

KRONES Variopac Pro

The automatic all-round packer



The freedom of packing

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The fully-automatic packer Variopac Pro easily adapts to the well-proven and new packaging trends. Packaging in pads, trays, or wrap-around cartons. If with or without shrink-wrap – together, the different models of the Variopac Pro cover all packer variations. Of course, several different packaging variants can be realised on one and the same machine. The Variopac Pro is easy to retrofit or expand because we want to keep all opportunities open for the future.

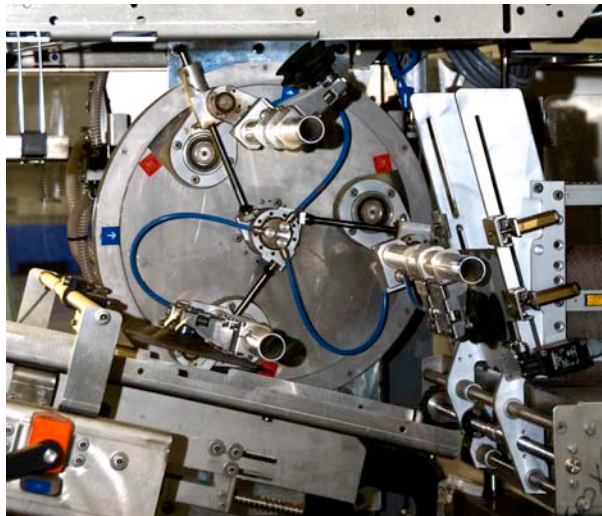


Method of operation

In the infeed, vibrating guide plates guide the containers or packs to the lanes. The plate's coating, as well as future-optimised feed software provides gentle conveyance of the goods to be packed to the spacer. The spacer separates the goods to be packed according to the desired formation. Afterwards, push bars take over the containers in formation.



The blanks are transported beneath the container groups and folded at the sides. A flap closer folds the lateral flaps which are then glued. At wrap-around cartons the cover is folded and glued afterwards. Circulating sealing chains press on the cover and bottom flaps and guide the finished pack through the machine.



The carton blanks are below the container infeed. Vacuum grippers remove the first blank from the magazine and transfer it to the blanks feed. The secure separation and the conveyance of the carton blanks are performed via pivoting separators or roller separators and wide carton flights.



The shrink sleeve is fed air-supported so that the cutting module can process it without wrinkling. The conveyor in the film wrapping module and the compensation conveyor to the shrinking tunnel are equipped with an active conveyor centring unit and a rolling cutter edge. The precisely tempered hot air flow in the shrinking tunnel results in optimal shrinking. Thanks to the optimised temperature control with highly sensitive probes even thin film qualities can be processed without problems.



Figures, data, facts

Design features

- Modular design comprising main machine, blanks magazine, blanks feed, pack formation unit, film wrapping module and shrinking tunnel
- Maintenance-free servo drive technology in all machine areas
- Easy access due to slim and high design and large sliding doors
- Operator and service sides are separated
- Reduced spare parts inventory thanks to standardised components
- Automatic chain lubrication and lifetime-lubricated bearings

Additional equipment

- Individual drive with separate back-up pressure control for each conveyor lane
- Automatic blanks magazine feed
- Raised feed level for carton feed to ergonomic measurement of 800 mm
- Stack preparation system in the carton feed with increased capacity
- Module for automatic insertion of prepared dividers
- Automatic film splicing
- Register mark control for printed films
- Module for shrink-sleeve perforation
- Module for processing U-pads

Overview: field of application and performance

Cycles per minute*	Model						
30	T	FS	PFS	TFS	W	WT	WTS
45	T	FS	PFS	TFS	W	WT	WTS
60	T	FS	PFS	TFS	W	WT	WTS
70	T	FS	PFS	TFS			
80	T	FS	PFS	TFS	W	WT	WTS
90	T	FS	PFS	TFS			
100	T	FS	PFS	TFS			
Packs loose containers or packs in							
Film		FS	PFS	TFS			
Film with pad			PFS	TFS			
Trays with film				TFS			WTS
Trays	T			TFS		WT	WTS
Wrap-around cartons					W	WT	WTS
* The maximum output depends on the pack's type and dimension.							

Please note, that the machine models T, FS, PFS and TFS cannot be upgraded for processing wrap-around cartons, and that the Variopac Pro WTS is not suitable for processing pack types with pad and film or film only.

Operation

- 15 inch touch-screen
- Well-arranged visualisation of production data, operating functions, help texts, diagnostic tools, as well as graphical status and malfunction displays
- Text displayed in the selected language



Easy touch-screen operation

Change-over

- All production parameters for container feed, main machine, and shrinking tunnel are selected centrally via touch-screen.
- Change-overs to other containers and packaging variants can be carried out within just a few minutes and without tools.
- All container guides feature stepless adjustment with hand cranks and counters enabling reproductions which are precise to the millimetre of any desired setting.



Crank for infinite adjustments

Container feed and container spacer

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- Vibrating guide plates with moveable starter tips guide the containers to the individual lanes.
- Spacing fingers coming from below bring the containers into their correct formation.
- The infeeding speed is automatically controlled by means of sensors and via the signal transmission with the machine.
- To be able to process different container diameters safely, several individual lanes can be combined to one conveyor.

