

SANDER HANSEN SHIELD

The tunnel pasteuriser



 **KRONES**

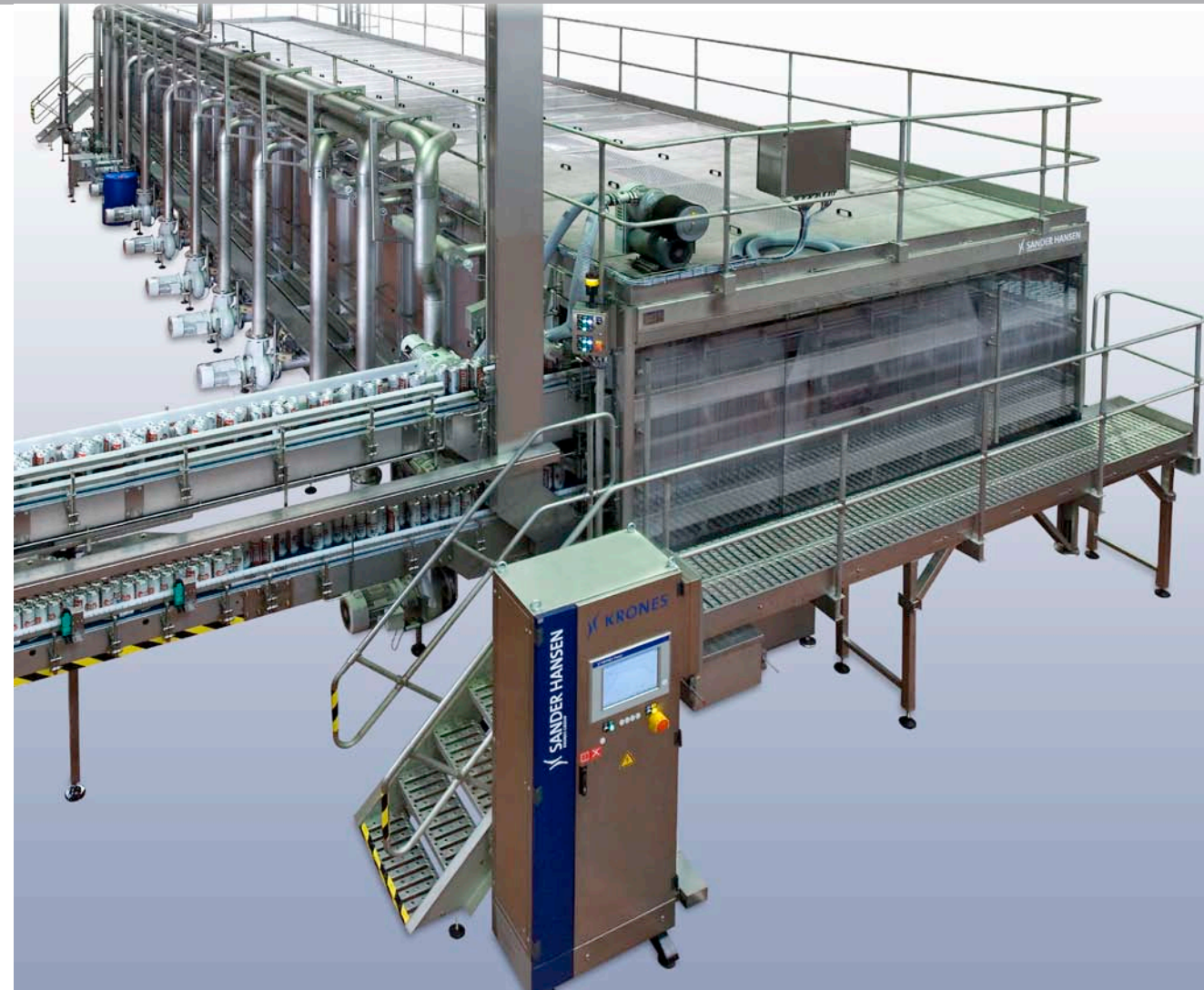
On the safe side

SANDER HANSEN SHIELD

SHIELD is a fitting name for the product. The tunnel pasteuriser gives delicate products a long shelf life without affecting their flavour. Compared with conventional pasteurisers, it is distinguished by its low energy and water consumption. This is made possible with the treatment zones with low water volume, the economical heating system CHES, the fine-tuned PU control, as well as the economical buffer system. Another special feature is the patent-pending, low-friction conveyors which convey all container types gently through the pasteuriser. A continuously economical operation is guaranteed by the well-proven technology and the robust design - both are results from our years of experience in building pasteurisers.

SHIELD means protection: Our KRONES technicians take this literally. Thanks to this, the pasteuriser provides fourfold security protecting products, resources, containers, and production processes.

