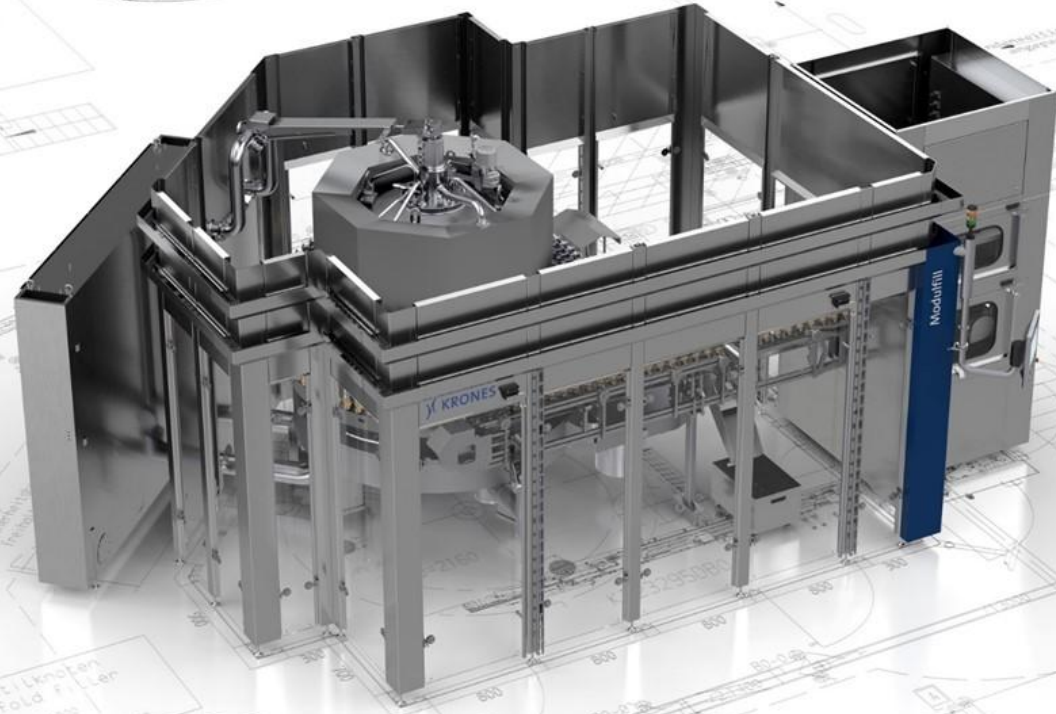




Modulfil Bloc FS-C

An innovation in can filling



 **KRONES**

Filler-seamer block synchronisation for cans

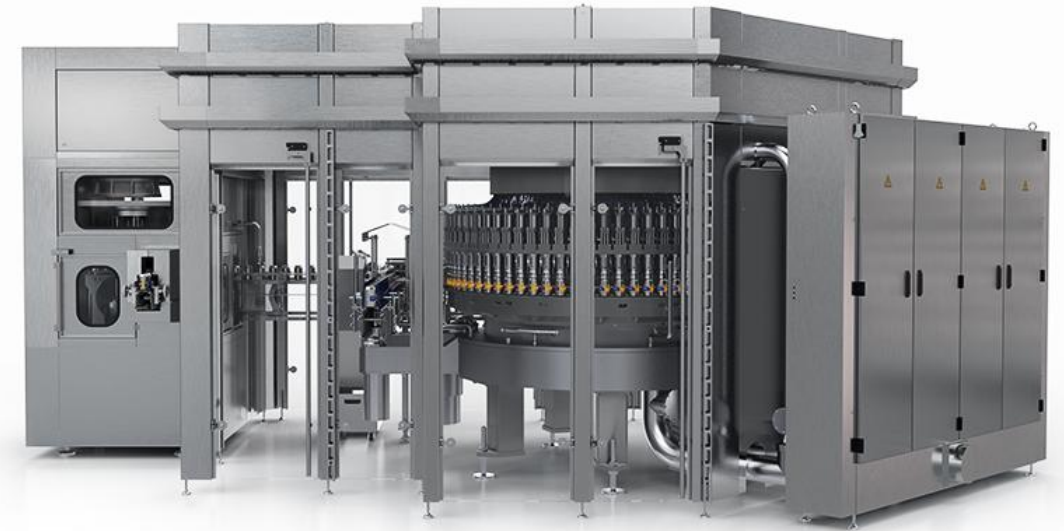


With the Modulfill Bloc FS-C, Krones is expanding its expertise in can filling. The block solution contains an accumulation of know-how combined with the latest technology: The tried and tested Modulfill VFS-C can filler is block-synchronised with Krones' own Moduleseam can seamer.

For sensitive beverages, such as teas and juices, the Modulfill Bloc FS-C is also available with a small isolator if requested. It does not only score in matters of hygiene, but also requires substantially less space than conventional arrangements.

