



DAIRY & FOOD PASTEURISATION UNIT

The FH SCANDINOX pasteurisation unit is a compact skid-mounted unit, of sanitary design which is easy to integrate in the overall process plant. Our hygienic design has a flexible solution that can be delivered, in- stalled and commissioned within a very short time, but also engineered to meet food safety requirements and be service-friendly in order to keep a good maintenance practice.

DESCRIPTION

The pasteurisation process has great process advantages in the dairy, ice cream, food, and beverage industry. It ensures that bacteria and other microorganisms are removed from the final end product. All pasteurisation parameters can be controlled and recorded from the FH SCANDINOX automation system or be integrated with existing control system. A typical pasteurisation process will be that before production starts, the unit will be disinfected by circulation of hot water for 20 minutes. After disinfection, the unit is cooled down and stabilised to production temperature. Fresh cold milk arriving from a storage tank is led into a balance tank and pumped into the first heating section in the pasteuriser. At a temperature of approximately 55 °C the milk is fed into the separator where it is separated into skimmed milk and cream. The cream concentration is adjustable from 28% to 45%. Cream is delivered at approx. 55 °C to a cooler or to an intermediate cream storage tank. Prior to further use, the cream has to be pasteurised separately.

After this the skimmed milk is heated further to 74 °C and maintained at this temperature for 15 seconds in a holding tube. The pasteurising temperature is continuously monitored and recorded. An automatic flow diversion valve at the end of the holding tube returns insufficiently pasteurised milk to the balance tank in case the temperature drops below the limit set point.

Subsequently, the milk is fed to the regenerative cooling section to heat the incoming raw milk. The heat recovery of approximately 85-90% of the thermal energy reduces the energy demand of the unit to a minimum. Finally, the milk is cooled down to a storage temperature of 4 °C by ice water.

As a safety feature, the pressure on the pasteurised side in the PHE is higher than on the non-pasteurised side.

PRODUCT APPLICATIONS

- Milk
- Cream
- Yoghurt milk
- Ice cream mixes
- Juices
- Soft drinks
- Beer

DESIGN

The FH SCANDINOX skid-mounted pasteurising unit is suitable for a general pasteurization capacity of up to 10,000 l/h. In case of requests for higher capacity, we recommend the equipment to be installed on site, or the PHE to be free-standing beside the unit.

The standard FH SCANDINOX pasteurisation unit is built on a stainless steel bottom frame, completely pre-fabricated with the necessary processing equipment, pipes and fittings. On request the unit can be delivered with an integrated automation system and fully electrically wired and tested with water before shipment.

The hygienic design ensures easy integration into existing facilities. Additional equipment, e.g. homogeniser, separator, deaerator or extra holding cell may easily be connected to the unit.

The FH SCANDINOX pasteurising unit consists of a plate heat exchanger (PHE) with three or four sections for heating, cooling and heat recovery (up to 90%). It also includes a brazed PHE to provide the unit with hot water by condensing saturated steam. Also balance tank, pumps, automatic process and CIP valves, flow diversion valve, temperature regulation valves and a holding tube designed for a holding time of 16 seconds are included in the scope of supply.

The FH SCANDINOX pasteurising system can be delivered completely pre-manufactured with pipes and fittings and electrically pre-wired to a local junction box as well, ready to install at the factory.

The pasteurising system is prepared for fully automatic CIP cleaning.

BENEFITS

- Factory pre-tested unit
- Easy and fast site installation
- Smooth commissioning and short down time
- Integration with existing control system
- Fully CIP compatible
- Global service and support

MATERIALS

The stainless steel plates in the PHE are made of AISI 316L. Other product contacting parts are made of AISI 304.

NOMINAL CAPACITY

The nominal capacities of our standard range of pasteurising units are 1,000 l/h – 10,000 l/h. Dimension of the units are customised.

CERTIFICATION

The construction is in accordance with the European Pressure Equipment Directive (PED) 97/23/EC. Other certifications can be delivered on request.

