



**FOOD**  
TECH

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# ABOUT US

ENOOP FOOD TECH has been developing and manufacturing automated high quality food-processing equipment for your optimized production. We began to make food-production equipment in our mother company Enoop d.o.o in 1991 and we know how to make the very best for you and your needs.

At ENOOP FOOD TECH we have the knowledge, experiences, and competencies to handle your project efficiently and professionally from advising you, analysing your ideas to help you realize the project. We assist you through the whole process, from idea to realization of the project: equipment designing, manufacturing, installation and commissioning. We have competent and experienced team, which is able to provide you the best equipment for your needs.

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We produce custom-made equipment able to meet your individual necessities and requirements. No matter how simple or complicated your idea is, we help you to realize it. In the manufacturing of our equipment, we apply proven technology, procedures, and technology.

Over the years, we have supplied our equipment to different industries in different countries all over the world as a company Enoop d.o.o.



# MultiVacH



# UNIQUE DESIGN FOR EXCELLENT RESULTS

MultiVacH is a state of the art vacuum processing plant for making liquid and semiliquid products such as suspensions, emulsions and gels, and it is the ultimate achievement of our R&D efforts. MultiVacH excellent performances and versatility ensure the top quality of the end-products, making it an indispensable equipment in the food, cosmetic and pharmaceutical industries. It is an excellent solution for those who are looking for the best efficiency, highest quality, very high reproducibility, short changeover times, short batch cycles, simple operation and energy saving processes.

Some most common food products,  
where MultiVacH can be successfully applied:

