



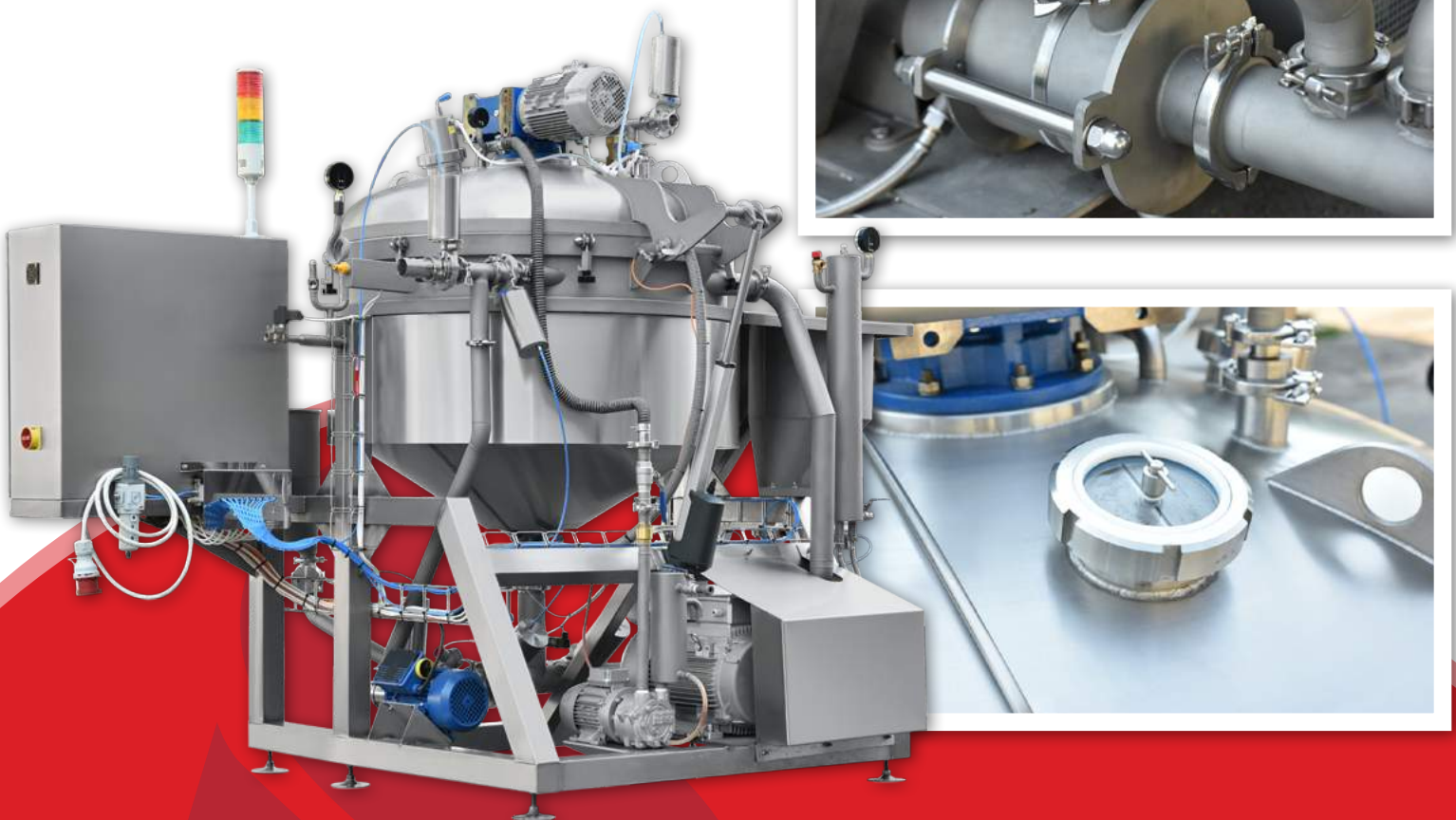
PROFICOOK

VACUUM PROCESSING PLANT

The ProfiCook vacuum processing plant is a highly efficient and reliable solution for manufacturing a wide range of food products, such as mayonnaise, ketchup and other sauces, confectionery pastes and fillings, condensed milk, jams, marmalades, etc., as well as other liquid or paste-like products with a homogeneous structure or solid inclusions.

