# baby food processing line

Model: BAB line





Baby food (Doypack) technological line consists of two professional equipment: Vacuum cutter ProfiCut and a filler/capper for spouted Doypack pouches.



# baby food processing line

## Model: BAB line



ProfiCut is a complete and versatile work tool that cooks, concentrates, kneads, refines, cuts, mixes, homogenises, pulverises various types of food products.



The filling line works by means of a Doselite pneumatic volumetric pump, with an adjustable dosage range between 5 and 1300 ml. The pouch is closed by means of a plastic screw cap.



## Vacuum Cutter ProfiCut

Proficut is a universal plant for manufacturing a wide range of products. All operations are performed sequentially in a single plant starting from raw materials input to the finished product unloading. Grinding, mixing, and heating are applied under the vacuum to prevent oxidation, reduce the temperature of the product, thus retaining its taste and flavor and giving it an attractive appearance.

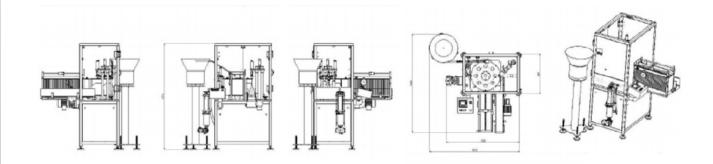
# Filling and capping machine for spouted doypack

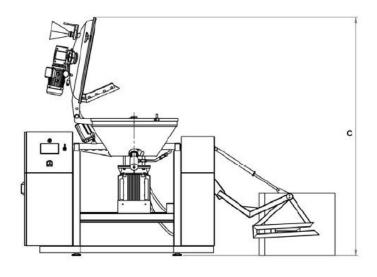
An automatic filling and capping line for the filling and capping of flexible doypack type bags (with already existing spout) with liquid and semi-liquid products. All parts of the machine in contact with the product are made of 316L stainless steel, PTFE and FKM gaskets.

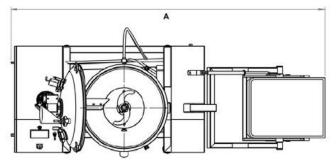
The filling and capping station has an access door on both the front and rear of the structure. The machine is completed with an automatic plug-in power supply.

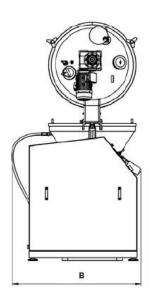
# baby food processing line

## Model: BAB line









Geometric volume, L	130
A: length, mm	3 442
B: width, mm	1 416
C: height, mm	2 6 1 7

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# technological line for frying NORMIT CombiFry Line ECOnomy and ECOlogy

The series of Continuous line is the popular product on the market of frying and roasting equipment.

CombiFry Line works on principle a hot oil pouring method and immersion frying method. The line is suitable **for frying meat, fish, vegetable and pasta products with a hard or fragile structure**.



# Examples of use

- Chicken drumsticks
- Burgers
- Nuggets
- Croutons

- Sliced rings of different vegetables, for example zucchini or eggplant
- And others similar products



#### The whole line included:

#### 1. Former

Forms the desired product into a certain shape.

#### 2. Dewatering conveyor

Conveyor is used to removing water before frying from the product.

#### 3. Continuous fryer

Fryer combines the possibility of immersion frying and pouring with oil. The main principle is to heat products

by spraying (pouring) hot oil, which creates a film on all sides of the product.

#### 4. Deoiling conveyor

Conveyor is used to removing oil from the product after frying .



### Benefits

- The high quality of the equipment. The device is fully made of stainless steel, which guarantees a long service life of the line. The equipment is hygienic and easy to clean.
- The high quality of the finished product, due to the gentle processing, oil filtration and smart temperature regulation.
- The high efficiency is achieved due to the low oil consumption and its continuous filtration.
- **The flexibility:** Continuous fryer can be equipped with electric, steam or gas heating system.
- The energy efficiency. Keep the set uniform temperature on the whole frying surface.
- The fryer combines the possibility of immersion frying and pouring with oil.

# The frying methods

Fryer combines the possibility of immersion frying and pouring with oil.

Mentioned methods are effectively used for roasting large pieces of meat or fish products – where the **high quality of frying** is a must.

The hot oil produces a film on the surface of a product, an intense oil circulation between the product and the heating source ensures that a uniform set temperature is maintained in the whole frying area.

A smart heat exchange system ensures the efficiency of frying as if the product was constantly stirred in a hot oil.

The system is working with a **low oil volume**, which significantly **reduces the manufacturer's costs** associated with the replacement and recycling a waste oil.

Pour oil and immersion methods of frying are a guarantee of high quality finished products.



**The intense oil circulation** and constant filtration ensure an unbeatable quality of the fried product, while maintaining all the performance benefits.

Included fryer have an **installed oil filters** that clean the oil while it is circulating during the frying process. Multi-stage stainless steel filters continually remove small product parts, whereby the operator visually determines the degree of

contamination of the filter and the necessity of cleaning. The filter is cleaned during operation of the device, while oil filtration continues with the second double filter.

The intense oil circulation between the heat exchanger and the product, as well as precise temperature control, prevent oil overheating, keeping the features of the product unspoiled.

#### Bonus

- Optionally, it is possible to install special "turbo brushes" for continuous mechanical mesh cleaning during frying.
- When configuring the fryer, the customer chooses the most suitable pattern of the conveyor net according to its product.



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## set of heating and cooling devices

Models: VKE 250, ACM 250



The set of heating and cooling devices consists of cooking boiler Normit VKE and Mixing Tank Normit ACM 250. The devices is used in the food industry for the production of sirup, sauces and other products. The boiler allows the maximum preservation of beneficial substances and vitamins in the processed products at minimal temperature losses.





## set of heating and cooling devices

Models: VKE 250, ACM 250

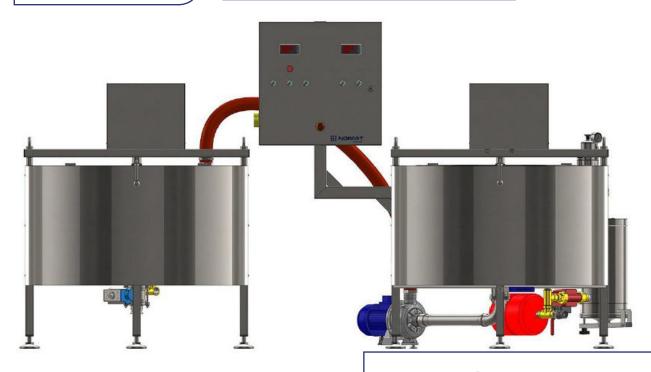
# Universal use, minimal costs

An efficient and affordable solution for processing various products with minimal operating cost and ease of use.

