



Tetra Pak® Aseptic Tank VD for ESL production



Highlights

- Secures highest possible ESL-product quality
- Enables control of product temperature
- Minimize downstream microbiological growth
- Full integration in our processing and packaging ESL line

Application

Tetra Pak® Aseptic Tank is a fully automated aseptic tank used for intermediate storage of low-acid food products under aseptic conditions. Based on the proven benefits of Tetra Pak Aseptic Tank, this solution offers a unit designed to meet the specific needs of ESL applications.

Tetra Pak Aseptic Tank VD for ESL production improves your control of microbiological growth and secures the quality of your product after processing, thus protecting and extending the value of your ESL milk.

Working principle

Tetra Pak Aseptic Tank is sterilized by steam at a minimum temperature of 125°C for a period of time. It is then cooled by water circulating through the cooling jacket. Finally, a sterile water flush cools the tank and the filling line down to product temperature. After cooling, sterile air is fed into the tank to empty the tank and filling line.

The system is designed to eliminate the risk of microbiological growth through features such as:

- Tubular cooler integrated in filling line
- Continuous circulation in filling line
- Non-heating sterile barrier at end valve
- Temperature control throughout the system

The tubular heat exchanger should be positioned as close to the filling machine as possible to ensure that filling takes place at the recommended temperature.

An agitator may be included to even out product temperature in the tank.

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The tank is cleaned in place by a central CIP system. It is also designed to be completely implosion-proof and is manufactured in accordance with the European pressure vessel code (PED). It can also be manufactured to comply with other codes upon request.

Tank operation is fully automated and production interlocks are included for safety. The automation and interlocks are also designed with the specific requirements of ESL in mind.

Basic Module

- Vertical tank with cylindrical cooling jacket and safety rail
- Valve cluster module with frame-mounted pre-assembled valves, sterile air filters, safety device, air pressure equipment for emptying the tank, end valve cluster and control panel
- Separate in and outlet to Tetra Pak® Aseptic Tank
- Intermediate steam barrier – full CIP is possible on the ESL pasteurizer independent of the filling line
- Sterile water flush between production cycles
- Manhole and manhole cover, three legs, two with adjustable ball feet, load cell in one of the legs
- PLC control system with graphic touch-screen human-machine interface (HMI)
- Connections for product, cooling water, air and CIP liquids

Materials

- Tank in AISI 304 stainless steel
- Valves and pipes in AISI 316 stainless steel
- Maximum working pressure 300 kPa (3.0 bar)

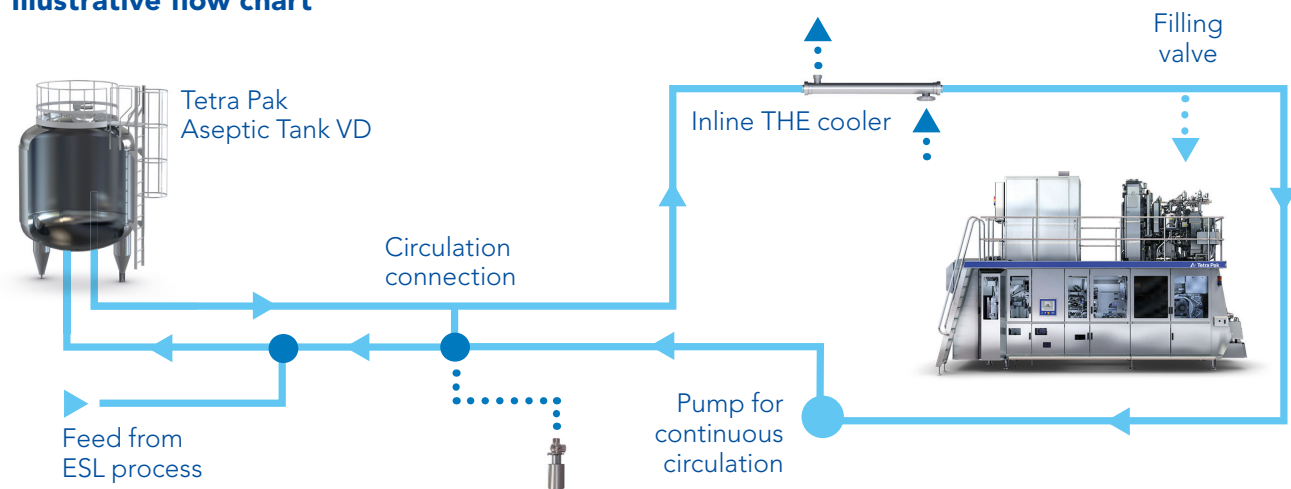
Main components in ESL filling line

- Tubular heat exchanger
- Frequency-controlled centrifugal pump
- Level transmitters
- Temperature transmitters
- Automatic control and shut-off valves

Optional equipment

- Insulation and cooling on bottom and shell
- Agitator – magnetically driven, welded into the bottom of the tank, without sealing or need for steam barrier
- Steam-reducing valve set
- Control room solution – remote operator interface Tetra Pak® PlantMaster, application software for remote handling of branded units
- Additional options available – see separate information about Tetra Pak Aseptic Tank for additional optional equipment

Illustrative flow chart



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