

KRONES Smartpac

The fully automatic unpacker and packer



 **KRONES**

A commitment to diversity

KRONES Smartpac

In our day and age, there are packs and containers in a vast variety of shapes, but the Smartpac can handle them all. Its assortment of grip-per heads is designed to cope with any and every challenge. And the best thing about it is: All grippers can be changed quickly and easily. So the Smartpac adjusts perfectly to any task. Even its sequential movements are perfectly synchronised. So it doesn't just look good when it is in motion, it's also gentle to your products.



Method of operation

For packing, the containers enter on a container table and are then distributed to lanes. Gripper heads take them and place them in empty crates. An insertion frame ensures that the containers are guided into the crates. For unpacking, the crates are stopped at a pre-determined position on the crate conveyor. At this point, the gripper heads remove the containers and place them back on the discharge table. The packing curve results from a combination of horizontal and vertical movement. A pivoting column is used for the first motion, and crank drives ensure gentle starting and stopping. The second motion is generated by a lifting unit with frequency-controlled motors. The trajectories can be programmed differently for full and empty crates. This produces an optimal sequence of motions. The container table and the pack conveyor are driven by three-phase motors with frequency inverters.

Output range for T-version

Model	Size	Pack block length (mm)	Output (cycles/h) single-lane		Output (cycles/h) double-lane	
			Plastic crates*	Cartons	Plastic crates*	Cartons
Smartpac	1400	1,420	520	450		
	1800	1,850	510	440		
	2200	2,100	490	420	410	360
	2500	2,450	460	400		
	2900	2,900	430	380	370	340

* The values for the unpacker are 40 cycles higher

Application

- Packing and unpacking of crates, cartons, and trays
- Processing of cylindrical containers as well as specially shaped glass and plastic containers

