



**NEAEN VF**  
VACUUM FRYING/DRYING PLANT



## Intended for producing a wide range of products in various branches of the food industry.

Thanks to its flexible settings, this plant allows you to produce delicious and healthy snacks, semi-finished products, as well as preserves from fruits, vegetables, meat, fish, seafood, etc.



### The plant performs:

- 1 Vacuum frying, at both low and high temperatures
- 2 Highly efficient vacuum drying
- 3 Cooking under vacuum conditions

### Adjustable parameters during frying

- ▶ Frying time
- ▶ Frying temperature
- ▶ Pressure



### VACUUM FRYING IN OIL

Frying under vacuum conditions (at low temperature) is a unique and cutting-edge heat treatment method. It allows you to achieve exceptional qualities for your ready product. The NEAEN VF vacuum frying plant allows frying products until they become crunchy, at temperatures up to 120°C, which prevents acrylamide from forming. The fried product does not contain carcinogenic substances and it presents an alternative for the majority of snacks that are available on the market.

Under vacuum conditions water is eliminated from the product in a very short amount of time. Furthermore, under vacuum conditions oil does not penetrate into free pores, and it is fully discarded while preserving the vacuum. This allows you to lower the content of oil in the ready product down to just a few percent, whereas in products that have been fried in the traditional way, at atmospheric pressure, the oil content may reach as high as 30%.

Depending on the type of product and the preliminary processing of it (blanching, impregnating, freezing), it is possible to obtain products with various characteristics: with a more or less dense structure (puffy snacks), more crunchy or more flexible, with various degrees of color intensity, etc.

## Advantages:

Able to fry a wide array of products

- ▶ Fruit (bananas, apples, etc.)
- ▶ Vegetables (potatoes, carrots, beets, parsnips, etc.)
- ▶ Meat
- ▶ Fish
- ▶ Seaproduct
- ▶ etc

The healthful properties of the product, as well as vitamins and minerals, are fully preserved.

The natural taste and aroma is increased without the need to add artificial flavors.

The automatic control system with the option of storing recipes allows you to fry various products in different modes without the need for reconfiguration.

The oil used in the frying process is not subjected to elevated temperatures, it will not burn, become rancid, or absorb smells and color pigments, and it can be used for frying and drying of various products without being replaced.

The system for vacuum frying/drying is completely sealed, there is no smoke, oil fumes or smell.



## NEAEN VF:

### UNIQUE VACUUM DRYING TECHNOLOGY

The vacuum drying technology enables you to dry very quickly virtually any sliced products, while enjoying all the advantages of vacuum processing. It combines the advantages of two different drying methods.

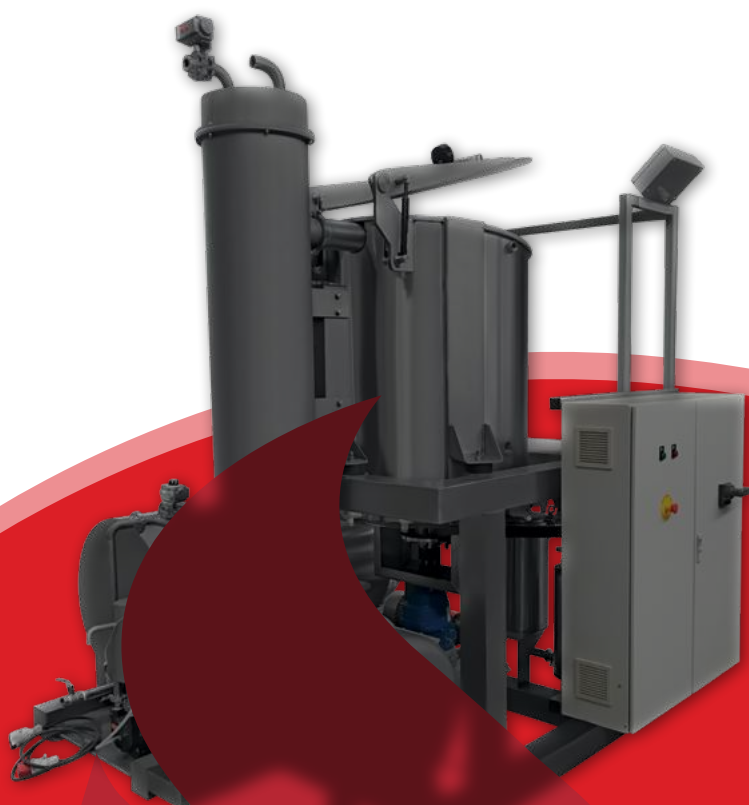
For example, a vacuum freeze-dryer has several serious drawbacks: the need to invest an enormous amount of money, very high energy consumption, the long duration of the process (24 hours on average), and chiefly, at the heating stage, heating is performed only by bringing the product into contact with a heating plate (since there is no air in a vacuum, water is warmed up only by contact with a heating element).