Mayonnaise

Ketchup

Toppings

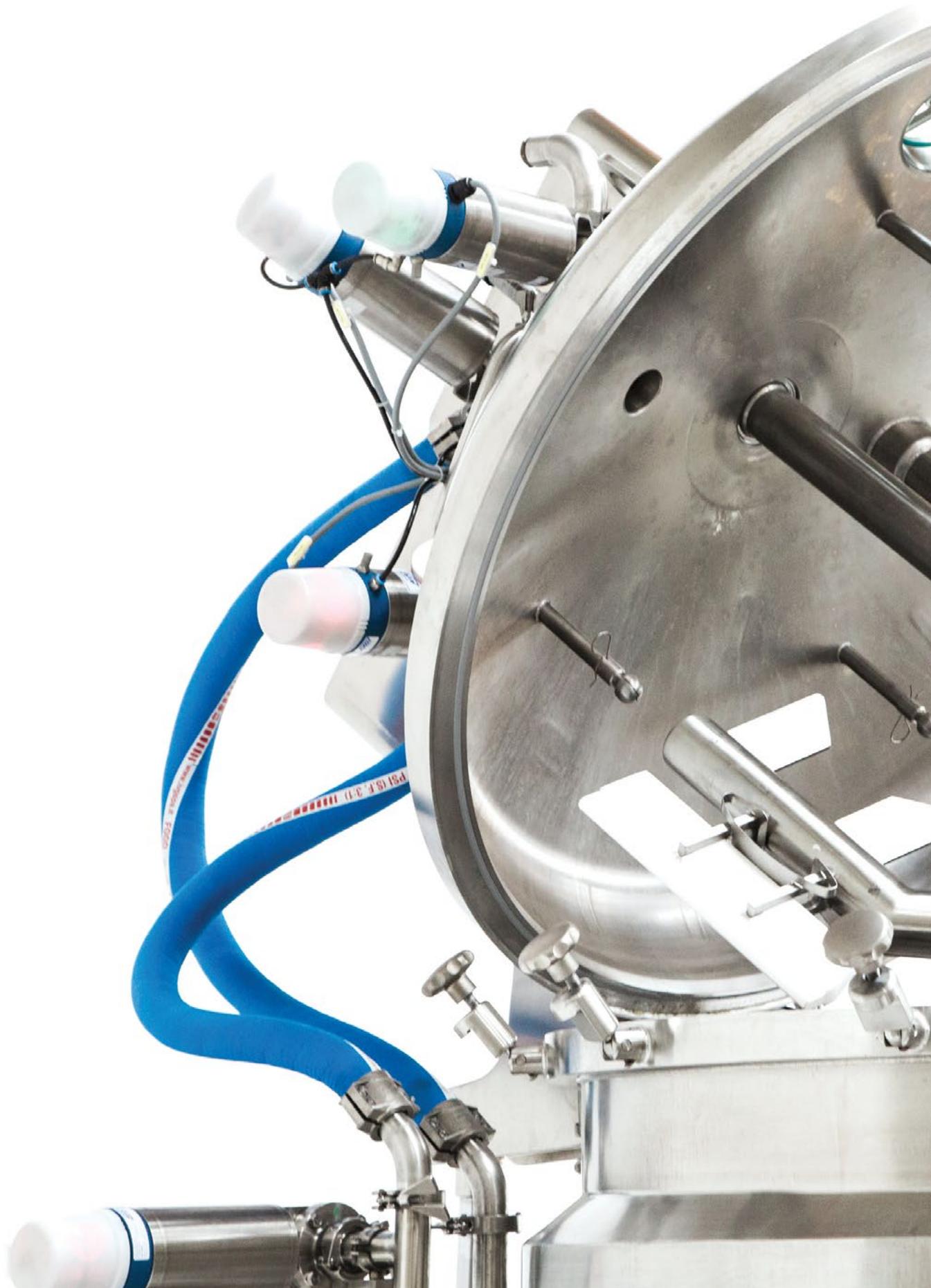
Dressings

Sauces

Dairy products

Fruit fillings





# DESIGNED FOR VERSATILITY

MultiVacH vacuum processing plant can be used in the production where dry powders and liquids have to be mixed, dispersed and emulsified. The products can be produced such in hot as in cold method, according to customer requirements. The product heating and cooling is preformed through a double jacket, which is insulated on the external side. For the product that needs to be heated very fast can be used direct steam injection. This heating system blows steam directly in to the circulating product. In the vacuum mixing vessel the ingredients are mixed and homogenized through the special - high-shear mixing and dispersing machine which is suited for batch operations with a recirculating loop and is directly mounted to the vessel bottom. The dispersing machine enables suction, pumping, and self-cleaning by CIP rotating nozzles.

Solids and liquids with good flow properties can be fed directly into the homogenizer by means of the vacuum pump. The recirculation circuit pipeline returns the product back to the vessel. The homogenizer and the special scraper stirrer, generate an efficient macromixing by forming an vertical convection. The conical shape of the vessel bottom leads the product into the homogenizer single chamber, where the entire procedure is being repeated. The machine is emptied via the recirculation line downstream of the homogenizer.

The plant is equipped with a Siemens PLC control system. All functions can be controlled manually, semi-automated or fully automated, with optional recipe management and monitoring system. All functions and massages are displayed on a 12" touch screen.

A wide assortment of models and sizes make MultiVacH an indispensable appliance for a wide range of industry branches. Hereunder is a list of some possible MultiVacH applications in the food industry.



**3**  
DAIRY

**4**  
GASTRONOMY  
AND CATERING

**2**  
CONVENIENCE  
FOOD

**1**  
BAKERY

## ① AUTOMATIC VALVES

Two-way butterfly valves with feedback signal and visual light inspection for open and close status.

## ② AGITATOR

Single agitator with Teflon scraper blades and static mixer.

Coaxial type agitator available as an option.

## ③ TILTING COVER

Manual or electrically operated opening, depending on the vessel size. Automatic locking system as an option.

Equipped with three spray balls for good CIP cleaning, without shadow areas and sight glass with light for product observation during the process.

## ④ MIXING VESSEL

Conical bottom shape ensure good flow and mixing of product.

Double jacket for heating and/or cooling. Two separate heating zones as an option.

## ⑤ DOSING FUNNELS

For easy introducing of the liquid and powdery ingredients.