# Specially designed agitators

Thoroughly mixing, quickly achieving a homogenous mixture. The special shape of the agitator effectively distributes the solid particles in the product without damaging them.





#### **Cooking boiler Normit VKE**

Atmospheric batch food heating system with heating jacket, heating system and special-purpose mixer frame, equipped with product pump and control panel. The construction of the universal boiler consists of a thermally insulated cylindrical vessel, an extended heating system via a circulating pump, a high-speed, slowmoving, frame-type stirrer. The lid opens for 1/3 for easy ingredient insertion.



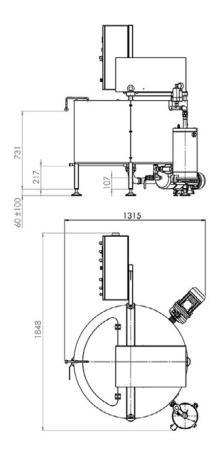
# Mixing Tank - Normit ACM 250

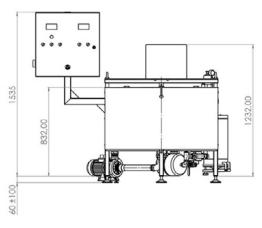
Atmospheric mixing unit with cooling jacket, special-purpose frame mixer. The mixing tank for cooling products is designed for efficient cooling, mixing, after production. By using a separate product cooling tank, a significant increase in the capacity of the processing plant is achieved and energy losses are reduced. Pillow Plate heat exchanger.



# set of heating and cooling devices

## Models: VKE 250, ACM 250





Cooking vessel	Normit VKE 250
Volume, I	250
Heating power, kW	12
Maximum heating temperature, °C	90
Dimensions (H/L/W), mm	1535±160/1848/1315
Weight, kg	285
Mixing vessel	NormitACM 250
Volume, I	250
Dimensions (H/L/W) mm	1232±160/1192/1150
Weight, kg	243
Material	AISI304



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# cream production line

Model: CR LINE





The line for gels, creams, masks and another viscous materials production. The line consists of a vacuum mixer with a hopper and dispenser mounted on one frame - it is a convenient, versatile device



# cream production line

## Model: CR LINE



These machines are for example suitable for packaging cans oil. However, other food or chemical liquids may also be present to be filled into different types of packaging.



The structure on the wheels allows the machine to move easily and can be easily adjusted your needs.



# The technological line for cream production consists of:

- Processing vacuum mixer PVM100 with low speed rotary pump Processing vacuum mixer is made of high quality food grade stainless steel AISI 316, with scraper agitator NORMIT SCRAPED STIRRER which is equipped with Teflon scrapers effectively blurring the product from the wall of the container which allows maximum use of the product as well as more efficient cleaning of equipment. Cleaning is provided by cipballs. Part of the mixer stainless el. control box with touch panel and display window. Low speed rotary pump AISI 316. Vacuum is created by vacuum pump.
- Control unit PVM100
- Hopper for dosing liquid mixtures With manual valve

# cream production line

## Model: CR LINE

**Piston filler** - The speed and performance can be set. Filling accuracy is very high.

The possibility of using the filling into the cup. It is made of stainless steel, so that we achieve the highest quality and hygiene. - It works on the principle of the piston. Filling range ml 10-75 no compressor,

product

#### CIP - 2 x 50l

CIP station CIP unit 2×50 liters with neutralizing vessel Width 1 150 mm Height 1 460 mm Depth 480 mm

Container with NAOH 50L, Container with H2SO4 50L Boiler12 l

Heatingelement 3 500 W Neutralizationvessel

23 | Distributionpiping DN

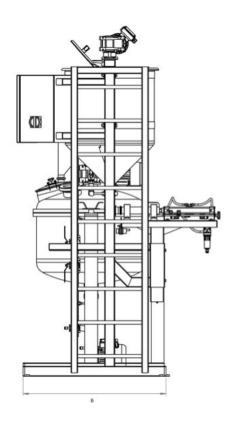
25 ArmaturesDN 25, 1.4301 Pump, type Ebara CDX 70/7, 95 l/min,

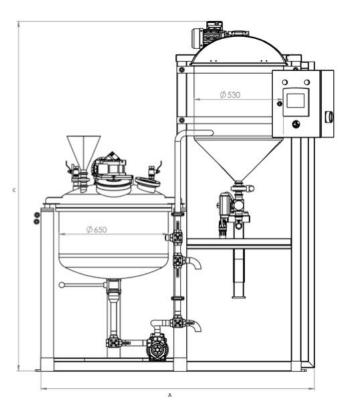
230V/50Hz Electricswitchboard Main electricalconnection 3\*400V/50Hz

16A Circuitbreaker230V 16A Digitalregulator DixelXR 10 D

- Material AISI 316L + sensor of indication of Contactorofheating 230V 16A Motor starter 230V ProbeNTC 6 mm
  - Cable5x 1.5 5m Inlet(suctionpart) GG DN 25 Outlet(deliverypart) GG
  - DN 2

Model:	CR LINE
C height	2079,33
B width	850
A length	1625,35





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# technological line for jam processing Model: Double VK Line

### The plant is intended for vacuum cooking of jams, marmalades, base for jelly candies, and other such applications, whether completely homogenized or with pieces.

The plant consists of two individual vacuum cooking chambers in which the product is alternately cooked, which ensures an uninterrupted supply of the cooked mass to the dispenser. Components are loaded by means of a vacuum through a hopper set at a convenient height, which makes the operator's work much easier and removes any need for additional lifts or tippers.

The special design of the cooking chambers ensures ideal cooking, moisture removal, mixing, and dissolving of all ingredients.

The cooking chambers are equipped with a especially designed agitator with individual scrapers, which continually

and effectively cleans the inner walls of the chambers of any product, does not allow burning, and ensures even heating through the entire volume of product.

The vacuum-cooking product allows removing excess moisture with low energy costs, and it ensures the color, taste and smell of the product are retained to the greatest possible degree. The lower cooking temperature in a vacuum allows you to use heat-sensitive ingredients in cooking, and you can also prepare confectionery where you don't want sugar to caramelize and change the color.

The cooked mass is unloaded by means of a pump.



The plant is manufactured entirely from AISI304 stainless steel for the food industry and has teflon scrapers.

- The cooking chambers have a specially-designed shape for optimal cooking.
- It features improved especially designed scrapers.
- It's compact all parts are optimally located within a small amount of space, and the layout is convenient for operators.
- It's hygienic and can be easily cleaned by connecting it to a CIP system. There are no areas where product can accumulate or which are inaccessible for cleaning.
- Steam or electrical heating.
- Any volume of cooking vessels.
- The vacuum generator is included in the set.

