

# Dairy Product Manufacturing Miniplant

## I Objective

The main objective is to provide a complete and versatile production line for dairy products, which is easy to transport and install. A range of production options will be available: 500, 1,000, 3,000 and 5,000 litres per hour (pasteuriser production).



Complete because Inoxpa can supply the turnkey plant ready for use, including the supply of utilities. Inoxpa can also run a technology training course tailored to the customer's needs, whether at Inoxpa or at the plant's installation site.

Versatile because it allows commencing with the manufacture of a specific product and expanding the plant with the manufacture of other dairy products by adding new modules at a later stage.

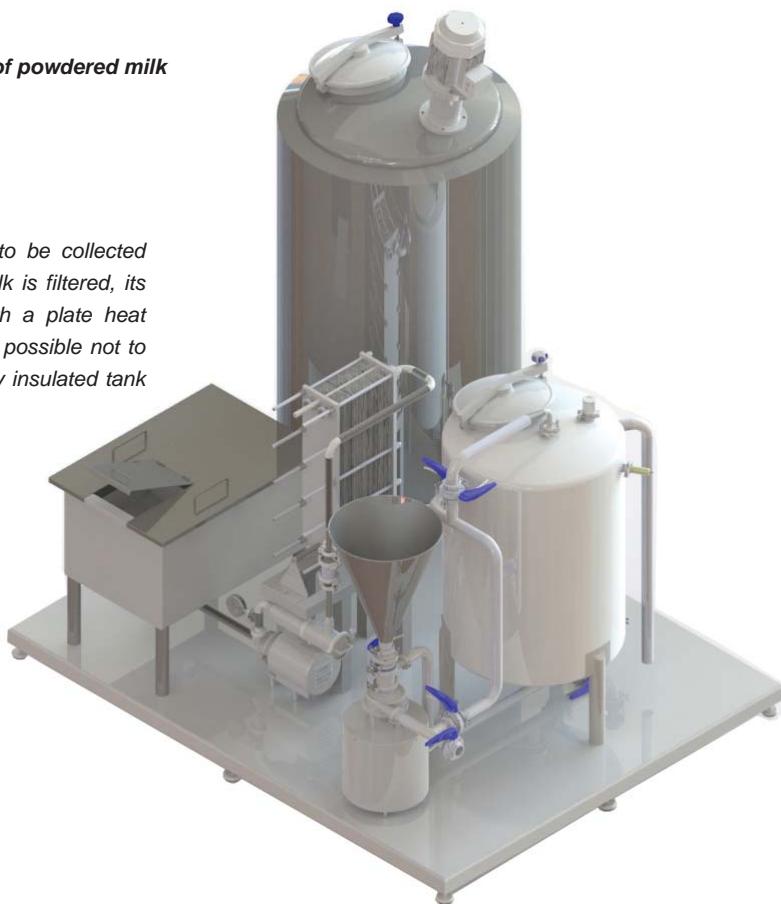
## I Description of modules

### 1. Module for liquid milk reception and reconstitution of powdered milk

This module comprises the following skids:

#### Reception skid

This module allows the liquid milk coming from farms to be collected whether in milk churns or small milk tank trucks. The milk is filtered, its volume measured (via a mass-flow meter), cooled (with a plate heat exchanger) and stored in a thermally insulated tank. It is possible not to use the plate heat exchanger and substitute the thermally insulated tank for an automatically cooled tank (OPTION A).



#### Skid for reconstituting powdered milk

This skid consists of a thermally insulated tank connected directly to a blender, which, by means of a recirculating system, mixes powdered milk with water to obtain reconstituted powdered milk stock that can be used either directly or mixed with the liquid milk from the previous module.

## 1 Description of modules

### 2. Module for heat treatment and preparation for post-processing of milk

This module comprises a pasteuriser with an outlet to the skimmer and homogeniser. The pasteuriser can be set up according to the products to be manufactured now and in the future. The specifications of the products to be manufactured determine the inlet, outlet and pasteurisation temperatures of the milk, and the corresponding residence time in the pipeline.