Automatic dosing of water and other liquid components available as an option.

## ⑥ HORIZONTAL/VERTICAL INLINE HOMOGENIZER

Standard solution with horizontal type homogenizer and flushed mechanical seals. Different inlets for introduction of powders and liquids.

Vertical type homogenizer available as an option.

## ⑦ CIRCULATION PIPELINE

Circulation pipeline for recirculation and homogenization of product.

Direct steam injection available as an option.

## ⑧ CONTROL SYSTEM

Standard equipped with up to date Siemens PLC, full visualization of the process and touch screen.



# TEHNICAL DETAILS

Type		EVH 20	EVH 100	EVH 250	EVH 500	EVH 1000	EVH 2000
Useful volume (max)	l	20	100	250	500	1000	2000
Pressure resistance	bar	-1/+0	-1/+0	-1/+0	-1/+0	-1/+0	-1/+0
Double jacket pressure (max)	bar	+6	+6	+6	+6	+6	+6
Product inlet	DN	25	50	50	50	50	50
Product outlet	DN	40	65	65	65	80	80
Homogenizer	kW	4	7,5	22	22	45	50
Scraper agitator	kW	0,37	1,5	1,5	1,5	5,5	5,5
Vacuum pump	kW	0,75	0,75	1,5	1,5	2,2	2,2
Material		AISI 316					

# MultiVach

## ADVANTAGES

- 1 Easy filling and emptying
- 2 High and fast productivity
- 3 One machine for numerous processes
- 4 User-friendly operating
- 5 Easy cleaning (automatic self-cleaning)
- 6 Processing data recording for HACCP process diagrams and updates





**ENOOP**  
SLOVENIJA  
[www.enoop.si](http://www.enoop.si)

# MultiMix Industrial



# UNIQUE DESIGN FOR EXCELLENT RESULTS

MultiMix is a state of the art mixer and cooker combined. MultiMix excellent performances and versatility ensure the top quality of the end-products, making it an indispensable equipment in the food-processing, cosmetic and pharmaceutical industries. It is an excellent solution for those who are looking for the best efficiency and highest quality. MultiMix was designed by the award winning designer Davor Spoljarič.

Some most common food products,  
where MultiMix can be successfully applied:

Hummus

Peanut butter

Processed cheese

Ready meals

Sauces & Dips

Pates

Confectionary fillings





Food Industry

Chemical Industry

Pharmaceutical

Energy

**ENCOOP**  
**ENCOOP**  
SLOVENIJA  
www.encoop.si

# DESIGNED FOR **VERSATILITY**

The main characteristics of MultiMix are versatility and flexibility. It is designed for mixing, chopping, cutting, cooking, cooling, concentrating, emulsifying, vacuum deaerating and homogenizing of different kinds of food and of some cosmetic and pharmaceutical products.

A wide assortment of models and sizes make MultiMix an indispensable appliance for a wide range of industry branches. Hereunder is a list of some possible applications of MultiMix in the food industry.



**1**  
PASTRIES

**5**  
DAIRY



**2**  
ICE CREAM

**6**  
GASTRONOMY

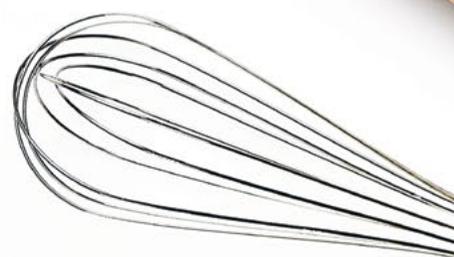
**3**  
CHOCOLATE

**7**  
CATERING



**4**  
CONFECTIONERY

**8**  
READY MEALS



## MultiMix ADVANTAGES

- 1 Unique and ergonomic design
- 2 Easy filling and emptying
- 3 High productivity
- 4 Versatility (the same machine for different products)
- 5 User-friendly operating
- 6 Easy programming
- 7 Easy cleaning
- 8 Processing data recording for HACCP process diagrams and updates



### ① TILTING COVER:

Manual or electrically operated opening, depending on the vessel size. Automatic locking system as an option.