## Advantages:

- High product quality is ensured due to cooking at low temperature. The color, taste and smell of the product is preserved.
- Effective mixing and dissolving, a small amount of additives are uniformly distributed through the entire volume of product.
- There are no dead zones that don't get mixed and heat is applied evenly.
- It's high performance, cooking the product alternately in two chambers for continuous supply to the dispenser.
- Components are conveniently loaded from the working platform by means of a vacuum.
- It's easy to unload the ready product with a pump (or another variant at the customer's request).
- It's affordable and has low maintenance costs. It uses the least possible energy for cooking the product.
- A custom layout or other changes can be made at the customer's request.

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# technological line honey processing line

This technological line has a universal high-performing system and thanks to its **modular design** and **wide range of options**, can be used **for producing cream honey**, both in large and small quantities, regardless of the quality of the initial product.



## Whole line includes:

#### 1. TurboMelter

Turbo-melter pre-melts large honey crystals, mixes honey and improves its structure and consistency, preparing for further homogenization. It is equipped with a screw agitator for an effective stirring.

The equipment consists of a hopper, volume of which can be changed upon request, a heated body (with a jacket for heating with hot water, or heating coils) and a twin screw working elements. Depending on the required performance, the TurboMelter can be made for batch or continuous processing.

The industrial honey-melting TurboMelter system can be equipped with an optional re-circulation loop, filtration system for liquid honey, or pumps and pipelines to supply honey for packing or further processing.

In the basic version, operation of the plant involves start and stop buttons. These are available with an extended control system, which covers the monitoring and controls of various parameters, such as temperature, filling level, the rotational speed of the screws, etc.

#### 2. Honey homogenizer, model: VPL

The equipment is used for mixing and homogenizing different kinds of honey to get the product with homogeneous properties. The vertical working vessel has a screw agitator and a jacketed design.

For loading the product there is a hatch in the vessel cover.

The screw-type mixing device allows achieving the optimal level of product homogenization.

The jacket under the coolant is located on the entire cylindrical surface of the homogenizer.

The control system in the basic version switches the mixing device on and off and controls the temperature.



#### 3. Honey creaming machine, model: CH Profi

The plant is a universal high-performance system and thanks to its modular design and a wide range of options, can be used for producing cream honey, both in large and small quantities, regardless of the quality of the initial product.

The plant features an automatic control system, which allows programming the required mode of honey processing.

The Profi version of the honey creaming machine allows producing creamed honey on an

#### 4. Tensometric drum filler, model: AP

It's intended for packing the finished product in a large industrial container by weight principle.

Model AP drum fillers are designed for highoutput, semi-automatic, bulk packaging of honey.

The filler consists of a platform with a tensometric (weight-measuring) system, loading rollers, a dosing system based on an impeller pump, peristatic pump, or piston pump, piping and valving, and a control system.

The operator brings an empty barrel with a forklift, sets it on the rollers for loading, and brings it to the working platform together with the pallet. The strain gauge is located under the working platform. At the operator's command, the barrel

industrial scale thanks to the significant reduction in crystallization time. This model features a vacuum system, which allows reducing the time for preparing creamed honey to 3.5–4 hours (crystallization only, not including preliminary processing). CH Profi model allows air inclusions to be efficiently eliminated from the product, which in turn facilitates the formation of crystals at the necessary size, and significantly increases the shelf life of the prepared creamed honey.

will start to be filled by means of the pump, and as soon as the indicators reach the specified weight, the control system gives the command to turn off the pump.

Packaging honey evenly and keeping it in a liquid state is ensured by a continuously running circulation of honey through the collecting or processing vessel (homogenizer, dryer, etc.) and piping. Supplying honey to the filler begins when a discharge valve on the circulation piping opens.

A system for filtering honey can be installed in the piping.

### Advantages:

- High performance.
- Works in a continuous or batch mode.
- Significant time-saving for decrystallisation of large amounts of honey.
- Energy savings.
- Heating without damage to the delicate honey.
- Easy operation, maintenance and cleaning.
- The plant is made entirely of stainless steel AISI304, or AISI316 on request.



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# technological line for chocolate production

## Choco Line

The chocolate production line is an automatized closed system for making chocolate, chocolate glaze and filings.

# Complete Choco Line includes:

#### 1. Premixer with melting grid

The premixer consists of a vertical cone container with a geared motor, a rotary anchor mixer with Teflon scrapers, a melting grate. The melting grid is a closed heating system, which includes a grate.

#### 2. Ball mill with jacket heating

Plant consists of a vertical cylindrical tank, a geared motor, balls, a paddle stirrer and double casing. After processing, the product is transported to the premixer or to a storage tank, depending on the technology.

#### 3. Storage tank

For storing chocolate mass or glaze with jacket heating and low-speed frame anchor stirrer with Teflon scrapers.

#### 4. Heat exchanger

The entire line has a single heating system consisting of a heat exchanger.





## How it works:

The premixer principle is based on the simultaneous mixing of raw materials and their heating.

Homogenizer with heating and feeding cone is equipped with horizontal container with a motor and a serrated knife inside. The molten fat enters the homogenizer through a pipeline where it is thoroughly crushed and mixed. The homogenizer pushes the processed product back into the premixer. Product circulation is a continuous closed system. The time of homogenization depends on the conditions of product. A feed cone is attached to the homogenizer, through which are added the bulk ingredients that are mixed with the homogenized fat mass. Through a closed tube system, the mixed weight (chocolate weight) in the homogenizer-premixer system is circulated,

A: length, mm 3 300

B: width, mm 1 379

C: height, mm 3 300

which allows a high degree of dispersion of the product.

At the end of the raw material homogenization process, the product is fed into a spherical (ball shape) mill with a screw pump.

Work principle is to maintain the right temperature and structure by mixing the raw materials for further processing or use. The mixing speed is controlled by the frequency inventor.

The entire line has a **heating system consisting** of a heat exchanger, circulator pump and piping that is connected to the baskets by heating all the installations. Temperature controller provides temperature control of the production line, where the required heating temperature is set.

### Benefits

- **The high quality of the equipment.** The device is fully made of stainless steel, which guarantees a long service life of the production line. The equipment is hygienic and easy to clean.
- The high quality of the finished product, due to the gentle processing and smart temperature regulation.

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## line for production of sausages

Models: LSM line

Highly efficient production of sausages, highest quality equipment, suitable for butchers or medium size meat producers.







#### Grinder

Grinder is used for grinding fresh meat and food products. Prepared, unfrozen meat is poured into the hopper, from where it is transported by means of a snail to the throat, in which the cutting tools crush them according to the thickness of the cutting discs.

# Highly effficient production of sausages

Designed for highly efficient production of sausages, various types and sizes. The line consists of meat grinder, mixer, hydraulic piston filler and semi automatic tying machine. Sausage cutting machine is also optional.