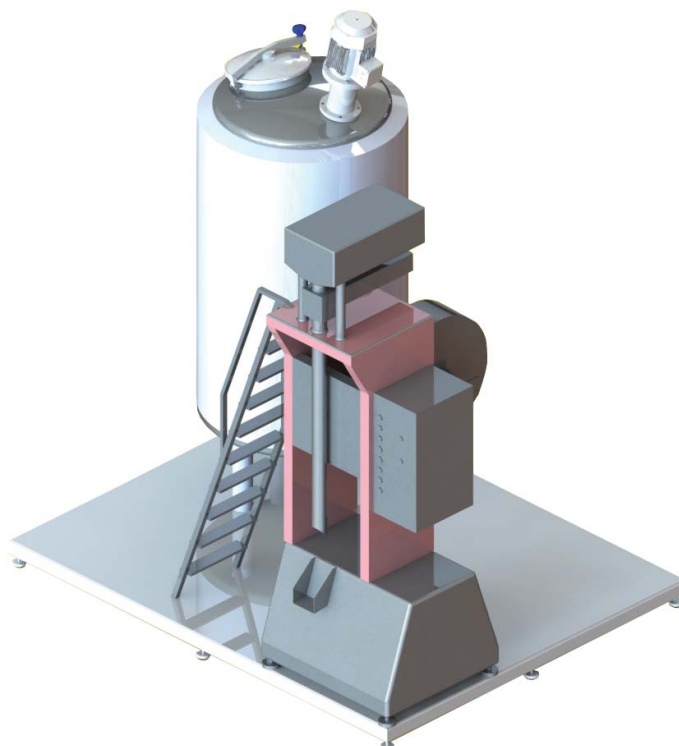
Even though the pasteuriser is manually operated, the product manufactured with this system conforms with all the necessary quality standards and food safety specifications since it incorporates an automatic safety valve that controls the pasteurisation temperature. As an option, this module can additionally include a centrifugal separator and a homogeniser.



### 3. Milk packaging module

This is a module comprising a vertical thermally insulated tank and a packaging machine.

The tank acts as a buffer and ensures no interruptions in the pasteuriser operation in case of filling machine stoppages. The filling machine can fill: bags, bottles or cartons, depending on needs. The bag option has been included in the datasheet.



## I Description of modules

### 4. Cheese production module

This module allows the manufacture of milk curd in a curd vat and for the whey to be subsequently removed at a separate station. The objective of this module is to allow the manufacture of the majority of cheeses on the market, from soft cheese and fresh cheese to semi-hard and hard cheese. That is why we offer a range of options for this module in order to cater for the specifications of different cheeses. These options are:

SEMI-HARD OR HARD CHEESE (such as havarti, manchego, gouda, etc.)

.Horizontal press.

.Press screen for the whey draining station

.Set of perforated moulds.

SOFT CHEESE (such as burgos, camembert, etc.)

.Moulds for soft cheese.

.Additional whey draining screen for soft cheese.

STRETCHED CURD CHEESE (such as mozzarella, pizza cheese, etc.)

.Melter - Stretcher - Compact moulder.