Standard equipment of cover:

- sight glass with light for product observation during the process
- electric driven vessel scrapper
- dosing funnel
- vacuum control valve

### ② HEATING / COOLING:

Indirect heating and/or cooling by double jacket.

Direct steam injection available as an option.

### ③ VACUUM SYSTEM:

Integrated vacuum system.

### ④ PNEUMATIC EMPTYING VALVE:

Pneumatic hygienic valve for emptying of the product.

### ⑤ CONTROL SYSTEM:

Standard equipped with up to date Siemens PLC, full visualization of the process and touch screen. Manual operation or the full automatic program are the choices for operating the machine.

Manage and save your recipes. With the recipe, management system individual process stages can be selected as a sequence and parameter set step by step. Recipe can be stored and recalled for the next production.

### ⑥ TILTING VESSEL:

Electrically driven vessel, tilting up to 90°, ensure efficient mixing and easy discharge also of high viscose products.

### ⑦ ELECTRIC DRIVE:

High-speed cutter with a frequency converter for knives speed regulation, from 0 to 3000 rpm.

### ⑧ UNIQUE DESIGN:

MultiMix was designed by the award winning designer Davor Spoljarič and has unique, compact and ergonomic design.



## TEHNIICAL DETAILS

Type		Mm 70	Mm 140	Mm 250
Capacity	l	70	140	250
Max. temperature	°C	125	125	125
Main motor power	kW	20	30	50
Speed		Variable	Variable	Variable
Material		AISI 316L	AISI 316L	AISI 316L



DOP  
ENIJA  
oop si

**MULTIMIX 25**



Protein  
Gene  
Ligand  
PRO-123  
PRO-123  
PRO-123  
KVO

PRO-123  
PRO-123  
PRO-123  
KVO



**MultiCook**

# OUR SOLUTIONS IN BATCH COOKING TECHNOLOGY

The modern industrial food production requires equipment and technologies, which can satisfy the increasing market demands in compliance with rigorous sanitary standards yet preserving the product as natural as possible. Moreover, they should assure reliable and constant quality. At the same time, the equipment needs to be versatile, flexible, and suitable for different applications and allowing quick product changes at optimal economy.

Processing under vacuum enables quick evaporation of moisture from the product at much lower temperature (50°C to 85°C) than atmospheric (100°C), thus preserving the natural flavours, high vitamin and nutrient content of even most delicate raw fruits. The processing at lower temperature preserves natural colours of the raw materials and prevents food darkening and discoloration.

Food processing in the overpressure conditions reduces cooking process time, hence better efficiency and higher productivity.

Our solution of the above issue is our MultiCook program for industrial vacuum cooking. It comprises different types of versatile and flexible processing units designed for the preparation of a wide range of different food products such as:

Jams, Marmalades

Ketchup

Ajvar

Fruit and chocolate toppings

Baby food

Sauces, Soups

Ready meals

Fruit fillings



# THE MAIN FEATURES AND ADVANTAGES

- 1** entire construction of high-quality stainless steel
- 2** hygienic design according to HACCP norms
- 3** process cycle possible at atmospheric pressure, and/or in overpressure, and/or in vacuum
- 4** optimal preservation of fruit chunks
- 5** well proven agitation technique
- 6** easy filling and emptying
- 7** high productivity
- 8** user-friendly operating
- 9** easy and efficient cleaning, CIP and SIP
- 10** complete process automation and data recording
- 11** quick recipe change possible
- 12** PLC process control
- 13** reverse heating / cooling system
- 14** aseptic process cycle optional
- 15** emptying by means of a positive displacement pump and overpressure (nitrogen inert gas)

MultiCook processing vessels can be operating in semi-automatic or in fully automatic mode. All-important processing parameters such as: cooking times, mixing, homogenizing, temperatures and vacuum level are controlled and can be regulated.