At a glance

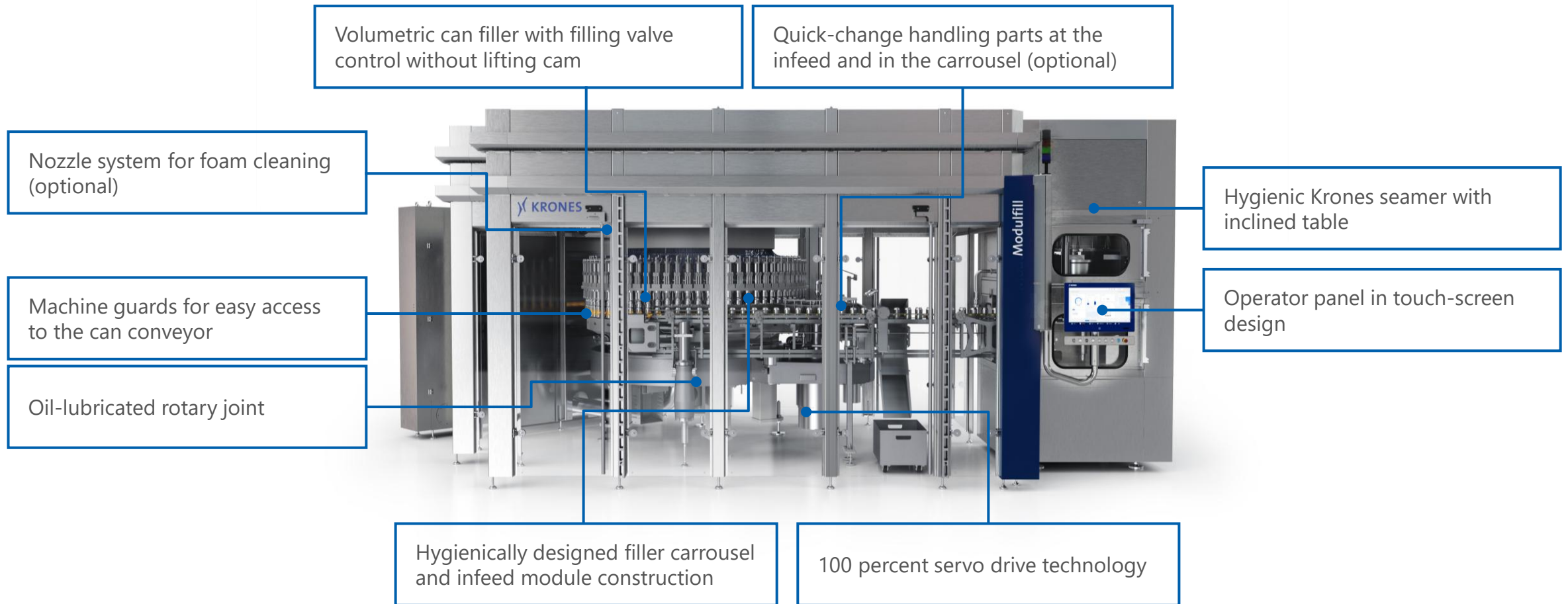
- Block solution comprising can filler and seamer
- Fills and seals up to 135,000 cans per hour*
- Processes beer, carbonated soft drinks, water, juice (hot filling) and non-carbonated beverages
- Common operator interface and controller
- Optionally available with an isolator
 - Improved standard of hygiene
 - Low production costs and TCO



FS-C: Filling Seaming Can | * Depending on the current can format

Modulfill Bloc FS-C in standard design

The structure



Modulfill Bloc FS-C

Details



Modulfill VFS-C	
performance	Up to 135,000 cans per hour ¹⁾
Filling system	Volumetric filling system with inductive flow meter
Efficiency	> 98 percent
CO₂ consumption	Reduction by up to 40 percent ²⁾
CO₂ loss	0.1 g/l
Standard deviation	1.0 ml (for a can size of 500 ml)
Product change-over with Krones Contiflow mixer	10 minutes

Modulseam					
Capping heads	6	8	12	14	18
Maximum output* 1) (cans per minute)	750	1,000	1,600	1,750	2,250
Adjustment range for can height (mm)	88 - 205	88 - 205	88 - 205	88 - 205	88 - 205
Can diameter (mm)	53 - 84	53 - 73	53 - 73 ²⁾	53 - 73 ²⁾	53 - 73 ²⁾

1) Depending on the respective can format, only with the Krones Modulseam

2) Depending on the filler pitch

Certified ecological efficiency

Machines with enviro seal



At Krones, the enviro label stands for excellent ecological efficiency. Products that bear the enviro label have proven in an objective test procedure that they efficiently use energy and media, and that they produce in an environmentally-friendly way. The requirements are defined by the EME standard that has been developed by TÜV SÜD (technical inspection authority) for assessing production plants. The enviro test procedure, too, has been certified by TÜV SÜD as an independent expert. Therefore, you can be sure that: an enviro label stands for ecological efficiency.