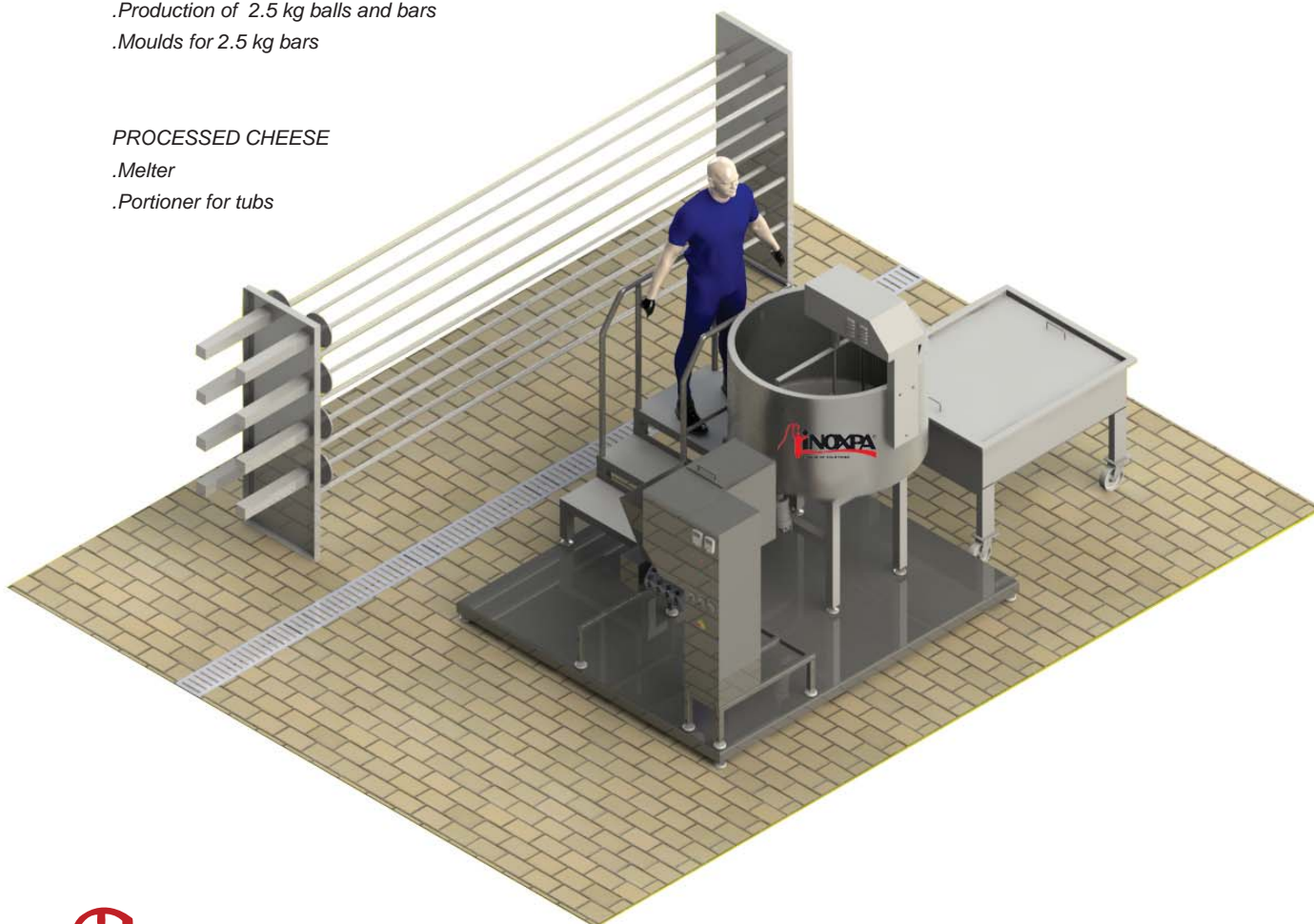
.Production of 2.5 kg balls and bars

.Moulds for 2.5 kg bars

PROCESSED CHEESE

.Melter

.Portioner for tubs



## I Description of modules

### 5. Yogurt production module

There are two different modules for making yogurt: set and whipped.