S SANDER
H HANSEN
I Innovative
E Economic
L Long-Life
D Design



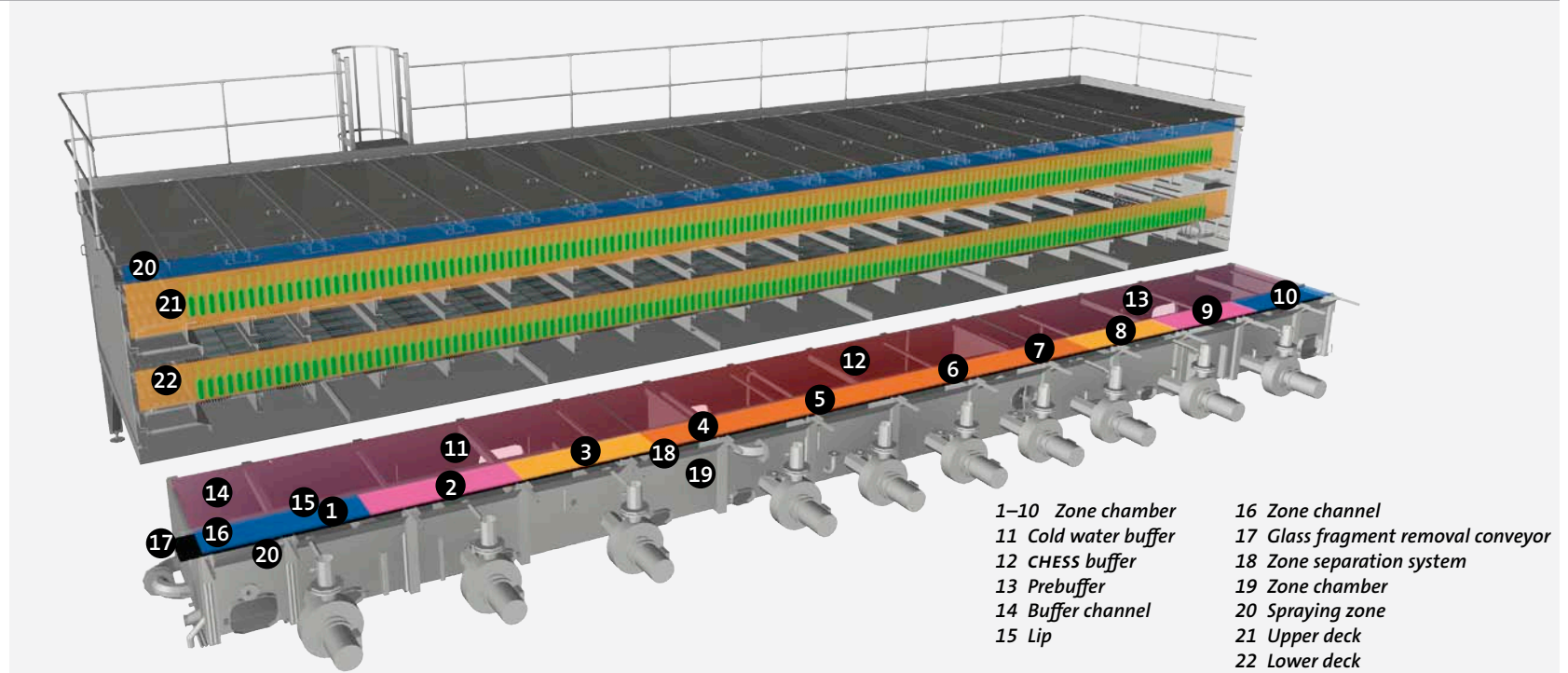
Method of operation

Channel concept

SHIELD is based on the well-proven channel concept enabling the optimum use of pasteurising water. The zone channel is divided into individual temperature zones so that the water remains in the respective temperature zones also after the bottle treatment. The buffer channel collects overflowing zone water and returns it to the circuit. In the event of a machine stop, cold or warm water is redosed, and therefore, the required temperature level is reached. The refuse extraction belt filters the water and automatically removes pieces of broken glass.

Tunnel modules

The tunnel modules are divided into temperature zones which allow gentle container heating and cooling before and after pasteurisation. A special feature of the tunnel module is the spraying system. It distributes water over the containers thus achieving a maximum and precisely defined heat transfer. This technology enables high flow rates at a low pressure.



Application

Pasteurisation of all products in glass bottles, PET containers, and cans

Output

20,000 - 15,000 containers per hour, depending on the version

Design features

- Modular design of the pasteuriser according to customer-specific requirements
- Robust and easy-maintenance design
- Economic water consumption thanks to highly efficient buffer system
- Regenerative energy concept with continuous utilisation of the zone water
- Fine-tuned temperature control via zone separation of the channel