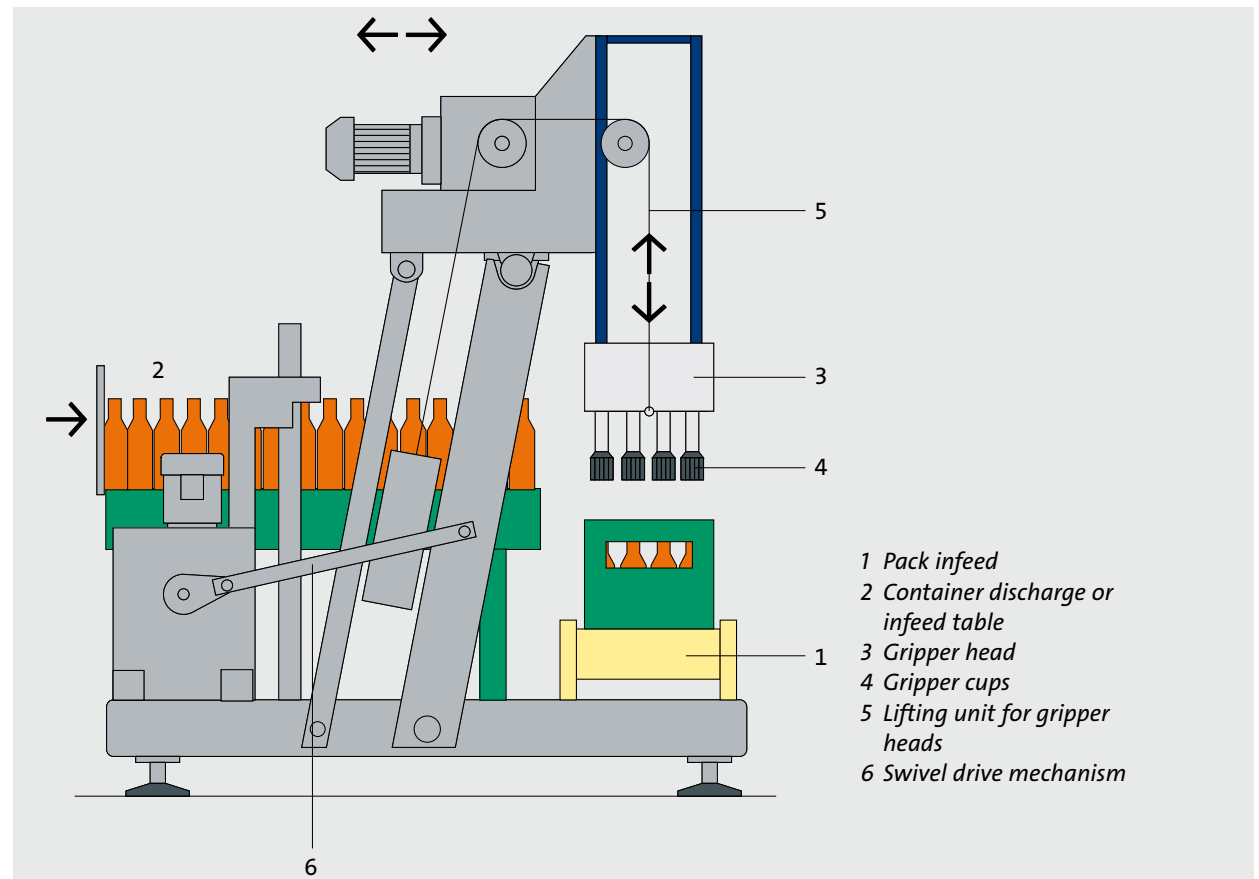


Design features

- Modular design
- Container table with stainless steel flat-top chains or plastic flush grid belts
- Stainless steel pack conveyor with infeed and pack stopper
- Single-lane or double-lane conveyor
- Gripper heads and storage systems (handling parts trolley and flat magazine) with quick-change function
- Lifting unit with maintenance-free toothed-belt drive
- Pneumatic or motorised movement of the insertion frame
- Lifting unit safety stop feature
- Integral control cabinet
- Sliding and/or hinged doors for machine safety
- One or two swivel supports - depending on the machine size

Layout configurations

- H-design for cylindrical and specially shaped containers
- T-design for cylindrical containers



Gripper heads and grippers

- Full range of task-specific grippers: Rigid and (one-/two-dimensional) flexible gripper heads
- Gripper cups custom-fitted to container shape:
 - Standard gripper cups
 - Long-life grippers resistant to glass fragments
 - Gripper cups with mechanic hooks for PET container
 - Gripper with suction bells
 - Mechanical grippers for multipacks and specially shaped containers
- Gripper head with label detection and motorised container orientation (optional)



One-dimensional, flexible gripper head for precise insertion into packs



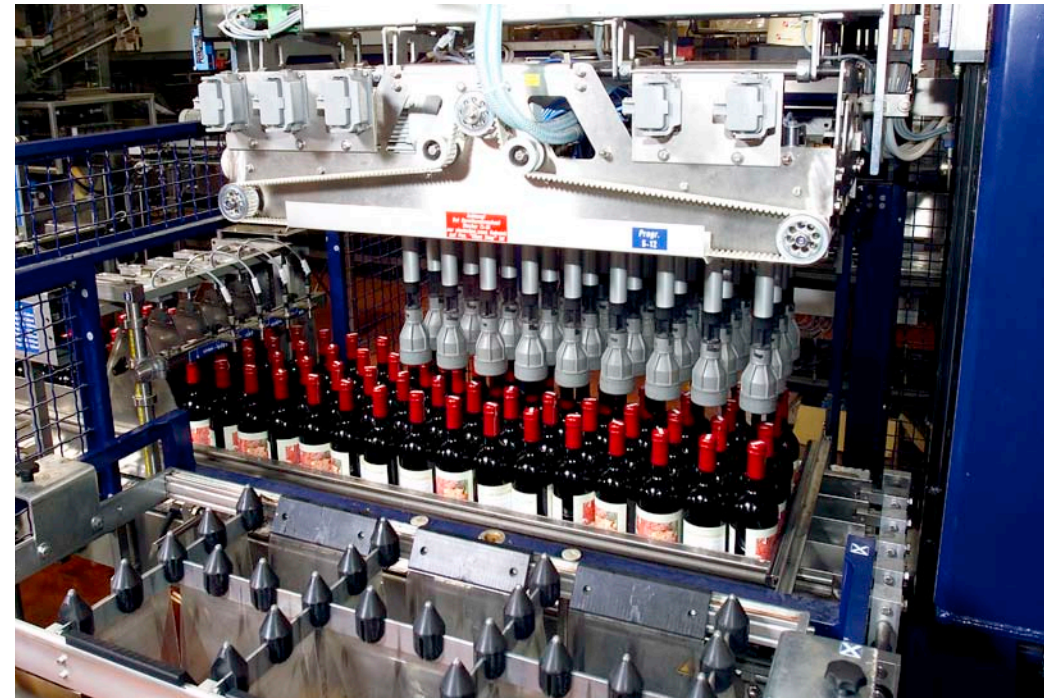
Rigid gripper head for removing glass bottles from returnable packs

Additional equipment

- Parallel infeed or discharge tables
- Spindle-adjustable gripper head for handling containers with different diameters
- Spring-loaded gripper heads and insertion frames for handling cartons with dividers
- Centralised adjustment of guide plates
- Hoist for installing a vibrator bar
- Central lubrication system
- Connection to production data acquisition system (PDA)
- Trolley for handling parts storage
- Flat magazine for handling parts storage
- Freeflow crossover at packer table (optional)



Trolley for quick-change handling parts



Spindle-adjustable gripper head for handling different container diameters

Your advantages

KRONES Smartpac

■ Versatile applications

A wide selection of gripper heads provides the right solution for the most varied of container and pack types.

■ High operational reliability

A sturdy construction comprising standardised components minimises wear and maintenance.

■ Enhanced productivity

When the product is changed, the Smartpac can be converted to cope with new requirements in no time at all. This results in reduced downtimes and increased productivity.

■ Ease of operation

The full colour touch-screen displays production data, operating functions, statuses, help texts, and diagnostic tools, clearly laid out and in the respective national language.

■ Well arranged design

The smart machine design makes it easy for the operator to work with and on the Smartpac efficiently.