Set yogurt

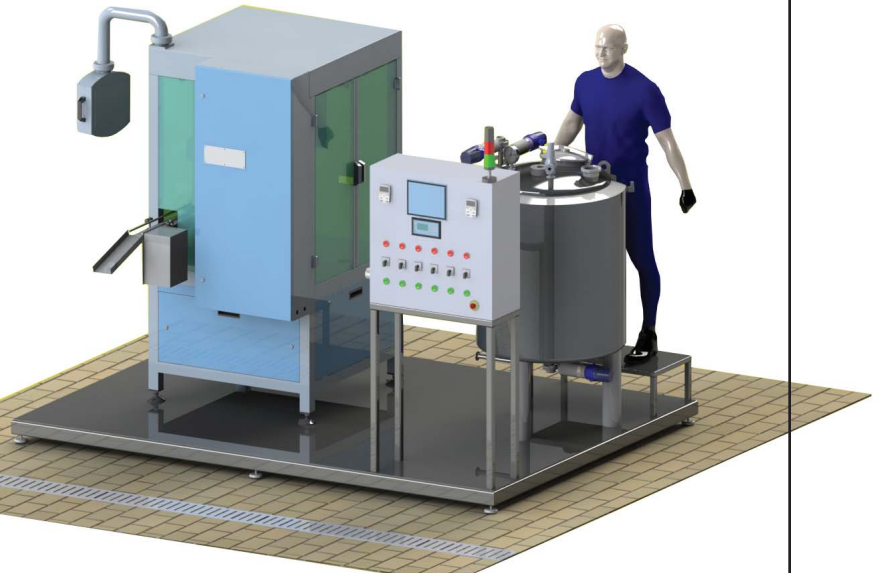


Whipped yogurt

#### Set yogurt

This comprises a fermentation tank allowing the pasteurised milk to be maintained at the fermentation temperature while the culture is added and mixed evenly throughout. The milk with the culture is then introduced in the corresponding yogurt container, where the product proceeds to the final fermentation stage.

