APPLICATION

Tetra Pak® Aseptic Tank is a fully automated unit used for the buffering (intermediate storage) of liquid food products under aseptic conditions.

This advanced aseptic tank is available as a separate unit or as a functional component in our integrated lines for all applications (dairy, beverage and prepared food). The unit comes in a range of three models and tank sizes with a large number of options including different agitators. Tetra Pak can advise you on the most suitable tank model for your particular application whether your product is high or low viscosity, with or without fibres, with smaller or bigger particles, etc…

HIGHLIGHTS

• Uncompromised food safety
• Maximize production flexibility
• Preserve high product quality
• Reduce product losses
• Solutions for all types of products
• Long operating time
• Ergonomic design and serviceability
• Simplified line integration

WORKING PRINCIPLE

The Tetra Pak® Aseptic Tank is sterilized by steam at a minimum temperature of 125°C. It is then cooled by water circulating through the cooling jacket. During cooling, sterile air is fed into the tank to prevent vacuum formation. After sterilization, the aseptic tank is kept in aseptic conditions with an overpressure of sterile air and with steam barriers (110°C). During production, sterile air fills the tank space above the level of the product. The pressure is automatically controlled to maintain the feed pressure required by the filling machine in operation.

A number of agitator solutions are available to match product or application needs. A valve cluster module with a control panel directs product flow, sterile air, cleaning liquids and steam. Placed after the filling machines, the end valve cluster prevents reinfection. The tank is cleaned in place (CIP) by either a CIP unit or a central CIP system.

Tank operation is fully automated and production interlocks are included for safety reasons. The operator only has to initiate the process steps: tank sterilization, production and CIP.
BASIC DESIGN
The tank body is manufactured in accordance with the European pressure vessel code (PED), but can be manufactured to comply with other codes on request.

Since tank unit operation includes high-temperature sterilization followed by cooling, the tank is designed to be completely implosion-proof.

The tank unit is operated from its own programmable control in the control panel, or remote from, for instance a control room. However, if used in combination with one of our heating units, it can be operated from the PC panel of the heating unit instead, saving the cost of a operator panel on the tank.

TETRA PAK® ASEPTIC TANK LV
Tetra Pak® Aseptic Tank LV is a platform-based unit that provides a wide range of flexible solutions with different capacities and options. The LV model is best suited for low to medium viscosity products with or without smaller particles and fibres. This vertical tank has a cylindrical cooling jacket, manhole, CIP nozzles and safety rail. The tank includes a load cell solution for weighing the contents and the level indication is shown on a control panel. There are connections for product, steam, cooling water, air and CIP liquids. The valve cluster module has frame-mounted pre-assembled valves, sterile air filters, safety features and air pressure equipment for emptying the tank and a control panel. There is also an end valve cluster. In many cases, good agitation is important for the LV model. An agitator solution is recommended for products that can separate in the tank during storage and is also recommended to even out the product temperature. Depending on the product or application needs, a number of agitator solutions are available. The unit is factory tested before delivery, thus ensuring easy installation. The control system is Siemens or Rockwell and the HMI (human-machine interface) solution is based on the Tetra PlantMaster™ graphic design.

MAIN STANDARD COMPONENTS
• Tank in AISI 304 stainless steel
• Max. operating pressure 300 kPa (3.0 bar).
• Valves and pipes in AISI 316 stainless steel.
• Control panel in stainless steel, including process controller (PLC) and solenoid valves.

SELECTION OF OPTIONS BY GROUP
AUTOMATION AND CONTROL
• PLC control system from Siemens or Rockwell
• Local security switches
• Control panel for air cooling
• Uninterrupted Power Supply (UPS) for PLC and HMI
• Control cabinet with highly hygienic design
• 15” industrial PC operator panel mounted in the control cabinet
• Remote control alternatives
• HMI integration in Tetra Pak heating unit

PRODUCTION FLEXIBILITY
• Connect to more than one UHT unit
• Intermediate steam barrier connected to UHT/UHT units
• Sterile water flush between production cycles

PRODUCTION SAFETY
• Low fouling of end-valve cluster
• Steam-reducing valve set
• Air compressor with air cooler and air tank

SPECIAL PRODUCT TREATMENT
• Inner container in acid-proof AISI 316 for high-acid products
• Agitator including steam barrier mounted on top of the tank
• Alternative agitator: magnetically driven, bottom-mounted, no need for steam barrier
• Separate inlet and outlet to tank for products sensitive to sedimentation and to achieve circulation and replacement of product inside the tank
• High pressure version for maximum operating pressure of 4.3 bar (g) inside the tank body
• Cooling and insulation alternatives on shell and bottom
• Nitrogen gas in addition to sterile air
• Sterile air filters and steam filter alternatives

SAFETY
• Stainless steel platform with falling protection
• Stainless steel ladder with falling protection

SUB-MODULES, SPECIAL AND LINE CONFIGURATIONS
• ESL solution for product temperature control
• Aseptic Equalizer for filling line
• Special design requirements
• Bigger tank alternatives
• Regional specific
• Performance guarantees

TECHNICAL DOCUMENTATION
• Other language than EEA languages
• CE marking for countries outside of the EEA

