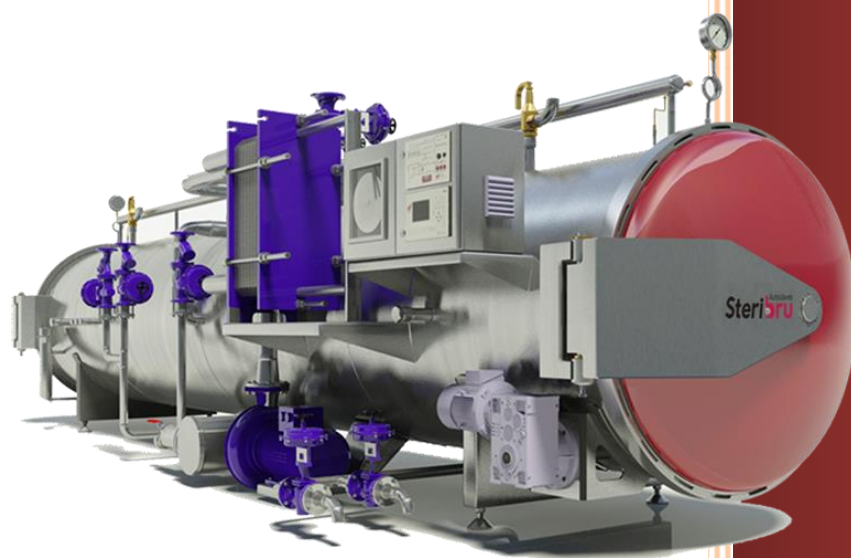


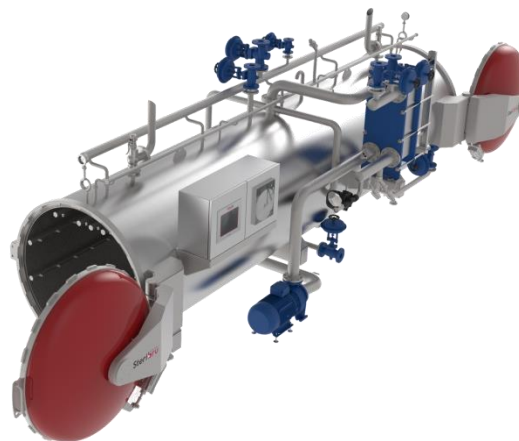


STERIBRU AUTOCLAVE



THE AUTOCLAVE THAT REDUCES THE PRODUCTION COST WITH DUAL INDEPENDENT OPERATING SYSTEM

- Manufacture of customized autoclaves according to operational or productive needs.
- Complete independent dual working system VAPOR - WATER SPRAY
- Optimal proven result of temperature distribution. Internal temperature differential less than 0.3°C.
- Production cost reduction based on the reduction of irrecoverable process fluids through the use of heat exchanger.
- Updated automatic controller, easy to use and intuitive, born from more than 25 years of experience in the application. 66 storable recipes with up to 99 programmable phases in each one of them.
- Simultaneous control of temperature, back pressure, flow rate and F-value.
- Centralization in PC of up to 32 autoclaves. Visualization and graphic records, alarms, historical data, process characteristic information and automatic reports.
- Complete system according to FDA standards.
- Thermal processes with homogeneous sterile results in all containers regardless of the internal position of the autoclave.
- Treatment on any type of autoclave-resistant packaging. Metal and plastic containers with double seal closure, heat-sealed plastics, glass, semi-rigid and flexible containers.
- Possibility of use as sterilizer, pasteurizer or cooker.



GREAT ENERGY SAVINGS (WATER & STEAM)

Steribru, through its innovative operating system, offers optimal conditions of functionality and performance, reducing production costs based on a considerable reduction of irrecoverable fluids involved in the thermal process.

Recovery of steam condensate and of the fluid that acts as coolant during the cooling phases.

Savings of up to 9m3 of cooling water based on closed-loop circulation of recovered water through an efficient plate heat exchanger. Indirect heat transfer offers a range of advantages over heat treatment on canned foods that should be taken into account. Steribru opens the field to the use of virtually any cooling fluid without the risk of contamination by infiltration of the fluid. Reclaimed water, directly extracted sea or river water or other specific cooling fluids are some of the possibilities.



STERIBRU COOLING CYCLE

During this stage, room temperature water will pass through the primary exchanger (the colder it is, the less water it is necessary to provide), its purpose is to cool progressively the hot water contained in the bottom of the autoclave, according to the programmed cooling curve.

The sanitary quality of the water does not matter, since it does not come into contact with the product to be sterilized; if potable water is used, it will return as potable water and can be used for other purposes.

In the case of glass containers, the use of the exchanger eliminates any risk of thermal shocks that may cause breakage of the containers.

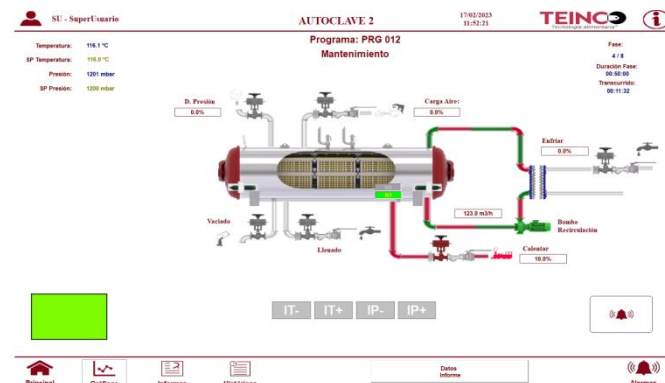
PROVEN EFFICIENCY AND PERFORMANCE

The autoclaving system developed by Teinco ensures stability and homogenization of temperatures during sterilization with optimal results on the thermal treatment of the processed products.

The degree of temperature homogeneity supported by the autoclave will have a direct impact on the sterilization of the product. Failure to control this parameter by means of a temperature distribution study may cause the containers introduced into the machine to be subjected to different heat treatments depending on the area of the machine where they are located.

Our technological development combines the appropriate autoclave - loading system assembly that ensures temperature differentials inside the machine between 0.1°C and 0.3°C avoiding cold spots in the autoclave and obtaining in any case optimal temperature distribution results.

In addition, the wide possibility of recipe configuration will allow obtaining the correct heating time to reach the sterilization phase within the most suitable parameters, thus achieving the best efficiency and performance of the autoclave.



DUAL INDEPENDENT OPERATING SYSTEM

Steribru combines double working system while maintaining efficiency and functional characteristics.

Steam, sterilization by steam alone with the possibility of total recovery of the water used for cooling.

Water spray; thermal processes with gradual temperature ramps and overpressure suitable for containers requiring special treatment such as plastic, semi-rigid and flexible containers. Considerable energy savings through the recovery of steam condensate and cooling water.

HEATING AND STERILIZATION CYCLE IN SPRAY SYSTEM

The water deposited at the bottom of the autoclave (900 liters for a six-car autoclave), is pumped and recirculated through the stainless steel plate heat exchanger, being progressively heated by the steam supply through the primary and evenly distributed inside the apparatus by a system of showers so as to cover the entire surface of the containers to be sterilized. The flow rate of the pump (180 m³/ha), and the good distribution of the flow inside the apparatus guarantee the homogenization of the temperature in all its points.

The condensate is used to heat water to feed the boiler or other machines. The steam inlet valve opens according to the set temperature. The pressure is regulated independently of the temperature by intake or exhaust of compressed air according to the programmed pressure set point.