The NEAEN ProfiCook vacuum homogenizing plant can carry out the following processes with maximum efficiency:

- ▶ heating and cooling,
- ▶ mixing,
- ▶ vacuuming and de-aeration,
- ▶ grinding,
- ▶ homogenizing,
- ▶ creating stable emulsions and dispersions.



Main features of the NEAEN ProfiCook vacuum homogenizing plant

- ▶ Modular design allowing you to select the best configuration for any kind of production without overpaying for options you don't need.
- ▶ Universal application and flexibility. Suitable for producing a majority of products, including ones with high viscosity.
- ▶ Hygienic design, easy access to the entire inner surface, no places that are difficult to reach and where the product might accumulate. There is no need for an additional pump for product discharge, which increases the level of hygiene.
- ▶ Easy to clean through connecting to a CIP system.
- ▶ Can be operated on its own or easily integrated into an existing production process at your facility.
- ▶ Minimum time needed for processing a single batch thanks to the high efficiency of heating/cooling, grinding, mixing and homogenizing processes.
- ▶ High efficiency of the homogenization process. The heart of the machine is a powerful and reliable rotor-stator type homogenizer, with various shapes of teeth for processing products with different properties.
- ▶ Ingredients are added through the vacuum chamber of the homogenizer, which ensures that they are almost immediately moistened, distributed and dissolved evenly in the entire volume of the product, without formation of lumps.
- ▶ The optimal design of the operating chamber with a conical bottom ensures uniform distribution of the product. A slow-speed mixer with a top drive, supplied with scrapers, efficiently and uninterruptedly cleans the walls of the tank for maximum results of heat exchange. The product is heated evenly, without localized overheating or burning.
- ▶ The special shape of the heating/cooling jacket allows using a heat-transfer agent or coolant under high pressure, which significantly enhances the processes of heat exchange, and minimizes the time necessary for preparing a single batch of product.
- ▶ The efficient vacuum system guarantees high-quality de-aeration of the product, which considerably improves its taste, texture and storage time.



- ▶ The discharge of the ready product is performed without using additional pumps, with the help of the pumping function of the homogenizer. In the case of strict requirements for the level of homogenization and the minimum size of particles, the ProfiCook plant is supplied with a homogenizer that has a weaker pumping function, but which intensifies the process of grinding and homogenization. In such a case, the product is discharged with the aid of a separate pump.
- ▶ The operating volume depending on the product properties can amount to 20–80% of the entire volume of the plant.
- ▶ The vacuum-processing plant ensures that the end product is high-quality and maintains the same result from batch to batch.

Modular design enables selecting an optimal set of features for any application

- ▶ Operating tank with or without a heating jacket, thermally isolated or single-layer design. Heating with direct injection of steam into the product is possible as the main heating method, or as a supplement to heating with a heating jacket.
- ▶ Vacuum or atmospheric version
- ▶ Different types of homogenizing unit, possibility of changing it when moving to production of a new type of product.
- ▶ One or two recirculation loops (in the tank + external recirculation loop)
- ▶ Top slow-speed agitator
- ▶ Any number of additional funnels and accumulators for adding ingredients
- ▶ Possibility of automatic ingredient dosage
- ▶ Any source of heating
- ▶ Various manufacturing materials for parts in contact with the product and parts that do not come in contact with the product. The basic version uses AISI304 grade stainless steel for the food industry, but upon request AISI316L or AISI316Ti grade can be supplied as well. Electrochemical passivation of seams is possible.
- ▶ Automatic, semi-automatic or manual control system.