- Low energy consumption through spraying system with low pressure



The infeed and discharge module conveyors are easily accessible with hinged drip plates for perfect cleaning results.



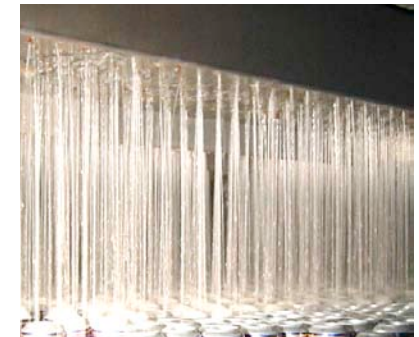
The removable side doors and overhead pipe-work facilitate maintenance.



Optimum accessibility to all machine components and spraying system



Spraying with spraying pipes...



...or spraying tubs

Spraying system

KRONES can supply two different spraying systems:

- The version with the overhead spray tubes provides even results with its clog-free openings.
- The base sprinkler version is a low-pressure system with upspray nozzles distributing the water evenly.
- Both systems have optimum heat transfer at low electrical consumption.

Conveyor systems

- The materials of the conveyor belts are tailored to your individual requirements and containers for safe and efficient transportation.
- All conveyor belts are made of durable materials and are low on maintenance and wear.
- Narrow transfer combs are used at the container infeed and discharge points for a streamlined product flow.
- Due to the low friction of the conveyors, only one main drive is required per deck.
- Containers which have been left behind are automatically pushed onto the conveyor belt by the optional rotary sweeper, allowing fully automatic operation of the pasteuriser.
- The Marathon Belt and Ironman Belt can also be retrofitted in existing conveyor systems.
- Commercial conveyors can be used in the SHIELD as well.