## line for production of sausages

## Models: LSM line

#### **Paddle Mixer**

Paddle Mixer type is designed for fast and precise mixing for meatmass production in meat processing factories. This machines use a dual system of mixing paddles which allows for precise and steady mixing of all meatmass ingredients.

#### Hydraulic piston filler

Hydraulic piston fillers are the perfect solution for your meat and sausage production. Built in stainless steel, plastic inner piston. it is a machine of precision. Simple and effective system. Removable cylinder for easy cleaning.



# **Smoking and Cooking chamber**

- heating medium: Electric
- capacity: one trolley: 1000 x 1000 x 1980 mm
- dimensions: 1500 x 1325 x 3050 mm
- heating power: 35
- batch weight, max: 150- 200 kg



#### Tying machine

Semi-automatic tying machines are designed for tying sausages and other meat products. Suitable for meat pro-



ducers or small butchers. They are simple and effective. Equipment does not require electrical power. Made in stainless steel.

#### **Optional:**

Manual cutter for cutting potions of fresh cured meats with interchangeable eccentrics to obtain different sausage lengths up to a maximum of 280 mm. Works with any type of casing.



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## technological line for honey production

Model: HH Line Pro

Honey technological line with wide range of options, used for producing honey, both in large and small quantities, regardless of the quality of the initial product.











The line consists of: honey homogenizer, lift feeder, dispenser/ honey filler and grid for pre-melting honey.

#### **Universal high performing system**

This technological line has a universal high-performing system and thanks to its modular design and wide range of options, can be used for producing honey, both in large and small quantities, regardless of the quality of the initial product.

## technological line for honey production

### Model: HH Line Pro

#### **Grid for pre-melting honey**

It may optionally be installed on the homogenizer lid for pre-treatment melting of honey which is in the solid form. Heating is secured by water recirculation. Pre-melting can significantly reduce melting time and the homogenization process of honey.

#### **Lift Feeder**

Lift-feeder for loading honey from containers into a homogenizer. The lift is equipped with a hydraulic or pneumatic lifting mechanism. Made of stainless steel AISI 304. Capacity 2 containers with a capacity of 23 l. One load time of up to 90 seconds.



#### **Honey Homogenizer**

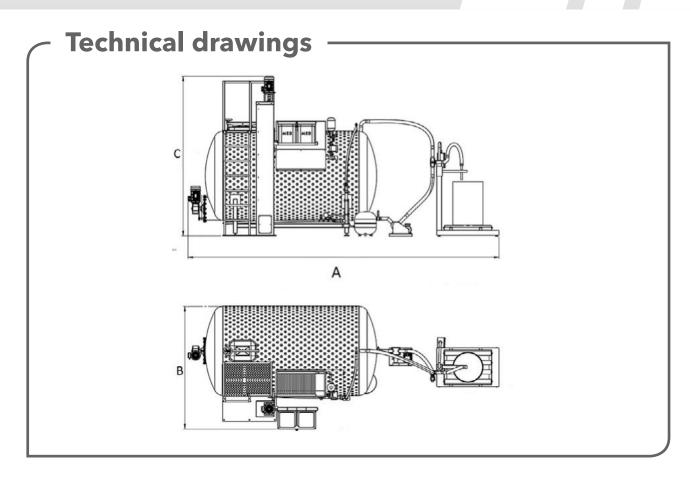
Homogenizer for honey is intended for the thorough mixing and homogenization of different types of honey, which improves its user properties and enables the certification of a whole batch of honey. Honey homogenizer consists of an atmospheric horizontal cylindrical vessel with a special jacket for steam / water heating and a screw stirrer. The heating jacket is located over the entire cylindrical portion of the homogenizer.

#### **Dispenser- Honey filler**

NORMIT DF. The dosage is based on the tensometric principle. Tensometric platform is installed (construction work on the customer's side) in the concrete floor at the same level as the floor.Pallet with a barrel or empty barrel is stored on the platform, Honey filling is carried out using a self-priming pump. Once the desired volume is reached, it automatically shuts down.

## technological line for honey production

## Model: HH Line Pro





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## Line for processing frozen vegetables

## Model:

# The products are thawed gently without damaging their structure.





#### **Suitable products:**

- fruit
- vegetables
- and other products

# The structure of the products remains undamaged

The line is suitable for processing individually frozen products. The products are thawed gently without damaging their structure. The line consists of four devices. Rotary drum blancher / Defroster, Cooling Conveyor, Inspection Conveyor and Angled Conveyor.

## Line for processing frozen vegetables

### Model:

#### **Rotary blancher BD**

The rotary blancher is designed for blanching of vegetables, fruits, leguminous plants, pasta products, before conservation and freezing. The blanching process is an alternative way of cooking and sometimes it is the only one way of culinary processing for products which are heat sensitive.

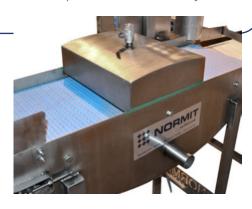


#### **Inclined conveyor IC-Z**

The inclined conveyor is used to transport the product to the desired height. The conveyor is equipped with ridges that hold the product. Conveyors of this type are used to lift a wide variety of products, regardless of their weight, shape and condition.



The cooling conveyor is designed to cool vegetables, fruits and other products and is also used for further product processing. The conveyor is simple to operate and maintain, with the choice of dimensions and accessories to save space, time and money.



#### Inspection conveyor IC

Inspection conveyor is designed for monitoring and manual removal of the defective products. The basic construction of the inspection conveyor comprises a conveyor belt made of a food grade PVC, of a white colour for an optimal contrast with the product, the lighting system along the entire length of the conveyor, and the side margins for a rapid removal of the defective product.



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# nuts frying line

Model: NUTS line

The nuts processing line is highly reliable, flexible, with ability to adjust to your requirements, all components made in EU.











#### The line composition:

- Loading hopper with conveyor
- Continuous fryer
- Cooling conveyor
- conveyor with dozer
- Drum mixer

# Ideal solution for frying nuts and many other products

The Nuts frying line is the ideal solution for frying nuts and other products. The line consists of five devices. The line is highly reliable, composed of high quality components made in EU, and can be adjusted to the customer needs and requirements.

# nuts frying line

## Model: NUTS line

#### **Continuous fryer ShowerFry**

The ShowerFry series of continuous fryers uses the minimal ratio of oil in the whole system to the performance, thereby significantly reducing costs associated with the replacement and disposal of waste oil. The high oil turnover, its intensive circulation and constant filtration, make for a superior quality of fried product, and the preserving of its nutritional properties.

# Loading hopper with transporting conveyor ACWH

It is a versatile device for transporting products to a height. It can be used to transport large, small, light and heavy products. The conveyor works very accurately at slow and high speeds.



salt, flavour and aromatic additives. The system is designed for uniform application of oil-and-fat mixture, dyes and flavours, enzymes, vitamins and other additives.