NOTE: It is possible to use the fermentation tank as a pasteuriser

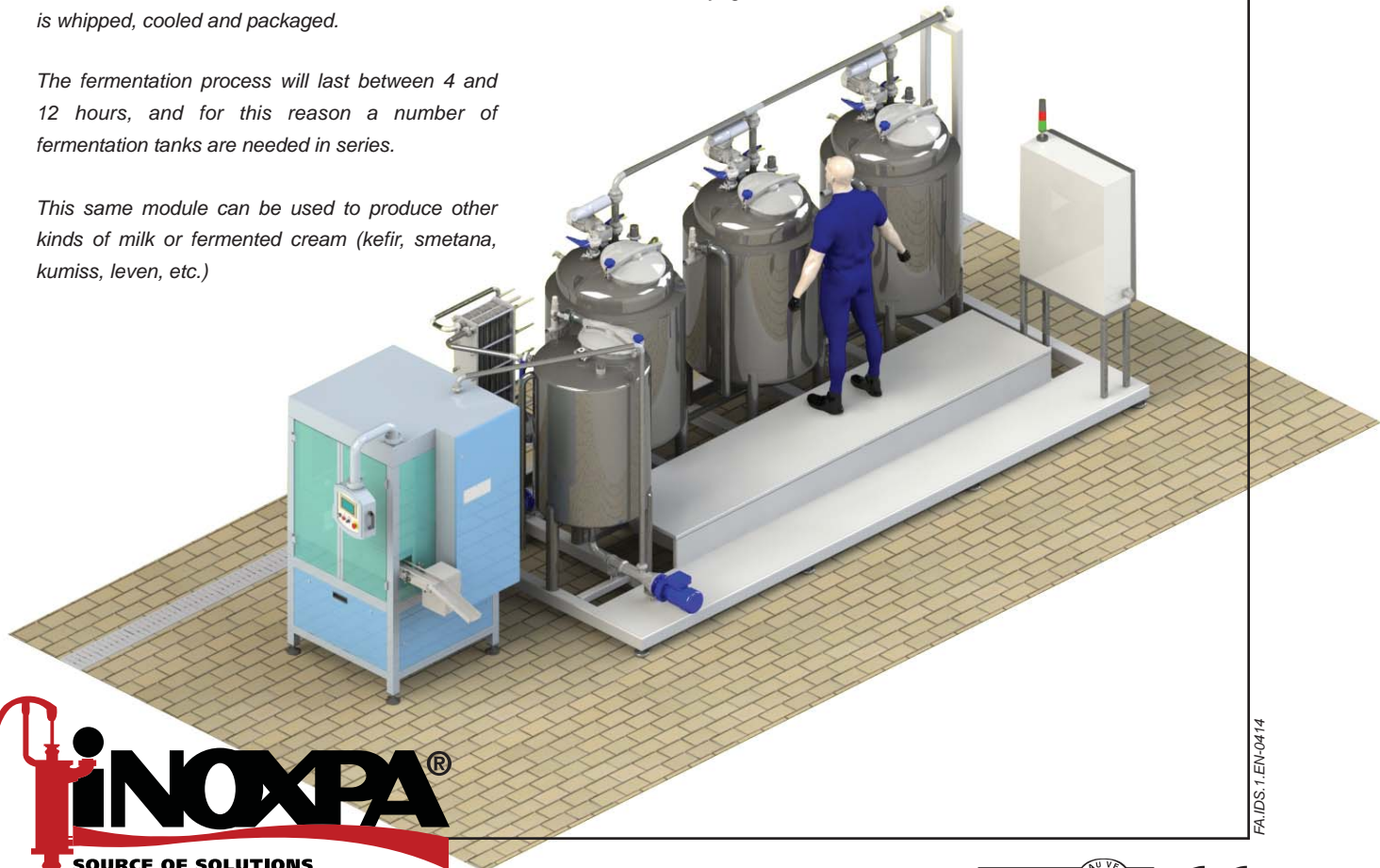


#### Whipped yogurt and other fermented dairy products

The module allows fermentation to be carried out within the tank, once the yogurt has achieved the desired characteristics, it is whipped, cooled and packaged.

The fermentation process will last between 4 and 12 hours, and for this reason a number of fermentation tanks are needed in series.

This same module can be used to produce other kinds of milk or fermented cream (kefir, smetana, kumiss, leven, etc.)