Marathon Belt

- Patent-pending conveyor of plastic links and stainless steel links
- Extremely long service life and low-wear thanks to minimum friction
- Best results with all container types



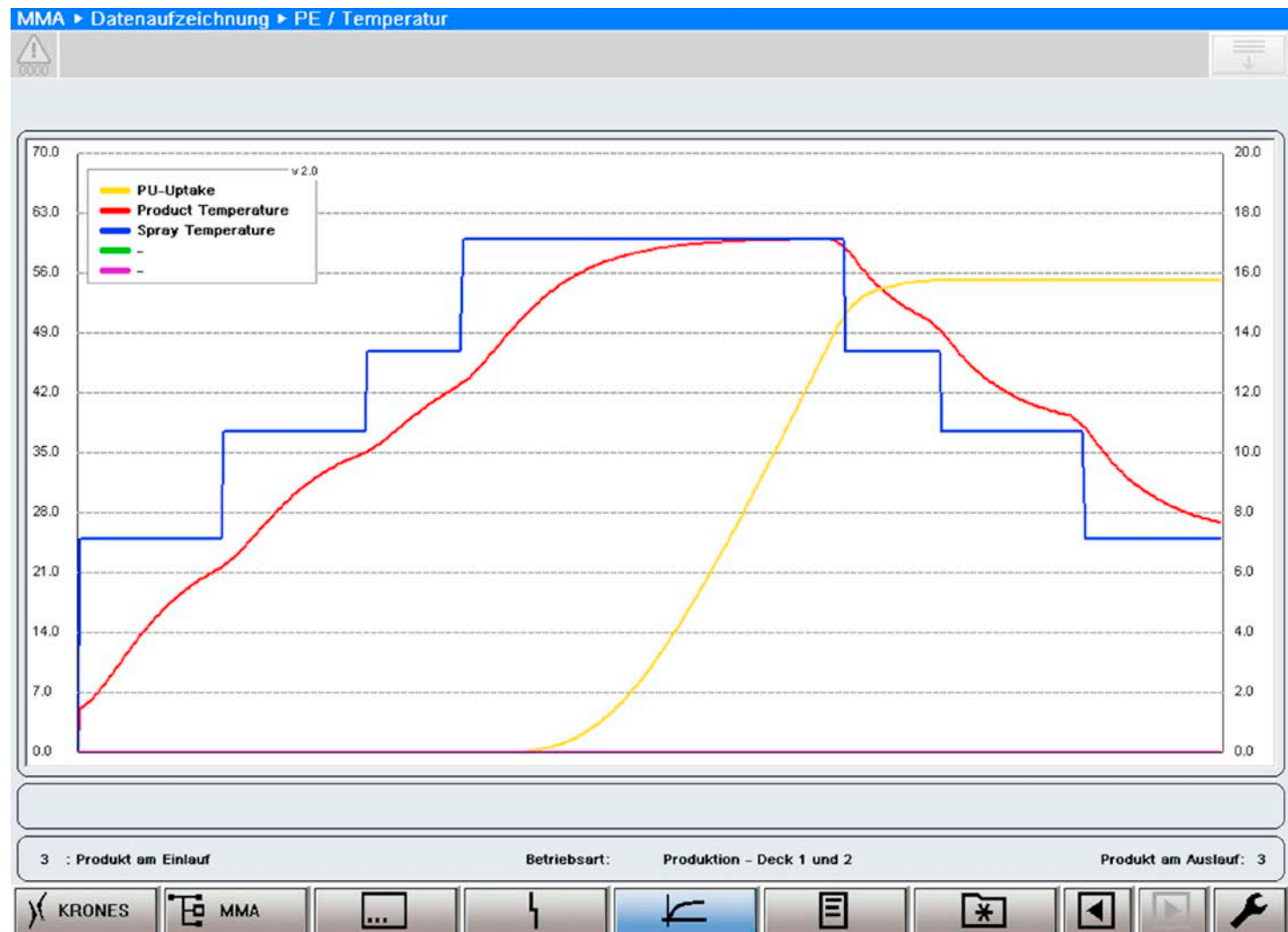
Ironman Belt

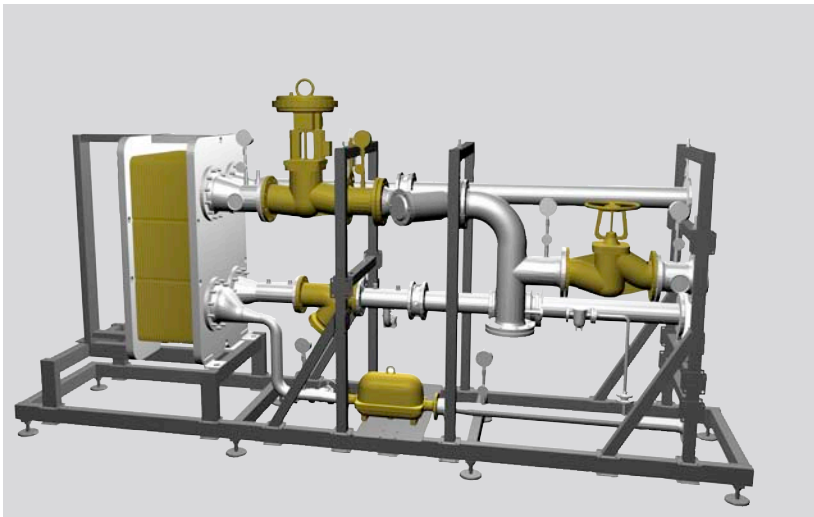
- Stainless steel conveyor
- Special further development of the well-proven Marathon Belt
- Smooth and safe pasteuriser operation guaranteed also with increased probability of broken glass

PU control PUC³

Utmost product safety - no matter what: The dynamic PU control PUC³ makes sure the required PU values will be maintained precisely even during product interruptions or in the event of a machine stop.

- PUC³ determines the PU values in real-time and establishes at the same time a preview of the expected results.
- At the PU calculation, the thermal properties of the product, the spraying temperature, as well as the conveyor speed are put into consideration.
- The system allows an on-the-fly product change in the pasteuriser.
- With the optional multi-criteria control, several target parameters such as PU values and elimination temperature can be controlled at the same time.
- The Windows-based system enables easy retrofitting of new products.





C Central
H Heat
E Exchanger
S Supply
S System

CHES heating system

The patented CHES heating system enables significantly efficient pasteuriser operation. SHIELD requires only one heat exchanger which supplies the individual zones of the channel directly with hot water. A buffer tank takes up the overflowing water and returns it to the pasteuriser zones via the heat exchanger.

This closes the water cycle, thereby slashing the heating-up times for the individual zones and saving vast amounts on energy and water consumption.



System expansion Multi-criteria control