# nuts frying line

## Model: NUTS line

#### Cooling conveyor + AirKnife

An excess oil removal and product cooling after frying is carried out by intensive cold air blowing by industrial fan. The design of the conveyor ensures optimal distribution of air flow over the entire area of the conveyor belt. High-performance industrial fan with power control installed in the bottom of the conveyor.





# Transporter with installed dozer for dry spices CWH

The conveyor is designed for transporting cooked vegetable snacks from the fryer to the continuous Drum Mixer. On the top of the conveyor there is located a dozer for dry additives (spices, salt, etc)

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# technological line for drying solutions

Line for drying solutions is an automated closed system for evaporation of the solvent (removal of water by evaporation) for separating substance increase its concentration in the solvent or complete removal of the solvent (water).

# The line is designed for use in the food, chemical and pharmaceutical industries.

Evaporation is used to reduce product volume, remove water prior to drying, and to improve product storage life.

Evaporation is a highly energy-efficient way of removing water or other liquids and thus the primary process for the production of concentrates.



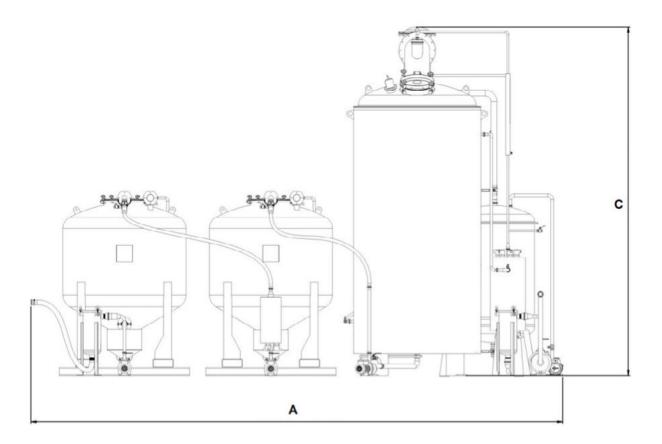
## Line for drying solutions includes:

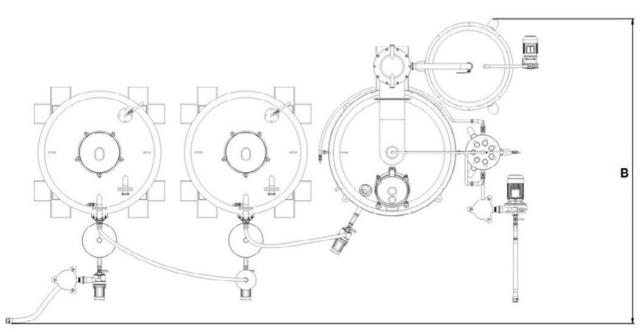
- 1) heating system: heat exchangers with a capacity,
- 2) filtration system: primary filter and a final type of BFH (primary filter is not included),
- 3) the vacuum spray dryers Normit SD-5000 with heat exchanger condenser,
- 4) condensate collertor with level sensor, vacuum pump,
- 5) carbon filters (not supplied lines),
- 6) transportation systems / product discharge: centrifugal pump.

## Technical parameters:

The line is connected directly to the tank-container where the solution is pumped through the primary filter(not included) in the heat exchanger. The heat exchanger consists of a body with a casing (inner), with heating element inside. The product passing through the heat exchanger is heated and then pumped by a pump into the vacuum spray dryer, where drying process occurs. Vacuum spray dryer consists of a tank with the inner casing, the nozzle located in the upper part of the installation, display display window with lighting, air ducts, heat exchanger-condenser The vacuum dryer is connected to a condensate collection tank and a vacuum pump. For spraying the product must be connected to a compressor

(not supplied lines) for tightening air. The product in a pipe is mixed with air and fed into the upper part of the dryer where is sprayed through a nozzle to a fine The evaporation process occurs. separating the solvent (water) from the compound - water molecules pass into the vapor state. Using a vacuum pump steam is drawn through the air heat exchanger to condesate collector. After reaching the required level of evaporation of the product by a pump is discharged from the drying unit for further filtering. The product may be connected to a heat exchanger line after discharging from the vacuum spray drier prior to filtration. The complete installation of an additional (second heat exchanger) is not included.





# Normit design guarantees:

- High energy efficiency.
- High quality product.
- Compact design.
- Simple operation and automatic control.
- Minimum workforce required.
- Low running and maintenance costs.

A: length, mm	6 539
B: width, mm	3 747
C: height, mm	4 284



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# 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.

Boiler is double jacketed with insulation, made of finest stainless steel AISI 304, heated with heating elements. Product output is secured via a pipe.

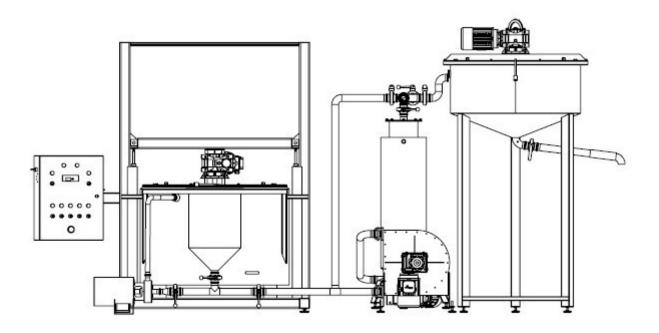
## 2. Inline homogenizer

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 ful-

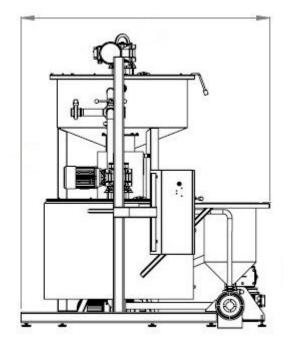
fills the function of the pump, the product itself is brought to the homogenisation from the boiler. The homogenizer knives can be simply dismantled and replaced by others, making the homogenizer very versatile and flexible. The gap between the blades and the wall is designed so that the homogenizer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

less 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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## technological line for industrial paints

## Model: IP line



Technological line for production of industrial paints consists of devices for the production of paint and varnish. It produces varnishes, coatings, primer coat, special colors, surface coating, water-based paints. Line can be adjusted and designed according to customers needs and requirements.





## technological line for industrial paints

## Model: IP line



Unloader of BIg bags with pneumatic lift - ensures the transfer of the big bags into the dosing station. dosing station.



## Pneumatic membrane - membrane function is

- membrane function is to overflow of mass, is also suitable for use in the environment danger of explosion.

