Tetra Pak® Preparation System B-EXT

One production island serving your filler line

Application

Tetra Pak® Preparation System B-EXT combines a complete final syrup preparation in one compact modular plant isle to serve one filler production line.
The solution is an advanced alternative for customers that do not wish to compromise on flexibility or production yields. It integrates a series of ground-breaking technologies in one production island.

Tetra Pak Preparation System B-EXT is suitable for a wide range of applications in the soft drinks industry and also allows the handling of difficult ingredients containing fibres or with progressive viscosities like stabilizers or gums.

Working principle

Tetra Pak Preparation System B-EXT includes equipment for ingredient feeding such as a powder table with an optional drum unloading function and aspirating spear and supply lines for liquid sugar, concentrates or water.
These are linked by a valve manifold that distributes the ingredients to the mixing tanks. The solution will typically comprise two or even three large batch vessels equipped with radial jet mixer S or radial jet mixer T driven by independent recirculation loops that mix the product precisely according to the recipe specifications.

Tetra Pak Preparation System B-EXT has a modular design and can be extended with different features shown in the section. It can be combined with other units for ingredient feed or even a continuous soft drink blender, carbonator or deaerator depending on individual product requirements.

Highlights

Perfect fit
Modular design allows exceptional recipe flexibility and enables upgrade investments whenever a recipe requires them.

Optimized in every aspect
Having everything in one place reduces transfer piping and ultimately product losses, energy and overall preparation time.

Unrivalled efficiency
Tetra Pak Preparation System B-EXT is so efficient that it can in many cases eliminate a mixing tank without losing line capacity.

Treats groundspace with care
A highly compact design facilitates integration into the plant.

One working table for everything
A single operating table for two or even three tanks concentrates the ingredient intake area to a specific spot rather than splitting it on each of the tanks.

The solution also provides the functionality to prepare a pre-mix of up to 300 litres in volume using the same working table, but without influencing the mixing tanks until the pre-mix can be introduced.

Enhanced ingredient feeding
Unloading of concentrate drums without using expensive aspirating pumps. The system is driven by the vacuum of our patented injector technology. The injector also allows the aspiration of dry powders with a suction lance.

No more ingredient losses
Tetra Pak Preparation System B-EXT can be equipped with an optional dust Extraction and Recovery System called ERS to eliminate ingredient dust losses.
ERS is fully integrated into the CIP cycles and requires no maintenance or filter replacement.

No need for shear pump
A specially designed Auto Mixing Device (AMD) allows hard-to-dissolve powders like CMC or pectin to be fed up to 1 % at 20 °C dissolving temperature without lumps remaining. All achieved without energy-intensive or product-shearing mixers.

Lumps should not be your problem
To make sure water-soluble powder lumps get dissolved efficiently without blocking the feeding inlet, Tetra Pak Preparation System B-EXT provides a huge dumping funnel fully integrated in the cleaning system which can be flooded by liquid. The immediate contact of the lumps with liquid make them fall apart and allows to dissolve them before they create blockage.
Everything without using lump-breaking systems which consume energy and require additional maintenance.

Complete options list

1. Tank sizes

- Tank 10 000 litres
- Tank 16 500 litres
- Tank 25 000 litres
- Tank 45 000 litres

2. Mixing

- Auto Mixing Device (AMD) for dissolving gums, stabilizers or thickeners 1 %
- Radial jet mixer T upgrade

3. Dust extraction system

- ERS dust extraction system with product recovery

4. Ingredient intake

- Wet intake with suction lance ø48.3 mm outer diameter
- Dry intake with suction lance ø41 mm outer diameter
- A smaller lance (ø29 mm outer diameter) is delivered for liquid aspiration with the same lance system
- Additional ingredients line (serial intake, only one ingredient can be dosed at the same time)
- Ingredient power line (parallel intake including second mass flowmeter; two ingredients can be dosed at the same time)

