

"INFINITY" PASTEURIZER - COOLER

B&B Automation plans and realizes the INFINITY pasteurizer - cooler with elliptical spiral, complete plant for the hydrothermal treatment of flexible packaging like "Cheerpack", after hot fill.



The pasteurization is the essential treatment for the destruction of the bacterial count and the long lasting of the product (shelf-life) by a thermal process with a programmable cycle composed by the following functional parts:

- **Motorized product conveyor belt** from the filling zone to the pasteurization plastic modular belts.

- **Pasteurization Module** with a restraint structure in stainless

Steel that can be inspected through water tightness doors.

Double spiral of regular and continuous transport of



the product, each spiral is composed by a motorized roller chain in stainless steel with two restraint tracks fixed on; there will be n. 4 transport tracks. N. 170 products/min. product time taken \cong 4 min. Speed chain \cong 14 mt/min. The temperature maintenance is achieved through a hot water rainfall at 95°C and distributed over all the spirals length through a recirculating pump and nozzle. For a correct and programmable cycle of product heating and maintenance at the desired temperatures during the needed time, all the process is managed by control valves that inject directly the hot water on the product and temperature probes with continuous control through a PLC. A tank, integrated in the structure, collects the water that remains on the bottom and operates as a lung for the recirculating pump. The water excess in the tank is drained by a drain pump.

- **Motorized product conveyor belt** from the pasteurization module to the cooler module, done in plastic modular belts.

- **Cooling Module** with a restraint structure, tank, water recirculation system and transport spirals, totally similar to the pasteurization module. The cooling takes place through the water recirculation at 30–35°C on all the transport length through pumps and nozzles. N. 170 products/min. product time taken \cong 6 min. Speed chain \cong 14 mt/min.
- **Motorized product conveyor belt** from the cooling module to the drying and packaging zone, done in plastic modular belts.
- **Control and supervision electrical cabinet** through PLC and graphic interface on touch screen panel and integrated software. Control sensors on board.



ADVANTAGES:

- **COMPACT STRUCTURE:** the INFINITY pasteurizer - cooler plant has been planned in order to be compact and minimize the space in the plant layout (vertical development instead of the traditional horizontal one) and, most of all, easy to be carried (disassembled) in container and delivered in every country.
- **EASY AND FUNCTIONAL INSTALLATION:** it doesn't need any special flooring, neither concrete floors, or civil work. The floor support structure consists of levelling elements, height adjustable.
- **PERFECT INSULATION:** panels insulate perfectly both the pasteurization module (temperature felt, externally, lower than 30°C), and the cooling module (non-existent condensation over the external panels).

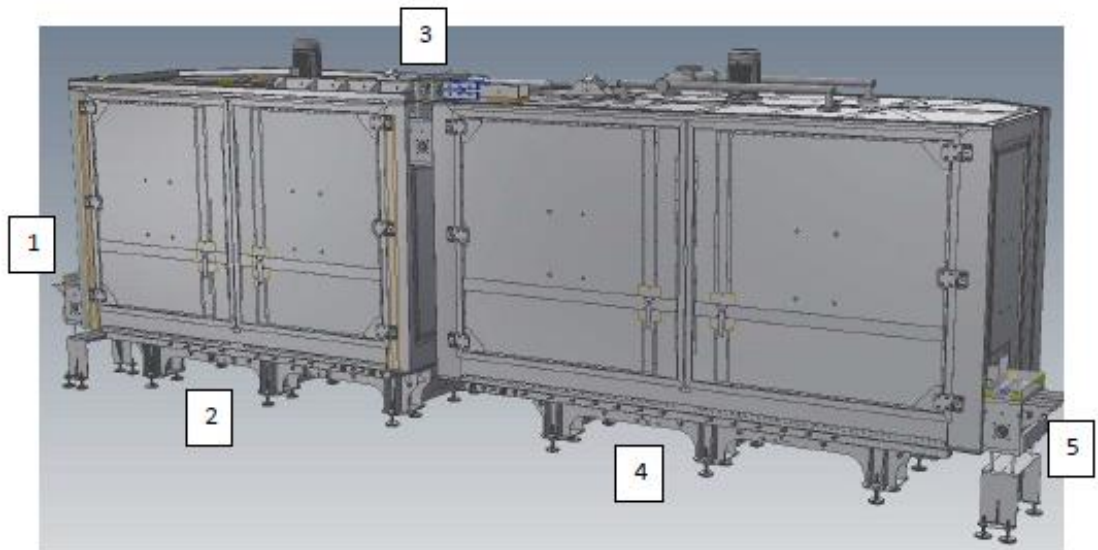
- **WATER SPRAY EFFICIENCY:** water is sprayed in different conditions with nozzles placed over each spiral chain, each configuration is realized in order to optimize the thermal exchange.

- **LOW TENSION SYSTEM:** each transport spiral is made up by a special chain, inserted and sliding by plastic chain guide rails, with a low friction coefficient, pulled by a unique motorization (n. 2 motorizations each module). A systems of bevel gears allows the pulling of every individual spiral level. These factors allow the chains sliding very efficient and fluid. Therefore



the system is never stimulated, neither when it changes loadings, nor with temperature changes, thus with the reduction of electrical energy absorption of the motorizations.

- **HIGH MECHANICAL RELIABILITY:** the system almost needs zero maintenance. Simply and solid, it's designed to operate in the possible conditions and it's manufactured for not stopping any time.



1: Input conveyor belt - 2: Pasteurization module - 3: Conveyor belt
- 4: Cooling module - 5: Output conveyor belt

Built in Italy with the best technologies and high quality materials, the INFINITY pasteurizer - cooler is guaranteed for a long duration, without stop and with a minimum of normal maintenance.

An innovation and a result of the technological know-how and invention of the Company.