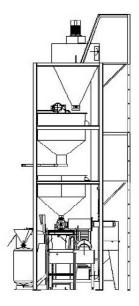


## THE LINE CONSISTS OF:

- 1. **Big bag dosing station** suitable for dosing powder and loose mixtures, with a cover. Dosage without residual in corners and edges. The station is equipped with a knife to cut a big bag and a stainless sieve. The station is directly connected to a pneumatic conveyor a cyclone. The control cabinet is equipped with a manual pushbutton control and central tracking for dosing control; and mixing.
- 2. **Cyclone with pneumatic conveyor** Cyclone is a solid construction made of stainless steel with two fan coils and a filter. The powder mixture falls into the conic portion of cyclone and continues processing. Cyclone consists of conical part with a tangential inlet for solid particles. Part of the control cabinet is equipped with a manual button control and central stop for controling of dosing and mixing.
- 3. **Pneumatic flap** designed for closing and regulating the flow of dry bulk materials in cyclone. It serves to guide the flow of material into individual technological branches. It is designed for loose and granular materials ranging from 0-40 mm, individual pieces up to 50 mm. It is mainly used in chemical, pharmaceutical industry and construction.
- 4. **Pressure vessel 80I** Vertical pressure vessel serves for pumping the liquid colloidal mixtures into the mixer container. Pressure vessels are stainless steel packaging which contains fluid under pressure. Pressure vessels are often part of a variety of more comprehensive systems. The advantage of the device is almost no maintenance and long service life.

## technological line for industrial paints

## Model: IP line



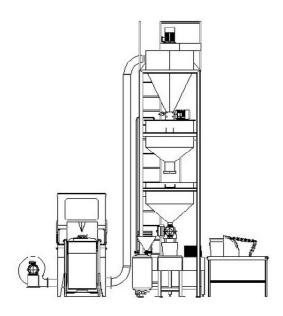
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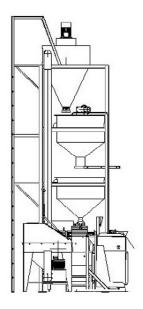
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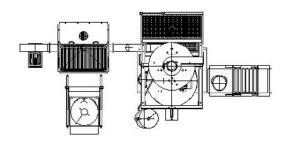
nm

mm

mm







- 5. A safety system for colloidal mixtures with level sensor is part of a pressure vessel. Part of the system is a level sensor. Is located on the control cabinet.
- 6. **Continuous two-shaft mixer** continuous mixing contains measuring and control systems suitable for continuous operation. The construction is maintenance-free, there is an integrated CIP station for cleaning the platform for blender, dosing platform (allows to reach extremely accurate dosing) Principle of activity: The colloidal and solid parts of the mixtures enter, based on proportions, into the openings in the front of the equipment. Subsequently, the product is thoroughly mixed by means of continuous movements of shafts. The mixer is placed approx 9 mm and above the bottom of the tank at a distance of 5 mm.
- 7. **Valve with pneumatic drive** Valve control carried out by pneumatic drive.
- 8. **A container 400 with flange** storage devices for collected material, part of the container is flange for additional agitator assembly
- 9. **Volume dosing machine** the piston dispenser for accurate dosing. Volume is set to 10L, of course is calibrated to smaller volumes. It is possible to dispense volumes of 5,10,15,20,30. Also included is a control cabinet with a manual pushbutton controlling the dosing process and the central stop.
- 10. **Vibrating platform (conveyor)** The vibrating platform is powered by electric vibrators. Power control is achieved by changing the setting. Is a designed to unify the surface of the filled container.

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## Model: CRS line



The production line of edible salt is an electromechanical complex of equipment of periodic action, consisting of the following mechanisms:

- evaporator concentrator-crystallizer of Normit EcoSo Atmospheric 6000 solutions;
- drum convective dryer Normit ABM;
- NormitF filter.





## Model: CRS line





Provided for evaporation of brine and subsequent drying of salt crystals.



The equipment is used in the food industry.

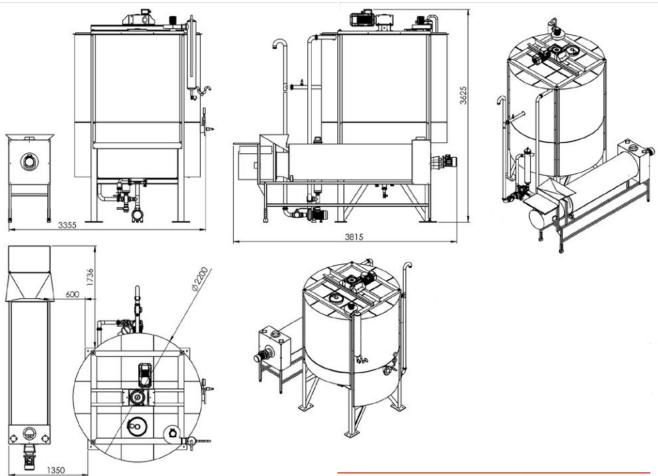


Atmospheric evaporator-crystallizer is designed for evaporation of moisture from emulsions, solutions to obtain a crystalline form. Usually used for the crystallization of salt solutions. Crystallization increases the concentration of the solution by evaporation of the solvent. As the concentration increases, the solution becomes supersaturated and nucleation begins. With further concentration of the nucleus, they begin to grow and various crystals appear.

## Areas of application:

- food industry;
- chemical industry;
- pharmaceutical industry;
- cosmetic industry.

## Model: CRS line



Model	EcoSo	
Volume geometric, l	6500	
Maximum working volume, l	6000	
Drive power mixing / discharge device, kW	5,5	
Rotation speed, rpm	14	
Pump power, kW	2,2	
Fan power, kW	0,37	
Dimensions (C / B / A), mm	3625/3303/2200	
Weight, kg	1861	

Model	Drum convective dryer Normit ABM	
Volume geometric, l	400	
Installed capacity of the drive rotation of the drum, kW	0,55	
Rotation speed, rpm	10	
Heating power, kW	30	
Dimensions (H/W/L), mm	1490/3814/833	
Weight, kg	400	
Material	AISI304/AISI316*	
Line dimensions (H / W / L), mm	2321/17868/2272	
Three phase power supply:		
Oltage, Volt 400		
Frequency, hertz	50	

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## the technological line for processing classic mayonnaise

## MayonnaisePro Line

Normit Mayonnaise line is intended for **effective processing of classic mayonnaise or processing and filling similar products**. Mixing is a key stage in mayonnaise production. The part of Normit mayonnaise line is high-speed mixer that ensures perfect mixing.



#### Complete production line for producing classic mayonnaise includes:

#### A mixer with tool specialized for emulsion

The mixing vessel is designed for highpressure mixing of products with the possibility to to change the speed of the mixer. It is equipped with the manual tilting of the working vessel and flow meter for water. The lid is openable with a strong gas spring. Part of the lid is small hopper and two spray balls. Part of the hopper is hose extension, which serves to further attach the liquid ingredients to the product, while the agitator is running.