5. Additionals

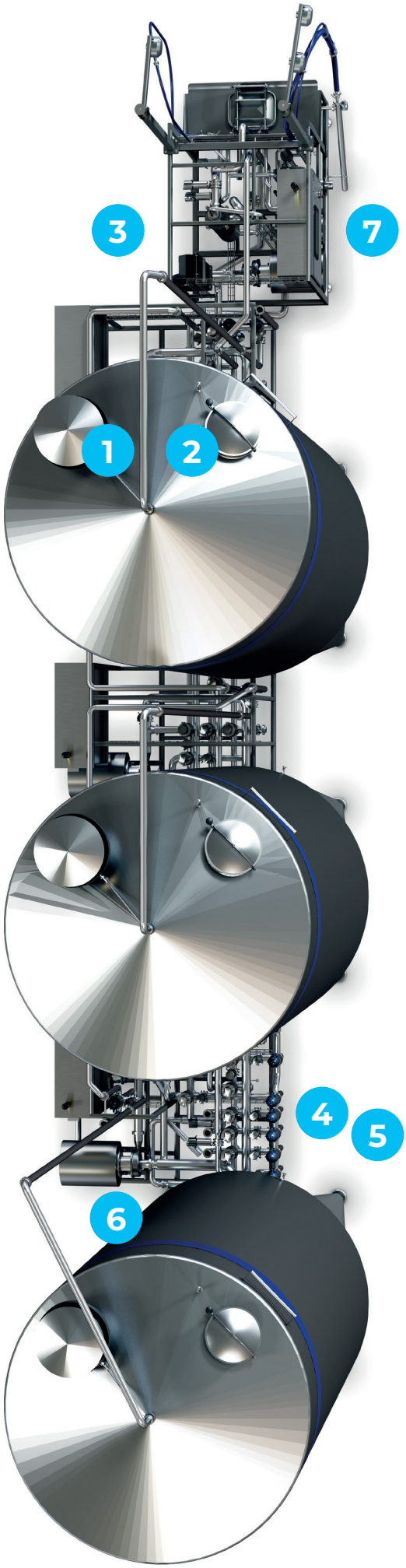
- Ergonomics upgrade (additional rotatable arm and balancer for water spray gun)
- Independent cleaning for tanks (tanks in the standard solution are always cleaned with the working table)

6. Third mixing tank

- A third mixing tank for fast filler lines when two tanks are not sufficient.
  A fourth tank can be integrated on request.

7. Automation

- Feedback for valves
- Human machine interface (HMI) 22” TFT Siemens
- Air conditioning system for control panel



Main components

- Mixing tanks (two or three)
- Ingredient feeding streams
- Recirculation loops
- Working table
- Ingredient measuring line
- Distribution valve clusters
- Operating and remote panels

Control panel

Tetra Pak Preparation System B-EXT is controlled by a Siemens PLC fitted in a control cabinet located on the main module. Optionally, the control cabinet can be equipped with an HMI screen or air conditioning system.

We can deliver the PLC with Allen Bradley code on request.

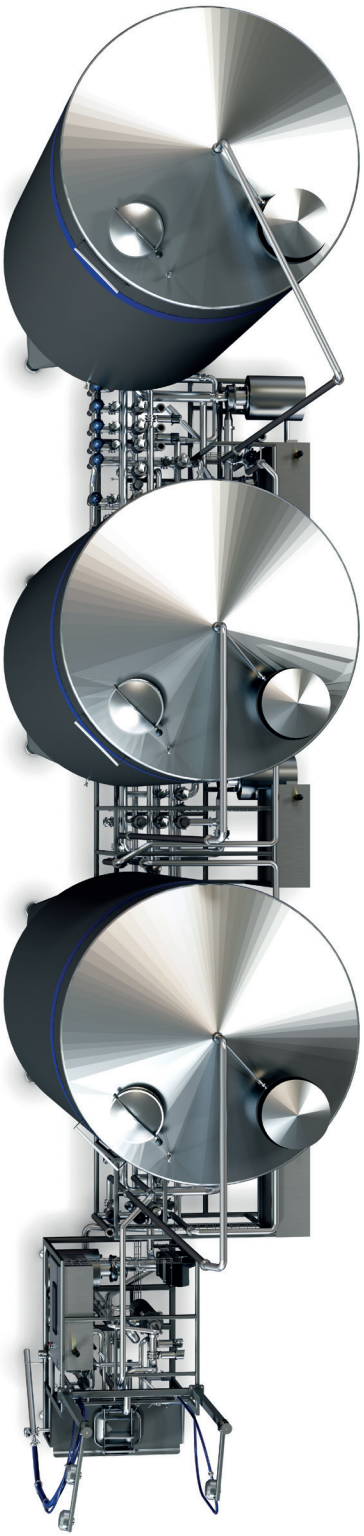
Technical data

All parts in contact with the product are made of AISI 316L. The frame is made of AISI 304L. Fittings are executed in DIN 11853 or DIN 11684.

