



Tetra Pak® Grainy Cheese Vat E4

Efficient production of grainy cheese



Highlights

- No overheating of cheese curd
- Minimal operating cost
- High hygiene level
- Closed production environment
- Completely automated/controlled production process
- Repeatable product quality

Application

The Tetra Pak® Grainy Cheese Vat E4 is an advanced, highly automated piece of equipment used for the preparation of cheese curd in cottage/grainy cheese lines. Such lines may include filling machines, pasteurizers, drainers, tanks, blenders, etc.

Working principle

The Tetra Pak Grainy Cheese Vat E4 is a unit used for batch production of fresh cheese curd with even, homogenous curd particles. Milk is filled into the unit from the bottom to avoid foam creation. The amount of filled milk is measured by a volumetric flow meter. After filling, additives are mixed into the milk and the coagulation process starts. The Tetra Pak Grainy Cheese Vat E4 is equipped with a sterile air system to ensure high levels of hygiene during the coagulation and production processes. The cheese master must decide when to start cutting the coagulum.

After this, the rest of the production process is carried out automatically according to parameters set in the production recipe. Production steps include:

- Heating by means of hot water. There are three heating steps with different ΔT available to the user.
- Mixing. Every production step can have a different speed and angle of mixing.

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When the cheese curd is ready, the cheese master ends the heating and mixing process. Ready curd is emptied from the Tetra Pak® Grainy Cheese Vat E4. During the emptying process, the angle of mixing is regulated via a pressure transmitter installed in the bottom of the unit. At the end of emptying, the back of the equipment is lifted to ensure that all the curd leaves the vat.

By applying the individual production parameters given for a certain recipe, the Tetra Pak Grainy Cheese Vat E4 can produce different types of products with different properties. These products may include cottage cheese and tvarog, for example.

Basic unit

The Tetra Pak Grainy Cheese Vat E4 is a unit that provides a wide range of flexible solutions with capacities and options to suit every customer and market. Units are pre-assembled and are factory tested with water before delivery, thus ensuring reliable installation.

Main components

- Cylindrical vat made of AISI 304 steel
- Longitudinal and transverse cutting by harps
- Steering tools
- Independent frequency-controlled motor drives for harps and steering tools
- Heating jacket
- Pressure transmitters
- Temperature transmitters
- Lifting system

Technical data

Control panel

The Tetra Pak Grainy Cheese Vat E4 is controlled by an Allen Bradley or Siemens PLC. This is fitted in a cabinet located on the operating platform.

A motor control cabinet is situated behind the unit, but can easily be moved to a different place.

The Tetra Pak Grainy Cheese Vat E4 is pre-programmed to communicate with Tetra Pak® PlantMaster or other supervisory systems.

Capacity

- 9 000 l
- 12 000 l
- 15 000 l
- 18 000 l

Consumption data

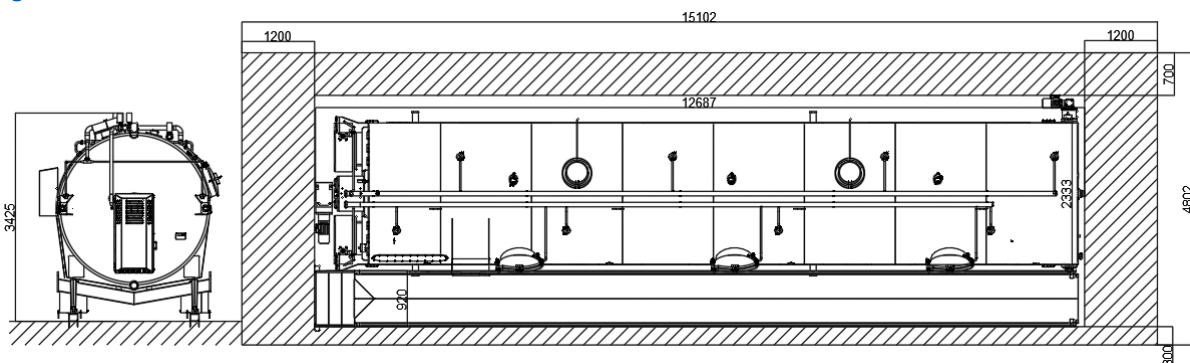
CIP	30 000 l/h
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Electrical power	
2.5 kW	400 V, 50 Hz

Required pasteurized water supply	
15 000 l/h	at 300 kPa (3 bar)

Compressed air	
15 Nm/h	at 600 kPa (6 bar)

Layout



Example layout of the Tetra Pak Grainy Cheese Vat E4 with maintenance area.