2. The vessel for measuring of oil using a float mechanism

The oil measuring vessel is preferably designed as an oil tank with the ability to adjust the volume required. It is equipped with a control unit, a level sensor and an electrical socket for connecting any type of pump.

#### 3. A CIP cleaning station

CIP is used to sanitize and sterilize containers. The function of the device is to circulate the alkaline or acidic solution through a sanitizing shower that sprays the solution into the walls of the container and into space. The CIP contains a flow- heater with a digital temperature regulation.

#### 4. Bin containers

Are designed to ensure sterilization and keep the production liquid from the production line in the unaltered state until it is filled.

#### 5. IBC Container

Is used for storage of oil.

#### 6. A dosing unit

Is used for filling and dispensing of mayonnaise. The speed and performance of dosing can be adjusted. Filling accuracy is very high. The system is equipped with a container presence sensor - when the container is the container is not located, the device does not fill.



## How it work:

Production of mayonnaise is a batch process. Oil is pumped from IBC tank to measuring vessel with a level sensor. Liquid flows from the measuring vessel with a help of gravity to the high-speed mixer. Into the mixer are added other raw materials and and the process of mixing begins. The final product is pumped to

an aseptic storage tank under constant pressure. Tanks are designed and manufactured to store mayonnaise prior to filling. The tank needs to be connected to the source of pressurized air when connected to the filling station, using pressurized air to produce the necessary pressure at the inlet of the filler.

### Benefits

- The equipment is fully made of stainless steel, which guarantees a long service- life of the line. The equipment is hygienic and easy to clean.
- The CIP spray balls mounted on mixer allows **high quality mixing** with faster processing times.
- The high quality of finished product, due to the gentle processing with mixing blades.

# TIP: Our technologies for raw materials can handle all your ingredients, including both liquid and powdered eggs.

## Technological process of mayonnaise production:

The prepared ingredients are added to the mixer where the water is added. All parts are thoroughly mixed and other components are added. The resulting solid mixture is further

agitated to produce a perfectly homogeneous cream consistency. The resulting product is mayonnaise, which is sent for packaging.

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## technological line for production chips and french fries

Model: SnackPro Line

SnackPro Line is intended for producing chips or french fries and involves such processes as **preliminary washing**, **whole potato washing**, **cleaning**, **slicing**, **frying**. At the end of the process, you **get ready-made chips** prepared for packaging.





#### Complete SnackPro Line included:

#### 1. Drum washer with conveyor

The product is loaded into the washing machine mechanically, after processing (washing) the product is unloaded using a conveyor elevator.

#### 2. Flow divider

Mechanical control for adjusting the direction of the product to the potato peeler section.

#### 3. Potato peeler

The machine is designed for processing (scratching, peeling and washing) potatoes and root vegetables.

#### 4. Feeding conveyor with hopper

#### 5. Cutting machine for vegetable

The processed product, cut into pieces of potatoes.

#### 6. Washing machine

Washing machine hydrocyclone type for removing starch from potato.

#### 7. Screw blancher

Inside the chamber is placed a large diameter screw, which is immersed in the working chamber. The product is moved by screw in the unloading direction.

#### 8. Dewatering conveyor

The section is designed for drying the product after blanching. The operation removing the maximum amount of moisture due to intensive blowing of the product from each side.

#### 9. Fryer with blades

The product is moved by the constant oil flow as well as with the help of paddles, which move the product towards the discharge zone, as well as carefully stir the product for a uniform heat treatment.

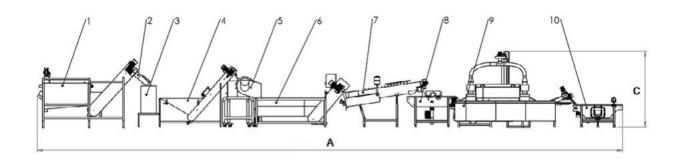
#### 10. Coolling conveyor

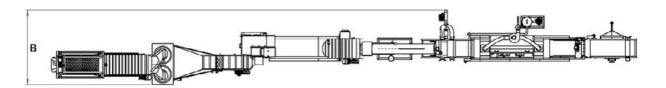
Conveyor is used to removing oil after frying from the product.

## Frying method

Products are fried by complete immersion in hot oil. The SnackPro Line do not have a conveyor mesh for moving the product. The product moves thanks to the movement of oil that is being pumped, as well as with the help of paddles, which not only move the product towards the discharge zone, but also carefully stir the product for uniform heat treatment.

Product discharge is carried out by a discharge conveyor. The time during which the product remains in the frying vat (frying time) is determined by the speed of movement of the discharge conveyor.





A: length, mm	17 868	
B: width, mm	2 272	
C: height, mm	2 321	

## Safety

The SnackPro Line is equipped with several levels of protection against overheating. The continuous intensive circulation of oil eliminates the possibility of local overheating and guarantees that the set temperature is maintain across the entire volume of the oil in the system.

The efficient continuous circulation of oil is performed with the help of a special immersible pump for high-temperature liquids. The pump has no seals, which ensures a high level of safety and wear-resistance. A further distinctive feature of the applied pump is that it can run dry when there is no oil in the system for a short while.

## **OPTIONS:**

- PLC-controling system
- Data Logging System
- Electric-heating
- Manufacturing material AISI316



## Distinctive features of the design

SnackPro Line is made entirely from AISI304 grade (AISI316L upon request) stainless steel for the food industry and their surface is completely thermally insulated and polished.

The frying vat is a floating one. It is not rigidly fixed on the frame, which allows it to compensate for thermal expansion.

An innovative solution has been applied for steam and smoke exhaust through two fixed outlets – one at the beginning and one at the end of the operating zone, which allows installing fixed ventilation. The enhancedsecurity lids are designed to be easy to open.

The pushing paddles are made entirely from stainless steel and they have a special design and shape that minimize the product sticking to the paddles. Each impeller has a reliable drive and the discharge conveyor is equipped with its own drive. Each row of paddles can be taken off easily and separately from the others.

SnackPro deep fryers are equipped with reliable supports, the height of which is adjustable.

## Advantages:

- High performance.
- The temperature is precisely maintained: the product is fried evenly and the oil does not become rancid due to local overheating.
- Easy to use and maintain.
- **Double oil filtering system** that extends the usable life of the oil and increases the quality of fried products.
- Reliability and safety.
- Minimum oil consumption within its class.
- Made entirely in the EU.

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## technological line for complete processing raw vegetable to chips or french fries SnackPro Line Profi

The line is intended for the complete processing of potatoes. The final products are fried chips or fries ready to be packed.

