

# CRATE WASHING AND HANDLING SOLUTIONS

*Customised washing and handling systems for crates*



**SEMI STAAL**  
CLEANING & AUTOMATION

# TAILORED CRATE WASHING AND HANDLING SYSTEMS

SEMI STAAL designs and manufactures tailor-made washing and handling systems for crates. More than 300 crate washing systems have been delivered to customers in the food and pharmaceutical industries in more than 30 countries over the past 50 years.

Our washing systems are modular and manufactured according to HACCP principles. All systems can be adapted to handle a wide range of sizes and shapes of crates and moulds. Our solutions can be individually adapted to meet your specific hygiene, space and capacity requirements.

We help you strengthen food safety, improve hygiene and create better working environments.

## ALL CRATE WASHING SYSTEMS CAN BE EXTENDED WITH

- Stackers/destackers
- Emptying and turning systems
- Drying systems
- Storage systems
- Conveyor systems
- Robot handling of crates
- Palletizing/depalletizing

## FLEXIBLE SOLUTIONS

- Multiple crate types and sizes can be handled in the same system
- Capacity range from 200–5,000 crates/hour
- Small stand-alone or fully automated systems
- Manufactured according to HACCP principles
- Guaranteed bacteriological result
- After Sales Service and support
- Remote support and after sales service

## GOOD FOR BOTH THE WORKING ENVIRONMENT AND THE CLIMATE

- Optimises the working environment
- Time-saving and a consistent process
- Green sustainable system with recirculating water system
- Low variable running costs
- Durable – we have systems running for 30 years

## KV SERIES – FITTED TO SUIT YOUR NEEDS

Our crate washers are customised to fit your hygiene and automation requirements. In addition to the washing sections stackers, turners, drying and palletizing functions can be integrated in your solution.

All washing sections are recirculating systems where the heating system is adapted to your energy source and the filtration system is customised to the application.

**KV1 SERIES** is our single-track tunnel washer with a capacity range of 200-2,000 crates/hour depending on configuration. Our nozzle system is tailor-made application to the crates in question.

**KV2 SERIES** is our two-track tunnel washer with a capacity of 400-5,000 boxes/hour depending on configuration and application.

### The KV1 and KV2 can be modularized with the following sections

- Pre-rinse
- Washing section, extended washing
- Label removal
- After-rinse

### 01 | KV1 – SINGLE TRACK

- Infeed conveyor
  - Pre-rinse, washing, final rinse
  - Turning/stacking of crates after washing
  - Discharge accumulation conveyor
- Capacity 300-700 crates/hour depending on application.

### 02 | KV1 – SINGLE TRACK

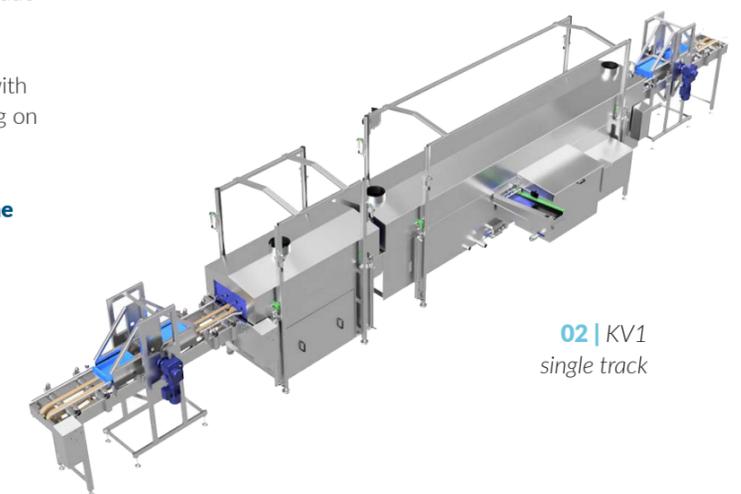
- Infeed conveyor with crate turner
  - Washing section and final rinse
  - Blow off of crates
  - Outfeed conveyor with crate turner
- Capacity 300-700 crates/hour depending on application.

### 03 | KV2 – DOUBLE TRACK

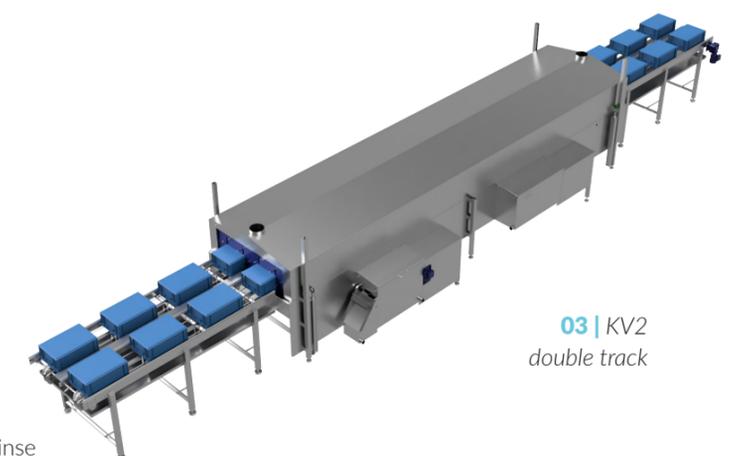
- Infeed conveyor
  - 2 x washing sections plus final fresh water rinse
  - Outfeed conveyor
- Capacity 2,000-3,000 crates/hour depending on application.



