

technological line for yoghurt processing Model: UniLine

This universal homogenization device with a pasteurizer is designed for a wide range of food products, from liquid to highly viscous, with homogeneous structure or solid particles of up to 15 mm (or bigger on request).

The equipment allows the following processes:

- cooking (at atmospheric pressure or vacuum)
- homogenization
- mixing
- pasteurization

Examples of produced products:

- Yoghurt with pieces, cream and other dairy products
- Jams, marmalades, pickled jars
- Juices, sauces
- Soups and semi-finished products



The line consists of the following devices:

- 1. Main boiler/cooker
- 2. Inline Homogenizer
- 3. Heat exchanger
- 4. Hose pump operating and maintenance instructions
- 5. Storage tank with a stirrer with Teflon scrapers

1. Main boiler/cooker

Atmospheric boiler with a working volume of 300 liters, a mixer Teflon scrapers, pneumatically controlled lid with 1/3 door, side container for adding product.

2. Inline homogenizer

The inline homogenizer works on the rotor / stator principle. It is intended for mixing and homogenization. This model is suitable for the production of emulsions and suspensions. When emulsions are processed, the machine achieves a particle size of only 1 micrometer. Solid textures (powders) are subjected to a thorough dispersion of the particles. The homogenizer also fulBoiler is double jacketed with insulation, made of finest stainless steel AISI 304, heated with heating elements. Product output is secured via a pipe.

fills the function of the pump, the product itself is brought to the homogenisation from the boiler. The homogenizer knives can be simply dismantled and replaced by others, making the homogenizer very versatile and flexible. The gap between the blades and the wall is designed so that the homogenizer can be easily cleaned.

3. Scraped suface heat exchanger

The scraped surface heat exchanger is a complex thermomechanical system consisting of a stationary heat exchanger which has a cylindrical shape with a central movable shaft. Teflon knives are mounted on the shaft to wipe the product from the cylinder walls, thereby increasing the heating / cooling efficiency. The heat exchanger must be connected to the pump to bring the product to the exchanger.



The product is moved into the exchanger through the lower valve and moves upward through the pipe. At the same time, the system delivers hot / cold liquid to the duplicator of the exchanger, thereby heating the product. The heat / cold transfer efficiency is achieved by increasing the rate of hot / cold liquid circulation. The heated / cooled product is fed through the upper output valve. If the product is not sufficiently heated / cooled, the valve opens and the process is repeated. The temperature of the product can be monitored on an analogue thermometer located at the top of the heat exchanger.



Advantages:

- **Versatility** possibility to process a large number of products with different properties in one device.
- Convenient adding of ingredients, easy maintenance and cleaning.
- Hygienic. **High quality of components**, thorough welding cleaning, no dead zones.
- After the cooking cycle, the appliance is simply cleaned with detergents.
- **Economical**. The mixing, cooking, homogenization and pasteurisation processes are carried out with maximum efficiency and minimal energy and time losses.
- Various source of heating.
- Configuration change and various optional attachments according to customer's wishes.
- A custom layout or other changes can be made at the customer's request.



4. Hose pump

The hose pump has a simple construction and trouble-free operation. The medium does not come into contact with the moving part and is fully sealed in the hose. The rotor moves along the length of the hose and compresses it. With this movement, the pumped liquid shifts (positive displacement) and pushes out of the hose. Subsequently, due to the natural elasticity of the hose, it returns to its circular shape, creating a negative pressure, thanks to which the pump will be replenished.

5. Storage tank with stirrer

Single jacket stainless steel tank with a working volume of 300 l, with a stirrer with Teflon scrapers and a temperature sensor. The container is made of stainless steel AISI 304. It is used to receive the cooled product from the main boiler, which has been homogenized and cooled and is ready for dosing.

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