It consists of a complex of devices that allow processes such as: pre-wash, total washing, brushing, slicing, vacuum frying.

The line is designed for complete **processing** raw vegetable to chips or french fries. The result is **healthy flavored products**. In this line it is possible to process different kind of vegetable

such as potato, beet, carrot, parsley and many other. The final product can be flavored by salt, spices or other flavors.





## The complete line includes:

#### 1. Drum washer with conveyor

The product is loaded into the washing machine mechanically, after processing (washing) the product is unloaded using a conveyor elevator.

#### 2. Brush washer

The device is suitable for washing root vegetables such as carrot, beet, potatoes. The product is washed through the built-in brush.

#### 3. Conveyor with hopper

The hoper and conveyor are made of stainless steel. It transports product to the cutter.

#### 4. Vegetable cutter

Rotary continuous root cutting device for slices: discs/rings (chips).

#### 5. Vacuum fryer

Frying under vacuum conditions (at low temperature) is a unique and cutting-edge heat treatment method.

#### 6. Conveyor with hopper

The hopper and conveyor are made of stainless steel. The material is then transport into drum coater.

#### 7. Drum coater

Drum coater is suitable for flavoring product. The cylinder (drum) operates continuously.

## The role of vacuum in producing snacks

Vacuum drying and frying is an alternative method of making high-quality fruit and vegetable chips. Our professional staff's knowledge, experience, and expertise allow them to manufacture the very best equipment in this area.

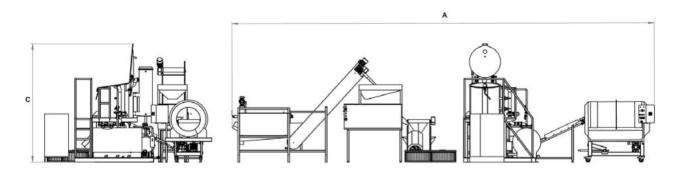
The main details that determine a product's quality are its structure, color, taste, and oil content. Under vacuum processing, the product's structure is not harmed, as it is not subjected to mechanical action. Frying is carried out at low pressure, which lowers the temperature that the oil boils at. This allows you to produce snacks at low temperature, which makes the end result crunchy but preserves the natural color, taste, and nutritional properties.

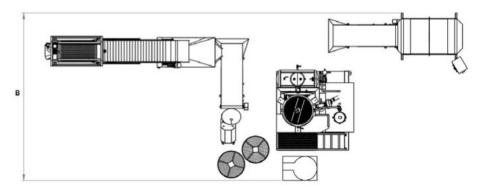
The removal, by means of vacuum, of air and oil from the pores in the product brings a number of advantages. The lack of air in the snack's pores during processing lowers the time needed to prepare it, which boosts your output. Removal

of oil from pores after frying gives a high-quality finished product, with a minimal oil content – compare this to the standard processing approach in an atmospheric fryer where the oil content can reach 30–40%.

The vacuum drying and frying technology developed by our company's experts, allows you to offer consumers a **healthier and delicious product**. This is especially relevant today for consumers who care about good nutrition.

An important detail to know about vacuum processing of chips and other snacks, is that **frying at low pressure** is carried out at low temperature and requires less oil. As a result, the snack that **results will not contain acrylamide and other carcinogens**. Retaining the **natural taste and color of fruit, vegetable, and other chips** lets you reduce the amount of taste enhancers and food coloring applied, or avoid using them at all.





A: length, mm	11 814	
B: width, mm	4 675	
C: height, mm	3 309	



## Advantages

- Vacuum fryer brings you: economic and quality advantages.
- Allows you to make snacks with a high added value at lower electricity costs and other expenses compared to traditional frying, which puts the manufacturer ahead of the competition.
- Save on oil the oil will stay fresh longer, it will not burn, it won't retain the taste of the last product fried, and it will not have to be replaced so frequently.
- **Fewer flavor additives** and taste enhancers will need to be applied.

- A competitive product in the snack market:
  - lower oil content (only a few percent),
  - attractive color, close to the natural color, surface does not blacken,
  - the oil does not turn rancid, and it will not give the product an unpleasant taste or smell,
  - preservation of nutritional qualities,
  - no acrylamide or other carcinogens.

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## solution for insect powder processing

## Model: INS line



The Normit team developed a solution for blanching flour worms and similar insects, and cooling the product, preparing it for further processing.

Objective: Blanching at a temperature close to 75°C and subsequent cooling to 5°C.

Equipment for the processing of high protein content products such as of insects (crickets, grasshoppers, meal worms, fly larvae or black soldier fly etc.)





## solution for insect powder processing

### Model: INS line

#### **Conveyor with hopper:**

The belt conveyor support forms a very strong and quality steel structure. 50L hopper volume is at a given angle (38°), the conveyor has an adjustable height of 540-840mm.

#### **Belt Blancher**

Such product as insects reacts sharply to high temperature and mechanical stress. A blanching heat treatment is required, capable of killing bacteria, but it must not destroy useful substances. Furthermore, it is necessary to minimize the mechanical impact during blanching - a screw or drum blancher will destroy the structure of crickets or grasshoppers.



#### **Knife Mill**

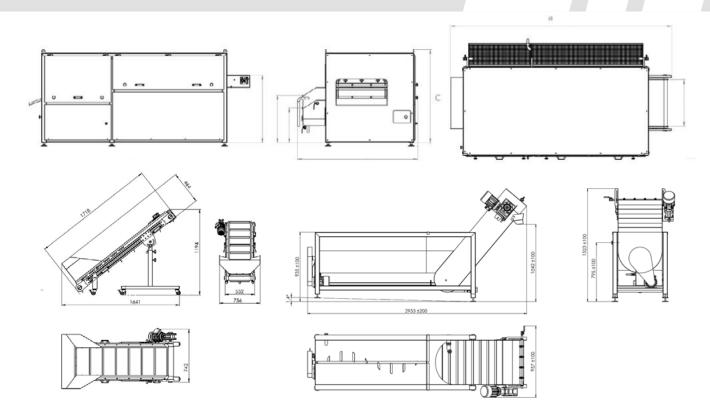
In a specially designed knife mill, the product is comminuted at high speed by impact and shearing forces. The final fineness of the product depends on the selected sieve insert. There are different sieve inserts available for different products.

## Continuous washer with discharge conveyor belt

The machine consists of an operating tank filled with water, a system for mixing the product and moving it further, and an unloading conveyor. Our specially designed mixer ensures that the product is mixed in an ideally uniform fashion and moved towards the unloading section.

## solution for insect powder processing

## Model: INS line



Model:			INS line	
Equipment	Blancher	Knife Mill	Conveyor with hopper	Washer
Material			AISI 304	
Installed power	up to 100 kW	5,5 kW		up to 4 kW
Transporter			0,25 kW	0,25 kW



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