The NEAEN VF vacuum drying plant does not suffer from any of these disadvantages. Drying products is fast (usually lasting up to 60 minutes) and without the need (but with the possibility) of prior freezing.

There is no need for prior defrosting when drying products that have been stored in a freezer.

The heat carrier that is used (oil) heats the water that is contained in the product evenly and from all sides, which results in quick and even evaporation.

The agent (oil) is disposed of in the plant, which leaves the product practically dry.



Model	VF-20	VF-50	VF-100	VF-350
Working volume – volume of one load, liters	20	50	100	350
Capacity per hour	Depends on product and processing mode			
Heating	Electric, steam, gas			
Control system	Fully automatic control system PLC			
Chilling unit	Integrated / connection to the external source			

## DESIGN

### The NEAEN VF vacuum fryer comprises the following elements:

- ▶ vacuum frying chamber
- ▶ oil heating system
- ▶ vacuum collector for storing and forced cooling of oil
- ▶ vacuum system for removing oil from the product
- ▶ vacuum generation system
- ▶ oil filtering and circulation system
- ▶ blanching chamber (option – VFB model)
- ▶ pivoting lifter (option)

The plant is compact. It is assembled on a single frame and requires minimal onsite assembly (it is transported in assembled form).

Quick loading: additional baskets \* (optional) are loaded with product while the previous batch is being fried.

Thanks to a sectioned frying basket, the entire volume of the product is divided based on height, which reduces the pressurizing of the product and guarantees its even processing. Such a design also allows you to simultaneously process various products (with the same frying parameters), while the smells, taste and color of each and every product are preserved and do not mix with others.

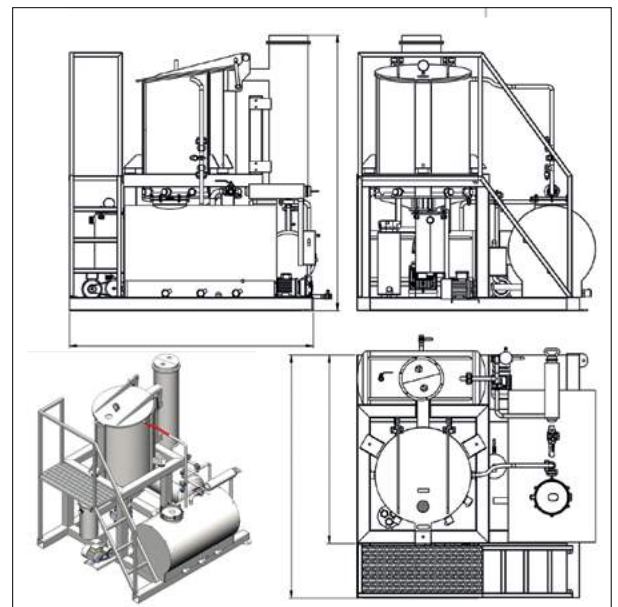
In order to operate the plant you must connect it to a source of heat energy (electricity/steam, or gas), electricity, compressed air, and a source of cooling water. A chiller is available as an option and can be included in the set.

## Advantages

Very high energy efficiency: no energy loss.

No side smells (of the product or smoke) or steam are emitted into the room where drying takes place.

This vacuum dryer/fryer provides the most cutting-edge method of preservation currently available.



## Automatic control system

The process of vacuum frying/drying is quite complex in terms of the sequence of operations performed, and therefore NEAEN VF vacuum frying/drying plants are equipped with a completely automated control system with various recipes, which minimizes the effort needed from the operator and eliminates errors connected with the human factor.

All processes that are carried out are shown on the operator's panel (process visualization). Programming of new recipes is done with the help of an intuitive interface.

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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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