## SUMY STATE UNIVERSITY

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## MULTIFUNCTIONAL DYNAMIC ROTARY UNIT HOMOGENIZER

The unit homogenizer is used in the food industry for:

- dairy production (milk powder recovery, homogenization of milk, cream, yogurt, etc.);
- homogenization of water and oil mixtures in the production of butters, margarines and mayonnaises;
- homogenization of raw materials in the recovery of fruit and vegetable juices and their mixtures, in the production of pastes and ketchups and others.



The unit homogenizer is a hydrodynamic machine, in which multiple processes are being executed simultaneously:

- intense hydrodynamic mixing materials with high level of homogenization;
- pumping of the materials through the flow section of the unit;
- hydrodynamic heating of the materials.

The intense hydrodynamic mixing and heating is a result of formation of intense vortices in the flow part of the unit, which allows for a process of homogenization at 5 microns. Pumping of the finished product occurs due to the centrifugal forces generated by the impeller during the fluid acceleration

The main advantage of the unit is its versatility, allowing us to replace the production line, which consists of three low-functional machines: agitator, heater and pump.

The operation of a single unit instead of three can significantly reduce energy costs and reduce the number of attendants. In addition the unit has a smaller weight and size dimensions compared to similar, allowing us to use the unit in limited areas.

## **Specifications**

Characteristic	Value
Power, kW	15-22
Overall dimensions, m	1.0x0.5x0.5
Capacity, t/h	below 10
The content of the solid phase,%	below 30
Material of the basin and the flow part	12X18H10T
The number of attendants, people	1