- Expansion of the PU control
- Enables simultaneous control of several parameters such as PE and time via temperature
- Enables the control of a parameter while another one, e.g. thermal stress, is being recorded.

Your advantages

SANDER HANSEN SHIELD

- **Modular design**
SHIELD is based on the modular design principle and is custom-built to your exact specifications in terms of output and available space.
- **Precision PU control**
Provident PU control guarantees maximum possible product safety: The system reacts dynamically to product deviations and provides continuously high product quality.
- **Savings on energy and water**
The central heating concept of CHESSE, the zone separation of the channel, and the buffer system drastically reduce the energy and water consumption levels.
- **On-the-fly product change**
Special software makes it possible to pasteurise two different product batches at once. This increases the productivity and reduces the water consumption.
- **Fast readiness for operation**
SHIELD is distinguished by its extremely short heating times and is ready for operation within minutes.
- **Optimum conveyor for all containers**
The Marathon Belt and Ironman Belt conveyors transport your products through the pasteuriser gently and product-friendly.
- **User and maintenance-friendly**
All SHIELD components are easily accessible. The robust and hard-wearing design of the components also makes it considerably easier to service the machine.
- **Short installation time**
SHIELD is comprised of modular, pre-installed components and undergoes a full I/O test before delivery. Thus installation at the site can be performed within very short time.
- **Fully automatic operation**
Containers which have been left behind are put back on course by the rotary sweeper, an optional extra which frees up the operating staff.