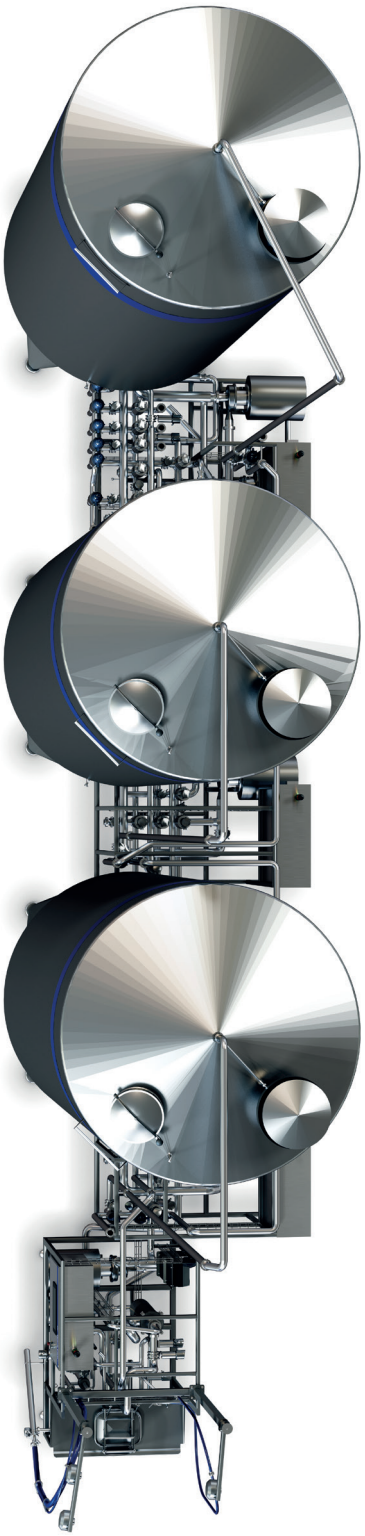
Electrical power	
Control cabinet supply	400 V, 50 Hz / 440 V, 60 Hz
Other supply voltage or frequency available on request	
Recirculation and discharge lines (first 2 tanks)	max. 60.5 kW*
*for tank sizes < 45 000 litres, max. 38.5 kW	
Recirculation and discharge lines (3rd tank)	+ max. 22 kW*
*for tank sizes <45 000 litres, max. 11 kW	
ERS, dust extraction system	max. 4 kW
Compressed air	600 kPa (6 bar)

Expand one by one

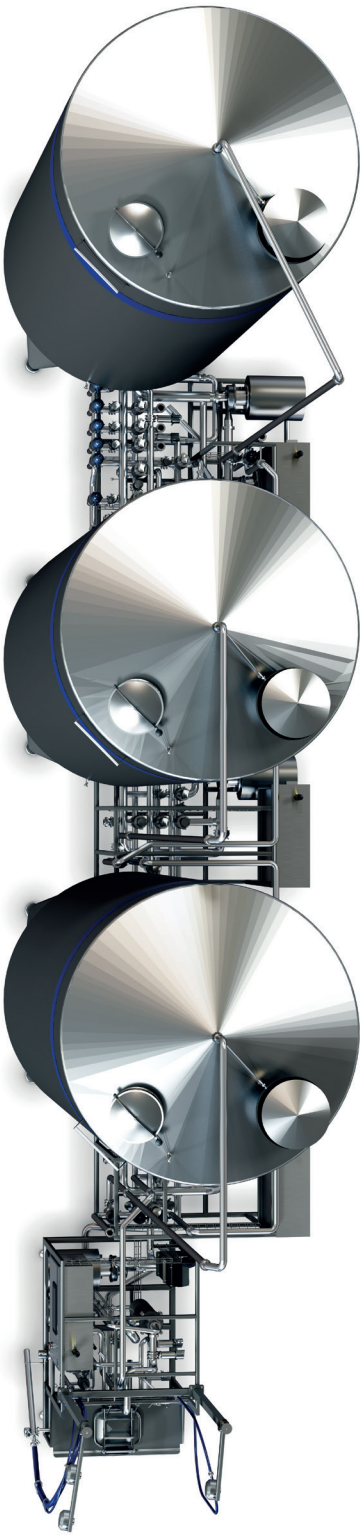
Line A



Line B



Line C



Arrange your working area as needed

- 90° rotation of the working table module to both sides
- Working table module moved up to 4 meters distance to the first tank (within the standard)
- Other layout adaptions on request

Maintenance-friendly design

We care about every aspect and every life phase of our products. For that reason, we try to ensure easy and comfortable maintenance access to our equipment. This speeds up your maintenance procedures and provides better ergonomics for your maintenance team.

Tetra Pak®
PROTECTS WHAT'S GOOD