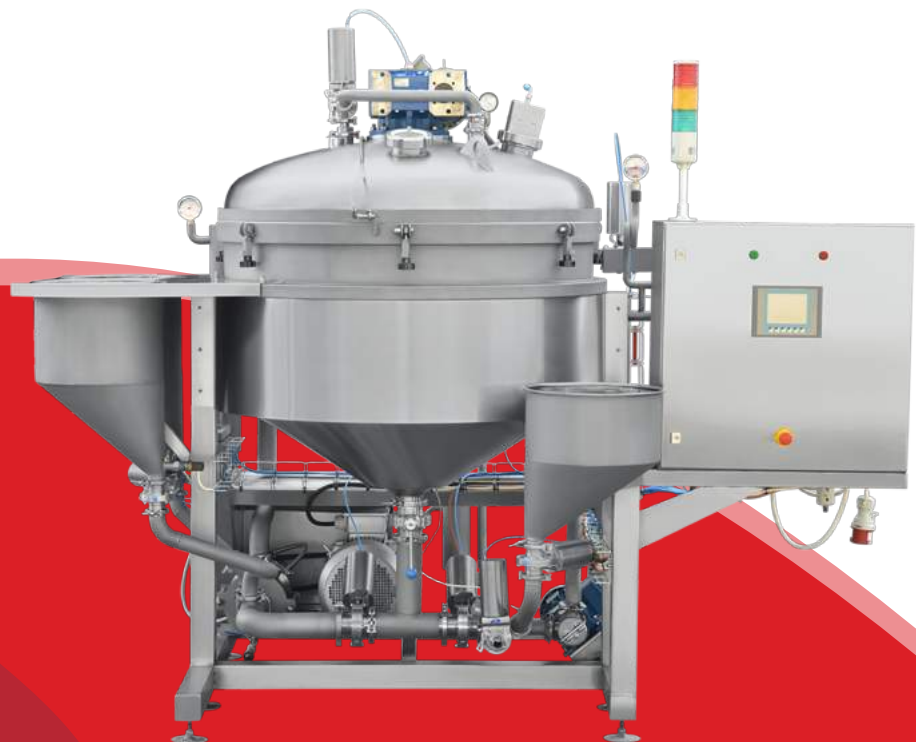
Control system

Depending on the customer's needs, the ProfiCook vacuum homogenizing plant is supplied with one of three control system options. At the same time, the functionality of the equipment remains unchanged, and there are only differences in tracking and execution of the program.

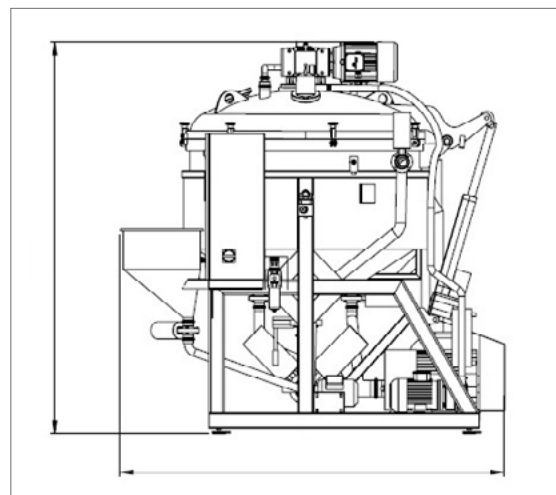
Option 1. Automatic control system — program tracking and execution takes place without human involvement.

Option 2. Semi-automatic control system – the program is tracked with the aid of a controller and all necessary actions are performed by an operator.

Option 3. Tracking of the program and all necessary actions are performed by an operator.