01 | KV1  
single track



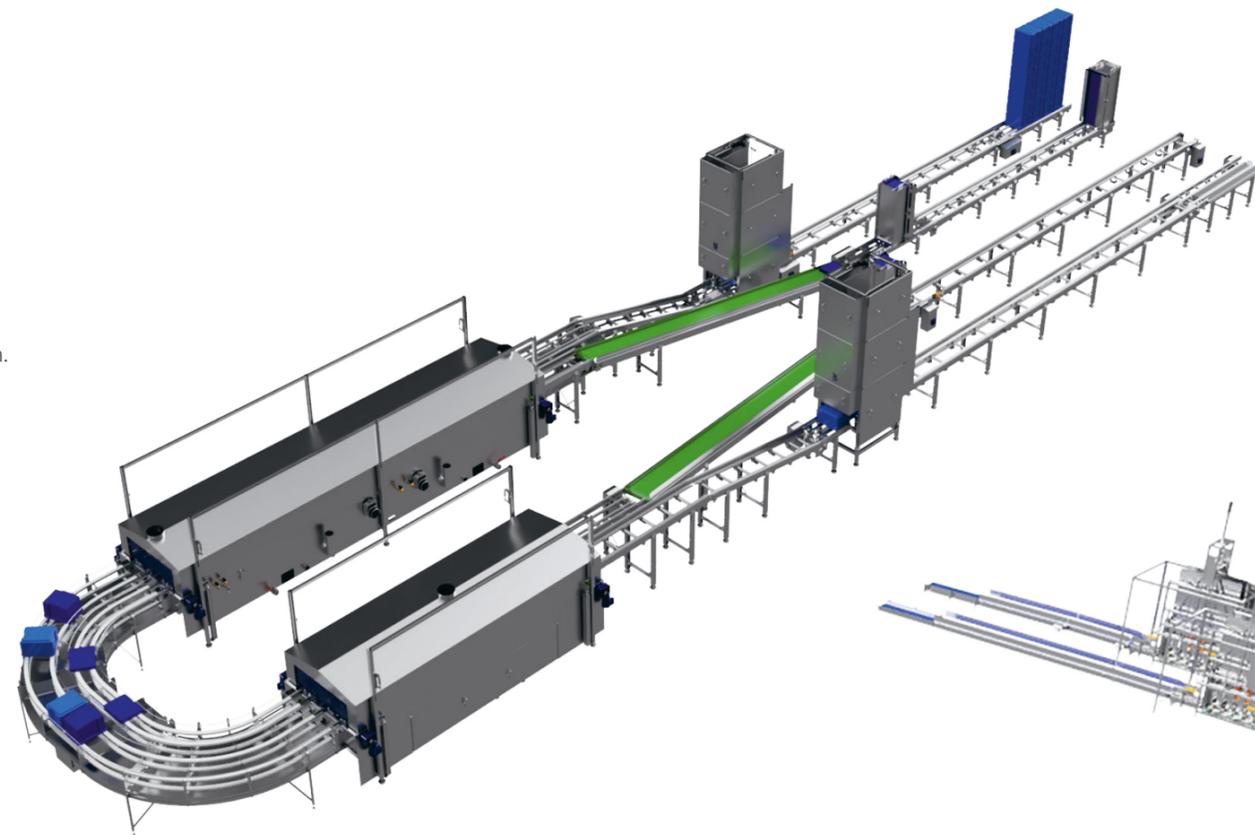
02 | KV1  
single track



03 | KV2  
double track

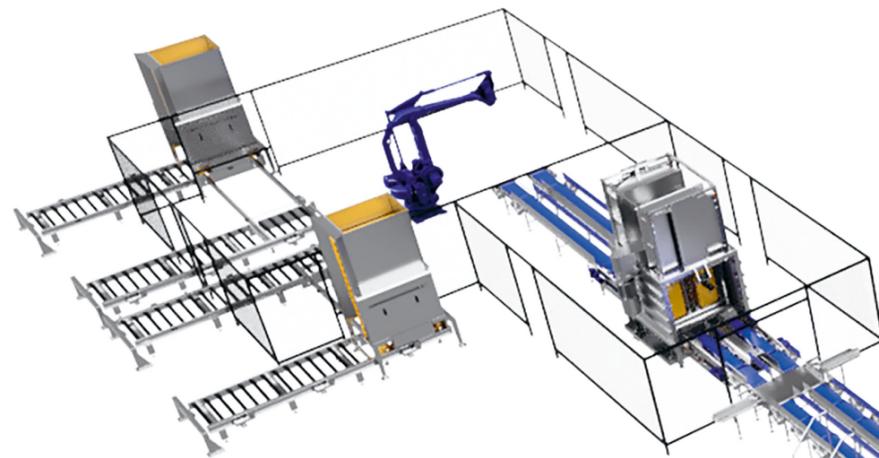
# AUTOMATED CRATE WASHING AND HANDLING SYSTEMS