Change-over

- Container feed controlled on the touch-screen via the controlled feed unit.
- Lane guides can be adjusted infinitely to other container diameters via clamping lever. Here, change parts are not required at all.
- The clamping lever adjustment with eight pre-adjusted sizes makes time-consuming fine adjustments during size change-overs no longer necessary.
- The bars with spacing fingers are fastened with clamping locks and can also be replaced easily.

Additional equipment

To be able to transport also soft or light-weight containers as gently as possible, each conveyor lane can be equipped with its own drive including a separate back-up pressure controller.



Variable lanes at machine infeed



Spacing finger

Carton feed with models W, WT and WTS

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- The carton feed has its own servo-drive for optimum carton conveyance.
- A high-performance roller separator with chain drive removes the cartons from the magazine regardless of the carton thickness.
- Wide contact surfaces and closed guides convey the cartons safely to the fold-up area.
- The entire conveyor section is optimally accessible via hinged guides.

Additional equipment

For more ergonomic working, the Variopac Pro can be equipped with a flat magazine which is comfortably fed at a height of 800 mm.

Pack forming unit

- Wrap-around cartons are processed short-side leading, and trays are processed long-side leading.
- Long, stable folding and press-on bars enable high-precision folding of cartons and trays.
- A horizontal wrapping rod folds the pack's side flaps. Thanks to the rod's V-shape, this is done with minimum travel movement.
- Cover and side flap of the wrap-around cartons are closed by a pneumatically actuated or motorised folding unit.
- A separate tray forming unit takes over the precise and safe folding of the tray blanks.
- Thanks to drive synchronisation of the upper and bottom pack formation unit, the pack forming process is precisely adjusted to the carton dimensions and to the conveying speed.

Roller separator feeding the separated cartons.



Guide bars unfolding the carton.



- Servodrives provide a highly-dynamic film transfer and precisely cut films.
- The film is transported via rollers with section structure allowing safe processing of printed films.
- The film wrapping module uses a moving section calculated online so that the wrapping rod can always keep the optimal distance to the pack.
- Two ionisation bars remove static charge from the film.
- For the packs to be stable, the ends of the films overlap at the bottom of the packs.
- Profiled rollers at the cutting module minimise wrinkling and prevent printed films leaving colour on the roller.
- A height-adjustable wrapping module enables processing of different packing good sizes.
- A servomotor-controlled knife-edge conveyor transports the packs gently further to the shrinking tunnel.

Additional equipment

Using an automatic film splicing unit, film reels can be changed "on-the-fly" during operation.



Film cutting module



Film wrapping module

Shrinking tunnel

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- Speed as well as temperature can be adjusted infinitely and precisely to the pack.
- To achieve an even shrinking result, hot air flows around the packs from all sides.
- Ventilators cool the packs at the tunnel discharge thus hardening the shrink sleeve.

Change-over

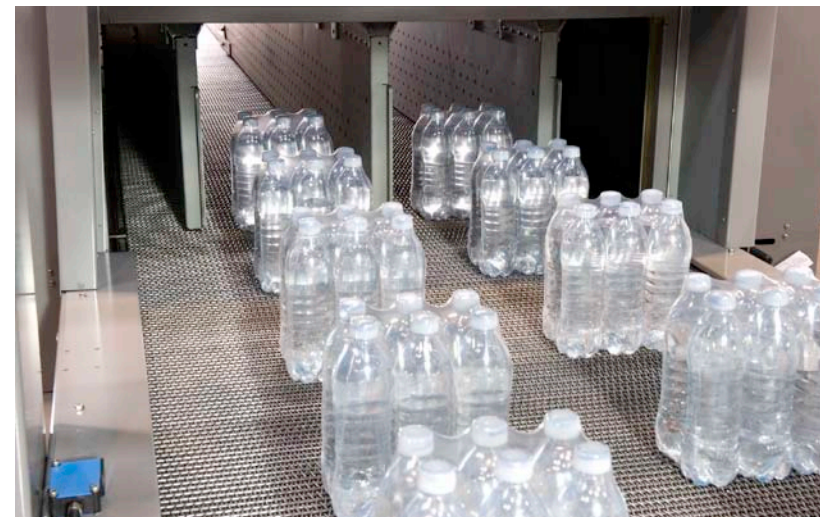
Nozzles adjustable from outside enable defined air guidance in the tunnel to the different pack types and sizes.

Depending on the area of application, the shrinking tunnel can be equipped with different conveyors:

- Net-grid conveyor for "film only" packs
- Flight-bar conveyor with silicon-coated conveyor rollers for pad or tray-film packs



Easy adjustment of the air nozzles



Completed packs leaving the shrinking tunnel.

■ Flexibility and efficiency

Variopac Pro gives you the freedom to react flexibly to most different packaging trends. The different packing modules cover all packing variations. If required, your Variopac Pro can be retrofitted or expanded easily at a later point as well.

■ Quick and easy size change-over

The change-over work at size changes takes only a few minutes and is performed without the use of any tools. Using cranks and counters, any adjustment can be reproduced exactly.

■ Malfunction-free container infeed

The speed of the infeed conveyor is automatically regulated via sensors and signal transmission with the conveyor system. Thus the containers and packs enter the machine gently and without problems.

■ Ergonomic design

The high machine frame, the large-surface sliding doors, and the separation of the operating and service side enable ergonomic and efficient working with the Variopac Pro.

■ High operational reliability

Equipping each machine area with its own single drive provides the packer with best possible operation reliability.