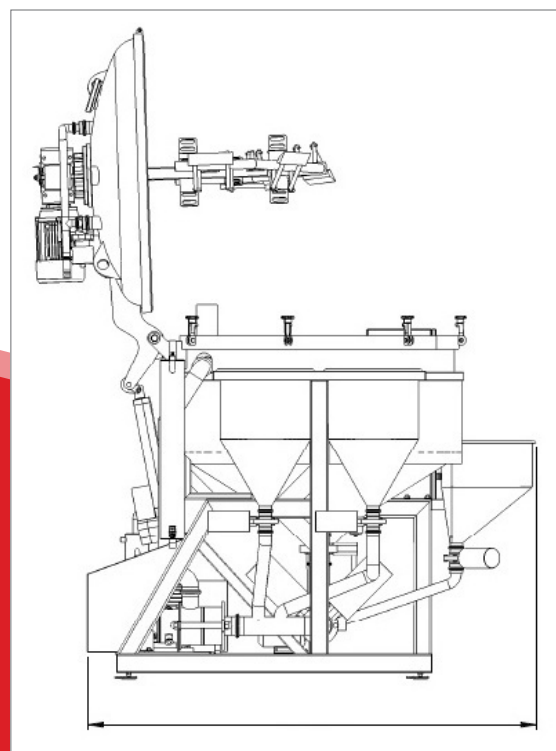
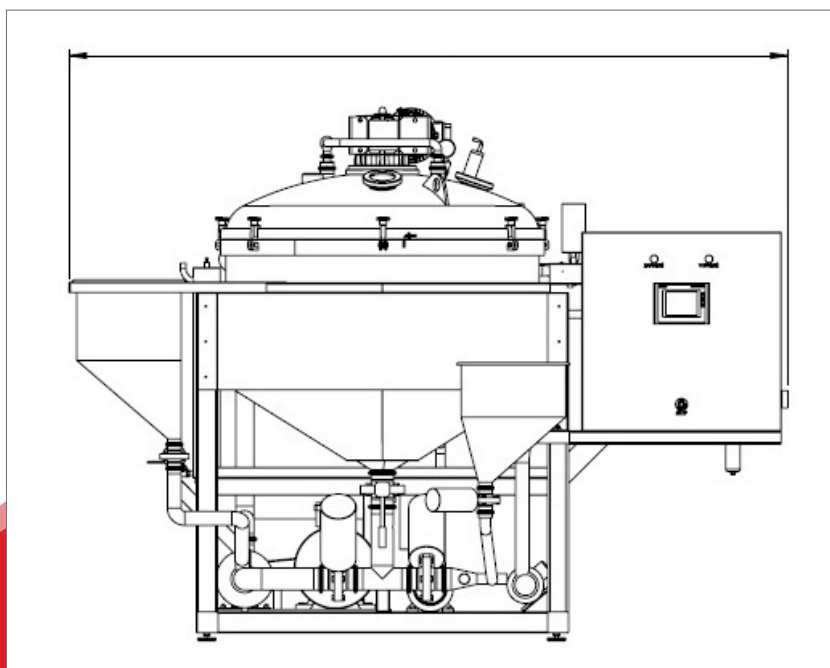
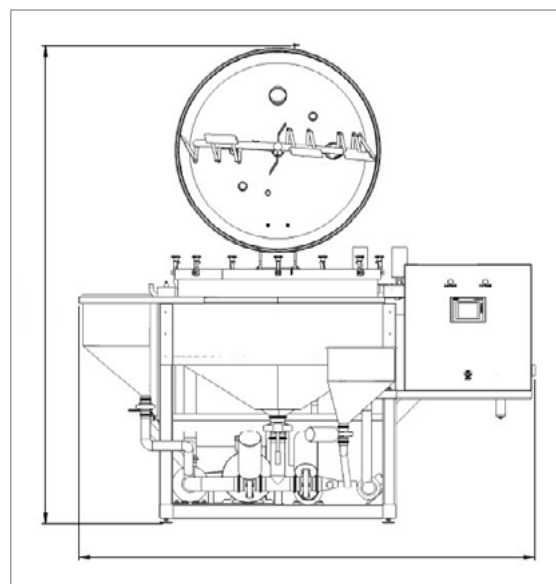


Model	250	500	1000	2000	4000
Total volume, l	300	650	1000	2000	4000
Useful volume max, l	250	520	800	1600	3200
Drive power of agitator, kW	1.5	2.2	2.2	5.5	7.5
Drive power of rotor, kW	11	22		45	
Process temperature, min-max, °C	-10 ... +150				
Pressure inside the working vessel, MPa	-0,4 ... +0,1				



Options

- ▶ Direct steam injection – maximum heating intensity without losses.
- ▶ Operating tank designed for operation under high pressure.
- ▶ Manufacturing material: AISI316L or AISI316Ti in contact with product.
- ▶ Dosed supply of ingredients with the aid of flow meters and a tensometric weighing system.
- ▶ Product discharge by means of the homogenizer or with a pump.



THE EMA EUROPE COMPANY HAS MORE THAN THIRTY YEARS OF EXPERIENCE IN THE DEVELOPMENT, DESIGN, AND MANUFACTURE OF INDUSTRIAL **EQUIPMENT FOR** **THERMAL FOOD PROCESSING**

The range of commercially available equipment includes continuous conveyor fryers and ovens, drum fryers, batch blanchers, and continuous drum and conveyor blanchers, defrosters, continuous and batch cookers both atmospheric and vacuum, scraped surface heat exchangers, and a wide range of auxiliary equipment such as washers, conveyors, pumps, homogenizers, and others.

Our company offers a complete cycle service from design of technology projects to the manufacturing of equipment of any complexity in our own production site, located in the heart of Europe, as well as the introduction of the equipment in operation, upholding the warranty and after-warranty service with our own service center.

Having much experience in the practical implementation of projects in the industrial processing of meat, fruit and vegetable products, semi-finished and other products, our company is ready to offer technological consultation, development of the production process of the project, equipment manufacturing, erection supervision, commissioning works, and further maintenance services to its customers.



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