



# Tetra Therm<sup>®</sup> Aseptic Visco with Contherm

Continuous indirect UHT treatment unit for viscous products with or without particles



## Application

Tetra Therm Aseptic Visco with Contherm provides continuous indirect heating and cooling of high viscous and smooth to particulate soups & sauces, desserts, fruit preparation, tomato preparations and other viscous food products

## Highlights

- Operational flexibility
- Consistent food quality
- Enables Food safety
- Production efficiency
- Guaranteed performance

## Maximizing versatility and efficiency

Tetra Therm Aseptic Visco with scraped surface heat exchanger (SSHE) enables you to process high viscous products, with large particles up to 25 mm

Gentle product treatment in SSHE gives an even heat treatment and low burn-on or fouling. This due to continuous low shear scraping and tangential inlets and outlet.

Flush seals for aseptic processing ensures food safety.

Hydraulic rotor lift system on each unit for lowering of complete rotor, provides safe and easy inspection during maintenance and minimize down time.

## Working principle

The unit is fully automated for safe operation and production. The operation can be divided into three steps:

- Pre-sterilisation
- Production
- Cleaning-In-Place (CIP)

Before production can commence it is necessary to sterilize the aseptic area of the unit by circulating pressurized hot water. After sterilization the unit is cooled down step by step to production

temperature. Finally, sterile water is circulated through the production circuit.

When the receiving equipment is ready production starts by filling the unit with product, displacing the water/product mix to drain or reject tank. Thereafter continuous production is running.

If product supply or receiving equipment fails, sterile water displaces the product and goes into sterile circulation.

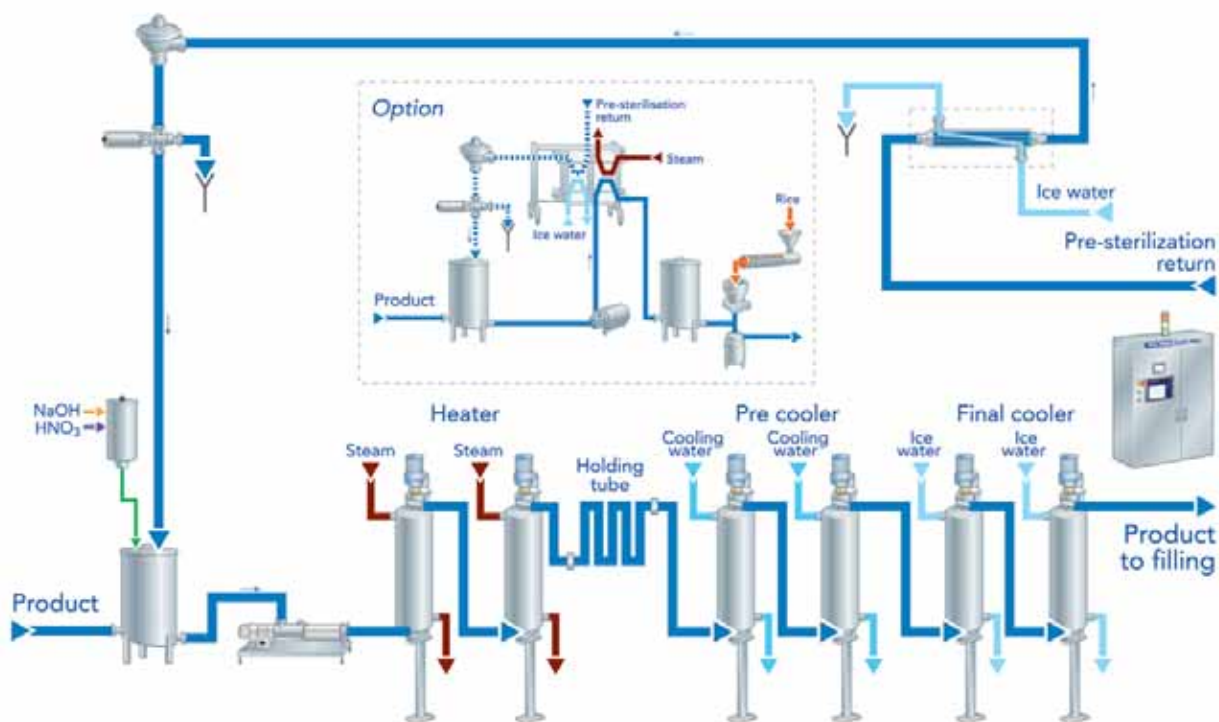
The product is indirectly heated by means of steam in Contherm scraped-surface heat exchangers. The product passes through a holding tube for the required period of time.

