

FranRica™ Aseptic Flash Cooler



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Aseptic Flash Cooler

The Aseptic Flash Cooler JBT FranRica™ is today's cutting edge technology in the field of aseptic sterilizers. The Flash Cooler boasts a heating system to sterilization temperature, by steam injection and aseptic flash cooling. Since heat transfer occurs by direct steam injection and thermal flash in vacuum environment rather than by heat exchangers, the exchange surfaces scaling-related problems are over.

Applications

Typical applications cover the aseptic cooling of tomato and fruit concentrates. The Flash Cooler provides high production throughputs (from 3.500 to 60.000 kg/h). The units are available in aseptic and sanitary configurations with product end temperatures that may be as low as 5 °C.

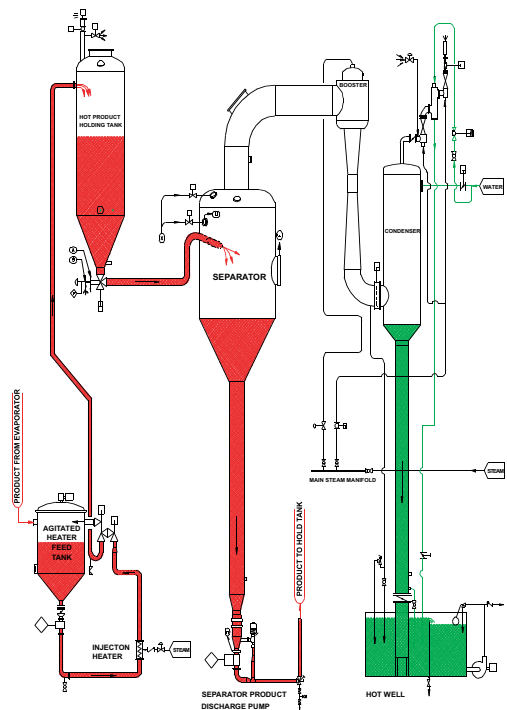


Description

The product leaving the Evaporator is pumped into a storage vat to feed the Flash Cooler and provide a continuous and steady flow of product to the steam injection heating system.

Direct steam injection heats the product from the temperature it has at evaporator outlet to the desired sterilization temperature in as few as 3÷5 seconds. This extremely fast and effective heating system does in no way affect the product features, contrarily to what occurs with other heating systems available. At the end of sterilization, the product flows to the high-temperature holding tank on top the Flash Cooler. Here the product is held for the time required to assure proper sterilization. The level in the tank is controlled automatically so permitting a constant holding time as the product rate of flow may vary. The product is then transferred by differential pressure from the high-temperature holding tank to the vacuum chamber, where flash cooling in aseptic environment takes place.

In the vacuum chamber, flash evaporation makes the product cool down to a balance temperature of about 35÷38 °C (aseptic application). Once the desired level of product is reached in the vacuum chamber and in the product down flow pipe to the extraction pump, the Flash Cooler working cycle is completed and the product is then sent to the aseptic filler.



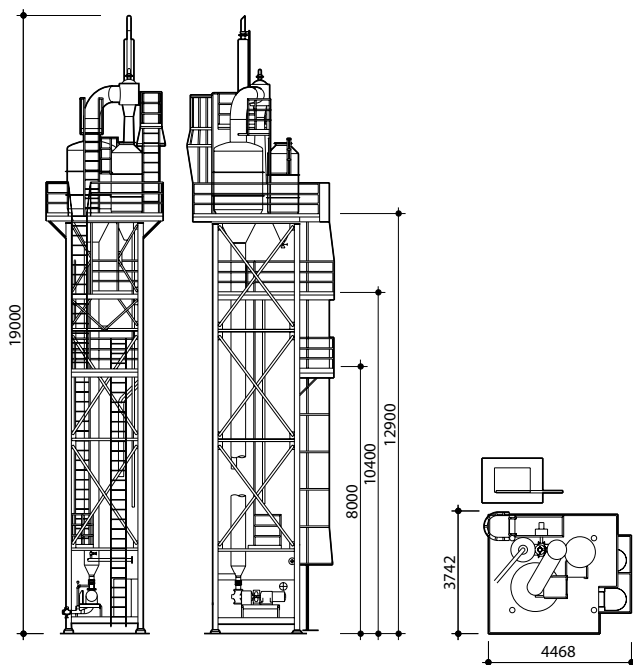
Advantages

The most outstanding advantages of the Flash Cooler consist of extremely simple operation, absence of piston pumps and components subject to wear and, most of all, higher quality of end products thanks to instant heating and cooling. In the tube-in-tube sterilization system, particularly at high flow rates, the higher viscosity due to modern production technologies (Hot Break) brings about pressures capable of affecting, with time, the physical features of the product (changes in the Bostwick value).

These characteristics, on the contrary, keep almost unchanged with the technology adopted in the Flash Cooler. The plant can run for extended periods without requiring maintenance or stoppage for washing and consequent sanitization. A complete set of instruments provides for the automatic control of the process while only one operator can run several machines.

The Flash Cooler modular design facilitates shipment and assembling on site. Limited floor space requirement, the machine being usually installed outdoors with protection roofing for operator panel (if set outdoors). The unit is engineered paying great attention to energy saving. The standard machine, equipped with barometric condenser, minimizes power consumption during extended and non-stop high-capacity processing cycles.

Approximate Specifications



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JBT's greatest value in PRoCARE® services comes from preventing unexpected costs through smart, purposeful, and timely maintenance based on unmatched knowledge and expertise. PRoCARE service packages are offered as a maintenance agreement in various service levels, depending on your production and cost management requirements.



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