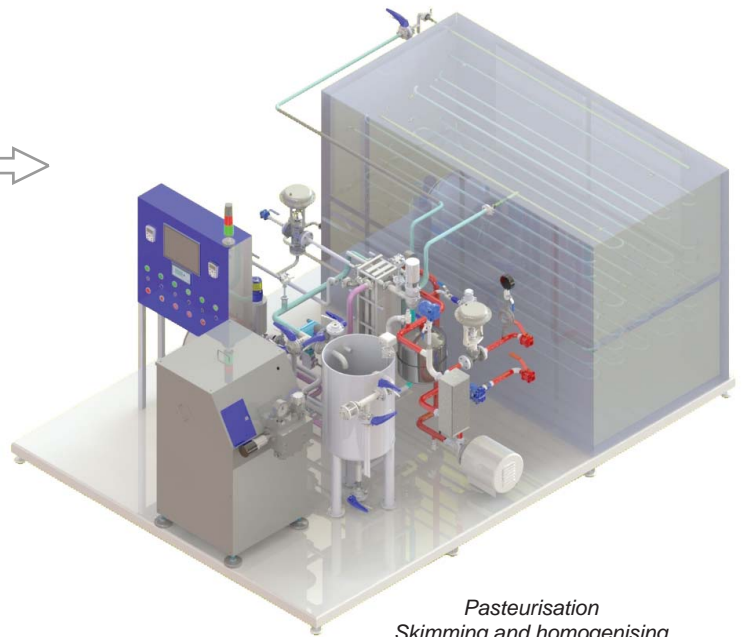


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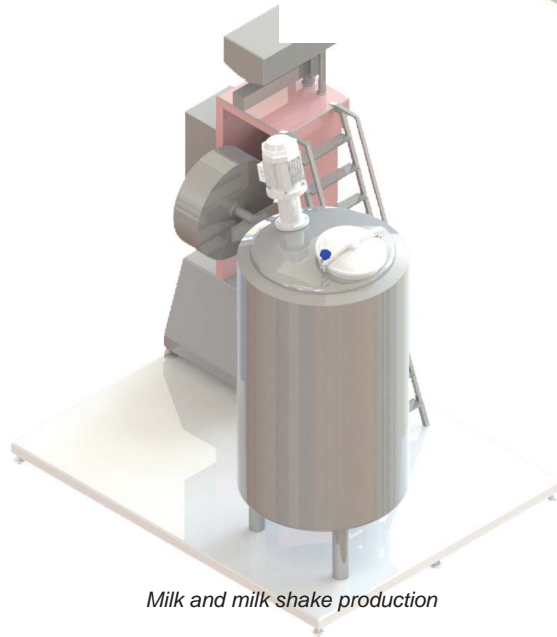
## I Miniplant modules



Liquid milk reception  
Reconstitution of powdered milk



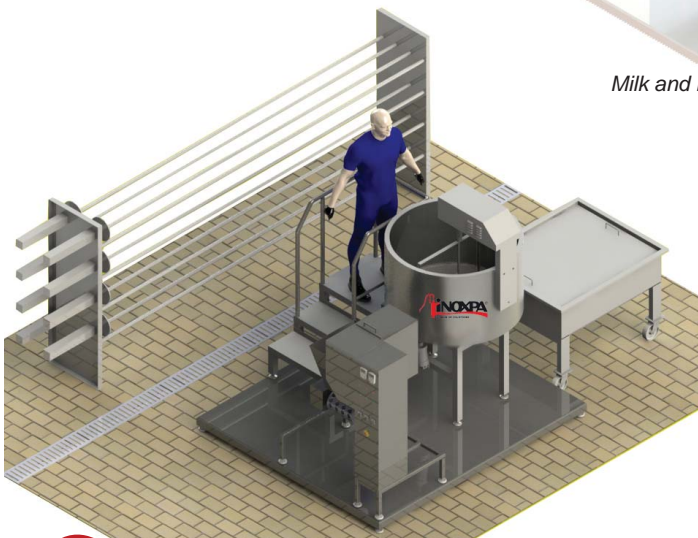
Pasteurisation  
Skimming and homogenising



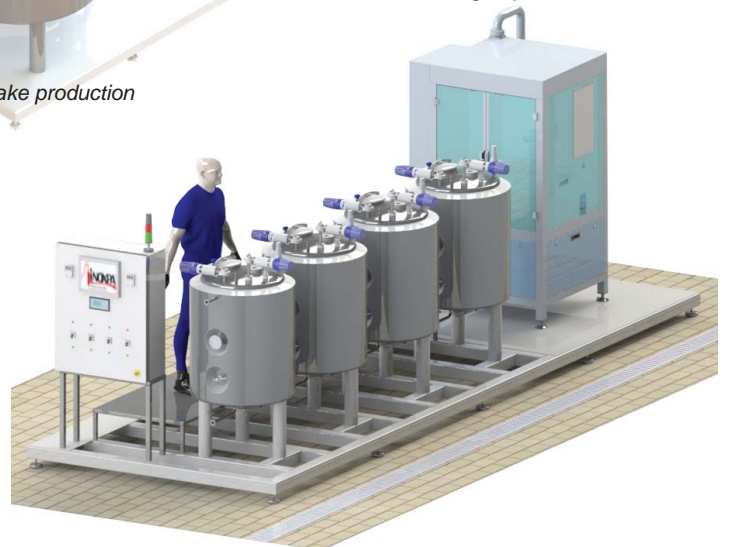
Milk and milk shake production



Cheese production



Yogurt production



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