Recipe management and process flow can also be automated.

# VERTICAL VACUUM COOKER

## MultiCook - EVK

Tilted vertical vacuum cooker MultiCook is a state of the art vacuum cooking vessel. It has an integrated interior cone and a vertically built-in special counteracting- coaxial double agitator with scrapers. The vessel is heated by means of saturated steam and cooled by means of cold water through the outside double jacket and through the internal cone. The body of the vessel is double-jacketed and externally thermo-insulated. Heating/cooling jacket is divided into three zones which enable the processing of different batch sizes (different product quantities). In addition to the external heating jacket, the vessel also has an internal heated cone to enhance heating, which results in shorter cooking process time and consequently in higher productivity.

## Main features and options:

- 1 high productivity
- 2 very high evaporation and concentration capacity
- 3 excellent, product-friendly mixing
- 4 quick and efficient heating and cooling
- 5 different batch sizes possible
- 6 heated/cooled interior cone for enhanced heating capacity
- 7 direct steam injection optional
- 8 manhole either with central locking system or manually operated

### MultiCook EVK - VERTICAL

MODEL	Batch size	Heating zones	Compressed air requirement	Energy requirement	Average steam consumption of saturated water steam at 4 barg	Cooling water for cooker T=7/15 °C	Cooling water for condenser T=20/26 °C
1250	170-800 l	170-270-500 l	6 bar app. 600 l/h	app. 15 kW	app. 250 Kg/h	app. 15.000 l/h	app. 20.000 l/h
2300	400-1650 l	400-800-1200 l	6 bar app. 600 l/h	app. 20 kW	app. 350 Kg/h	app. 25.000 l/h	app. 45.000 l/h



# HORIZONTAL VACUUM COOKER

## MultiCook – EVKH

It is a horizontal type of the vacuum cooking vessel equipped with a horizontally built-in heated agitator with scrapers. The body of the vessel is double-jacketed with two separate heating/cooling zones (bottom and walls), and it is outside thermo- insulated.

### MultiCook EVKH - HORIZONTAL

MODEL	Batch size	Heating zones	Compressed air requirement	Energy requirement	Average steam consumption of saturated water steam at 4 barg	Cooling water for cooker T=7/15 °C	Cooling water for condenser T=20/26 °C
1650	400-1100 l	400-800 l	6 bar app. 600 l/h	app. 15 kW	app. 250 Kg/h	app. 15.000l/h	app. 45.000 l/h

## ① VESSEL COVER-EVK:

Standard equipment of vessel cover:

- Coaxial agitator
- Sight glass with lamp
- Automatic manway for solid ingredients
- Dosing tree for liquid ingredients
- Manual manway for inspection
- Evaporator and vacuum connection
- Spray balls for CIP cleaning

## ② AUTOMATIC MANWAY-EVK:

For incorporation of solid ingredients, such as individual frozen fruit, crystal sugar.

## ③ TILTED VESSEL:

Tilted position of the vessel ensures better mixing and smooth drainage of the product.

## ④ COAXIAL AGITATOR-EVK:

MultiCook is equipped special counter-acting coaxial double agitator with scrapers. Standard equipped with flushed mechanical seals.

Frequency controlled speed ensure gentle mixing and preserving of the fruit pieces.

Scraper Teflon surface improves product homogeneity and heat transfer efficiency.

## ⑤ HEATING OF MULTICOOK-EVK:

Specially designed heating consists of the outer heating jacket, heating bottom and heating inner cone.

Heating jacket is divided into three, individually controlled heating zones, which enable economical cooking of small batches, without burning of the product on the heated surface.

## ⑥ AUTOMATIC VALVES:

Two-way butterfly valves with feedback signal and visual light inspection for open and close status.





4

2

1

5

3

6

**ENCOOP**  
Kv3

HÄ TABELLA R  
KOHT  
HASSIA 1  
CRYOVAC  
KOHT  
HCS KONT  
TAR2  
PCV NA CIP  
HÄ TABELLA

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