A temperature guard automatically monitors the product temperature after the holding tube. If the temperature drops below the preset value, an alarm will be activated, production will automatically cease and the receiving equipment will close.

Cooling to filling temperature takes place in a set of Contherm scraped-surface heat exchangers.

After finalized production the unit is cleaned. The CIP sequences can be configured individually for optimized cleaning result.

## Simplified flowchart



## Processing parameters

Example of temperature programs:

25 - 137 - holding - 30°C

25 - 100 - holding - 30°C

## Capacity

Typical capacities: 1 500 - 5 000 l/h

The capacity range for Tetra Therm Aseptic Visco with Contherm depends on the application, please contact your Tetra Pak representative for more information.

## Basic unit

### Feed module

- Balance tank with level control
- Positive pump for product displacement, frequency controlled
- Centrifugal CIP booster pump, frequency controlled
- Batch header tank for gravity dosing of CIP detergents

### Heat exchanger module

- Contherm scraped surface heat exchangers in EN 1.4404 (316L) with electric motor for a fix speed drive of the rotor
- Hydraulic lift for easy removal and insertion of rotor
- Holding tube for pre-set holding time

## Heating and cooling media module

- Steam regulating equipment
- Centrifugal pump for cooling water circuit (in final cooler)

## Control panel

- Stainless steel control cabinet in IP 55
- Siemens S7 PLC
- Digital paperless recorder with colour screen
- TPOP Human-Machine Interface (HMI)

## Other equipment

- Instruments and transmitters
- Automatic process and service valves
- Process pipes in EN 1.4404 (316L) stainless steel
- Electrical cables. Pre-wired

## Engineering and programming

## Technical documentation in digital format

## Export packing

## Technical data

### Approximate consumption data for 1 hr production at 3 000 l/h, 25-137-holding-30°C

|                                   |                                                                    |
|-----------------------------------|--------------------------------------------------------------------|
| Steam, 6 bar                      | 500 kg/h, peak 1 000 kg/h                                          |
| Cooling water, 3 bar, 20°C        | 11 000 l/h during production<br>6 000 l/h during pre-sterilisation |
| Rinsing water, 3 bar              | 18 000 l/h during CIP rinsing                                      |
| Instrument air                    | 50 NI/m, total not depending of capacity                           |
| Electricity, 380/400 V, AC, 50 Hz | 115 kW, excl. homogenizer                                          |

## Options

### Production of rice and cereal based food products

- Rice feed module
- Centrifugal feed pump
- Pre-heater
- Holding tube for rice
- CIP strainer

### Special food treatment

- Homogenization
- CIP/water module replacing standard balance tank solution (particle products)

### Automation/Control

- Data Collection and Production Analysis (DCPA)
- Air cooling unit with compressor
- UPS (Uninterrupted Power Supply) to control panel
- Additional Human Machine Interface (HMI), type Tetra PlantMaster ME for data logging and remote control, InTouch software included