When capacity and automated workflows are essential we can configure a fully automated washing system with a capacity up to 5,000 crates/hour. This will reduce the use of man power resources when operating the system. Our modularised construction principles makes it possible to meet most of your automation requirements.



**02 | KV2**  
Full automatic crate and lid washing and handling system.

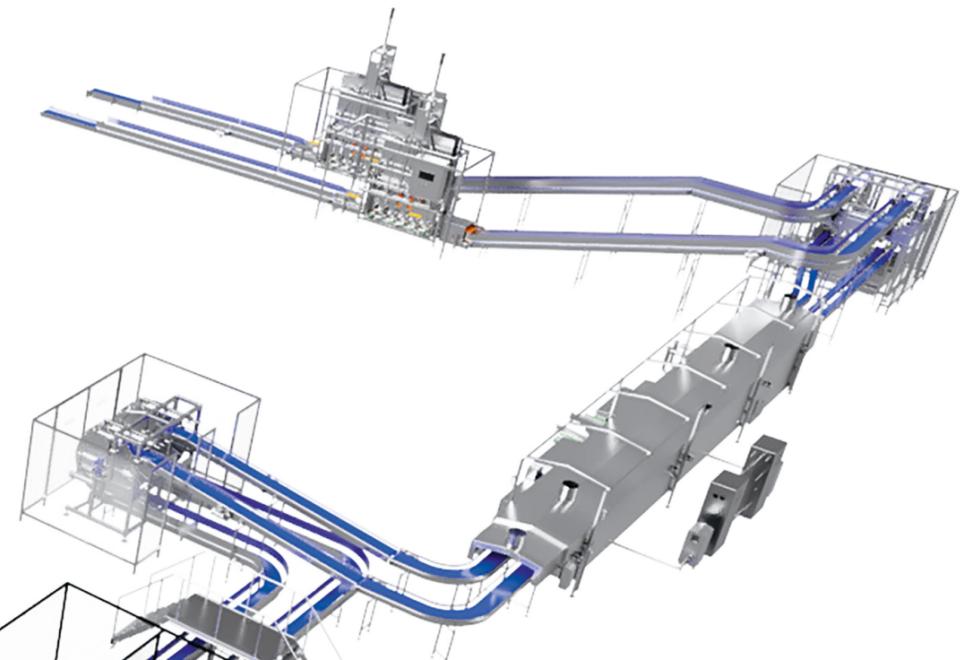
**01 | KV2**  
Full automatic crate washing and handling plant



**01 | KV2**  
**- AUTOMATIC CRATE WASHING AND HANDLING**

- Infeed accumulation conveyor
- Crate stackers/destackers
- Crate turners
- 3 section washing system – double track
- Handle arm
- Centrifugal drying
- Pallet handling system
- Robot palletizing of crate stacks

Capacity up to 5,000 crates/hour.



**02 | KV2**  
**WITH TWO LANES - ONE FOR CRATES AND ONE FOR CRATE LIDS**

KV2 with two lanes and two separate washing sections and fresh water after-rinse.

- Infeed buffer conveyor for crates/lids
- Destacking of lids/crates
- Washing of crates/lids in a double section crate washer
- Blow off drying
- Crate/lid stacking
- Outfeed buffer conveyor

Capacity up to 2,000 crates/hour.

# 50 YEARS OF EXPERIENCE IN INDUSTRIAL WASHING AND HANDLING SYSTEMS

SEMI STAAL is a Danish technology and manufacturing company specialized in developing, manufacturing and installing cleaning and handling systems for food, hospitals and pharmaceutical industries.

We have more than 50 years of experience and have developed, manufactured and installed solutions for more than 1,000 customers worldwide.

We are helping the food, hospital and pharmaceutical industries to clean and handle returnable packaging, beds, mattresses and assistive devices. In doing so, our customers can strengthen food safety, improve hygiene, break the chain of infection and at the same time create better working environments.

## UN COMMITMENT

SEMI STAAL continues to strive to optimize cleaning and automated solutions for food, hospitals and the pharmaceutical industry. Solutions that are efficient, safe and tally.

SEMI STAAL supports UN Sustainability Development Goals, by assigning to:



See the full description of our work with UN Sustainable Development Goals on our website [www.semistaal.com](http://www.semistaal.com)