DIMENSIONS AND CAPACITIES
<table>
<thead>
<tr>
<th>Tank type</th>
<th>Approximate volume (litres) up to CIP spray balls</th>
<th>Diameter, max, mm</th>
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TETRA PAK® ASEPTIC TANK HV
Tetra Pak® Aseptic tank HV is a platform-based unit that provides a wide range of flexible solutions with different capacities and options. The HV model can be used for a wide range of applications and is best suited for medium to high viscosity products without particles or products with small particles that do not separate out and/or form a sediment. This vertical tank has a cylindrical cooling jacket, manhole, CIP nozzles and safety rail. The tank includes a load cell solution for weighing the contents and the level indication is shown on a control panel. There are connections for product, steam, cooling water, air and CIP liquids. The valve cluster module for particulate and/or viscous products has frame-mounted pre-assembled valves, sterile air filters, safety features and air pressure equipment for emptying the tank and a control panel. There is also an end valve cluster. The unit is factory tested before delivery, thus assuring easy installation. The control system is Siemens or Rockwell and the HMI (human-machine interface) solution is based on the Tetra PlantMaster™ graphic design.

MAIN STANDARD COMPONENTS
• Tank in AISI 316 stainless steel with separate inlet and outlet to tank to achieve circulation and replacement of product inside.
• Valves and pipes in AISI 316 stainless steel.
• Max. operating pressure 600 kPa (6.0 bar).
• Low speed horizontal agitator
• Control panel in stainless steel, including process controller (PLC) and solenoid valves.

SELECTION OF OPTIONS BY GROUP
AUTOMATION AND CONTROL
• PLC control system from Siemens or Rockwell
• Local security switches
• Control panel air cooling
• Uninterrupted Power Supply (UPS) for plc and HMI
• Control cabinet with highly hygienic design
• 15” industrial PC operator panel mounted in the control cabinet
• Remote control alternatives
• HMI integration in Tetra Pak heating unit

PRODUCTION IN GENERAL, FLEXIBILITY, SAFETY AND SPECIAL TREATMENT
• Low fouling end-valve cluster for particulate/viscous products
• Steam-reducing valve set
• Air compressor with air cooler and air tank
• Intermediate steam barrier for increased production flexibility
• Sterile air filters alternatives

SAFETY
• Stainless steel platform with falling protection
• Stainless steel ladder with falling protection

OTHER SPECIAL CONFIGURATIONS
• Special design requirements including agitator solution
• Performance guarantees
• Regional specific

TECHNICAL DOCUMENTATION
• Other language than EEA languages
• CE marking for countries outside of the EEA

DIMENSIONS AND CAPACITIES

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TETRA PAK® ASEPTIC TANK HH

Tetra Pak® Aseptic Tank HH is a platform-based unit that provides a wide range of flexible solutions with different capacities and options. The HH model is designed to be used for both high and low viscosity aseptically processed food products with or without particles. The maximum particle size is 18 mm. This model is equipped with a low-speed horizontal agitator keeping the whole volume of product in motion in a gentle way. The tank includes a load cell solution for weighing the contents and the level indication is shown on a control panel. This horizontal tank has a cooling jacket, paddle agitator and CIP nozzles. The valve cluster module for particulate and/or viscous products has frame-mounted pre-assembled valves, sterile air filters, safety features and air pressure equipment for emptying the tank, a frequency converter and a control panel. There is also an end valve cluster. There are connections for product, steam, cooling water, air and CIP liquids.

The unit is factory tested before delivery, thus assuring easy installation. The control system is Siemens or Rockwell and the HMI (human-machine interface) solution is based on the Tetra PlantMaster™ graphic design.

MAIN STANDARD COMPONENTS

- Tank in AISI 316 stainless steel with separate inlet and outlet to tank to achieve circulation and replacement of product inside
- Valves and pipes in AISI 316 stainless steel.
- Max. operating pressure: 600 kPa (6.0 bar).
- Low-speed horizontal agitator
- Control panel in stainless steel, including process controller (PLC) and solenoid valves.

SELECTION OF OPTIONS BY GROUP

AUTOMATION AND CONTROL

- PLC control system from Siemens or Rockwell
- Local security switches
- Control panel air cooling
- Uninterrupted Power Supply (UPS) for PLC and HMI
- Control cabinet with highly hygienic design
- 15" industrial PC operator panel mounted in the control cabinet
- Remote control alternatives
- HMI integration in Tetra Pak heating unit

PRODUCTION IN GENERAL, FLEXIBILITY, SAFETY AND SPECIAL TREATMENT

- Low fouling end-valve cluster for particulate/viscous products
- Steam-reducing valve set
- Air compressor with air cooler and air tank
- Intermediate steam barrier for increased production flexibility
- Sterile air filter alternatives

SAFETY

- Stainless steel platform with falling protection
- Stainless steel ladder with falling protection

OTHER SPECIAL CONFIGURATIONS

- Special design requirements
- Performance guarantees
- Regional specific

TECHNICAL DOCUMENTATION

- Other language than EEA languages
- CE marking for countries outside of the EEA

DIMENSIONS AND CAPACITIES

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