### Technical documentation

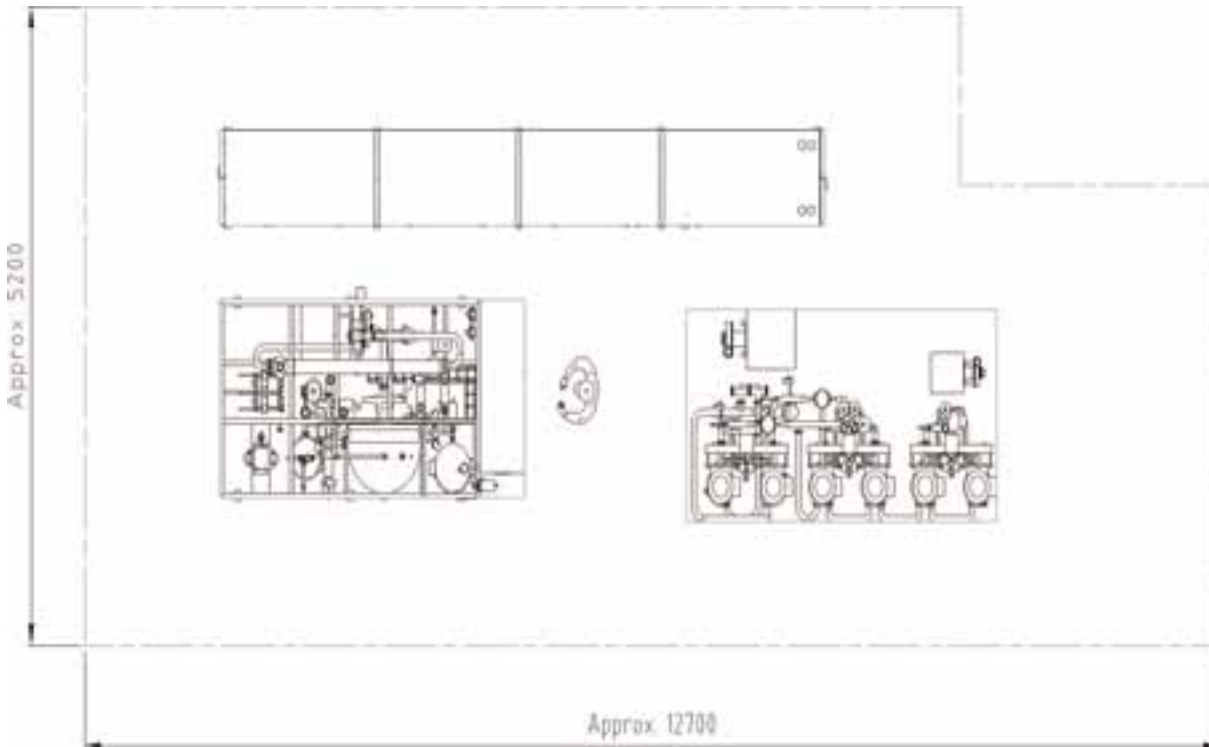
- Documentation in other languages than English or EEA

### CIP

- CIP dosing pumps with detergent containers
- Conductivity meter for CIP control

## Dimensions

Approx measurements including required service area in mm



## Heights

| Modules                    | Capacity            | Height in mm |
|----------------------------|---------------------|--------------|
| Main module                | 1 250 and 2 500 l/h | 2 800        |
| Rice feed module           | 1 250 and 2 500 l/h | 4 050        |
| Heat exchanger module 6x9  | 1 250 and 2 500 l/h | 5 000        |
| Heat exchanger module 6x11 | 1 250 and 2 500 l/h | 5 550        |
| Holding tube               | 1 250 and 2 500 l/h | 1 950        |

Additional free space required for service and maintenance above:

Freed module: 1 000 mm

Heat exchange module: min. 300 mm

## Environment

Tetra Therm Aseptic Visco with Contherm is designed for optimum utility consumption for each specific case. The exact energy consumption depends on the duty the specific heat exchanger performs.

Tetra Therm Aseptic Visco with Contherm consists of parts that can be separated for recycling purposes.