The Modulfill VFS-C enviro stands for the following

Energy efficiency

- Use of the latest PM drives and pumps
- Air dryer with dew-point control (if required)

Media efficiency

- Reduced CO₂ consumption
- Minimised water consumption



Benefits of the block



Everything from a single source

With its Modulfill Bloc FS-C, Krones is offering a smart block solution for the filling and seaming of complex beverages.

Minimising the sensitive seaming area

Thanks to the strict separation of the drive area and product area, the sensitive product area can be reduced to a minimum compared to conventional filling technology.

Reliable filling procedure

The filling valve has separate gas channels for pressurisation and depressurisation, ensuring the process steps are precisely controlled. Pneumatic pressing-on and centring ensure precise positioning of the filling valve, thereby increasing process reliability. The hygienic filling valve also meets the highest standards of cleanliness and product safety.

The fastest change-over of its kind

Numerous features ensure that the change-over to new sizes or types is quick and requires little manual intervention:

- Change-over from steel to aluminium cans is possible in a short time thanks to the quickly adjustable quick-set seaming cam: Settings are reproducible and the change-over can be performed in less than five minutes.
- Change-over to other container sizes is also possible in just a few steps thanks to automatic height adjustment system. The entire parameter management and height adjustment of the entire block is done via the filler's HMI, including, for example, the position of the bubble breaker.
- Proven quick-change systems from the Modulfill VFS-C have also been adapted to the Modulseam can seamer.

New machine enquiry

You can easily enquire a non-binding quotation in our [Krones.shop](https://www.krones.com/shop).



The individual machines of the block: Modulfill VFS-C and Modulseam

The individual machines

Modulfill VFS-C short-tube filling system



The Modulfill VFS-C is a volumetric can filler which is excellently suitable for both the low and high output ranges:

- Output range from 18,000 to 135,000 cans per hour*
- 28 to 182 filling valves are integrated
- Can heights are between 80 and 200 mm**

When is the Modulfill VFS-C the perfect choice?

When you are looking for a filling system which ...

- offers additional hygiene.
- provides foam-free and gentle filling.
- guarantees precise fill quantities.
- is flexible during type and format change-overs.



VFS-C = Volumetric, Flow meter, Short tube, Can | * Depending on the respective can format | ** Other can heights available on request

Modulfill VFS-C filler

For filling carbonated beverages

Filling valve method of operation

The can is fed to the filler and centred below the filling valve. The valve is pneumatically lowered onto the can for pressing-on. Thanks to a differential pressure chamber, the cans are centred and pressed onto the valve with extreme care.

The filling process begins immediately after flushing. An inductive flow meter monitors the fed filling quantity. The valve closes once the specified filling volume has been reached.

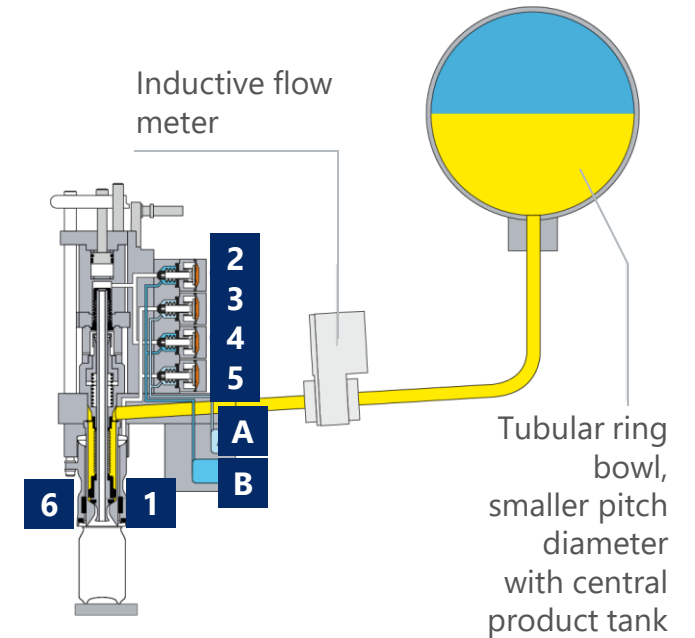
Performance

Up to 135,000 containers per hour

VFS-C = Volumetric, Flow meter, Short tube, Can

Filling valve for filling beer

- 1** Product stem
- 2** Flushing valve
- 3** Snifting valve, rinsing
- 4** Pressurisation and return gas valve
- 5** Valve for snifting can headroom
- 6** Centring bell
- A** Snifting channel
- B** Pressurisation channel



Modulfill VFJ-C

For hot filling and bottling carbonated beverages



The most important features

- High microbiological safety through contactless filling
- Precise determination of fill quantity via inductive flow meter
- Recirculation channel for heat retention of the product
- Closed CIP circuit
- Version in hygienic design
- Electro-pneumatically controlled filling valve functions
- Filling of carbonated beverages possible

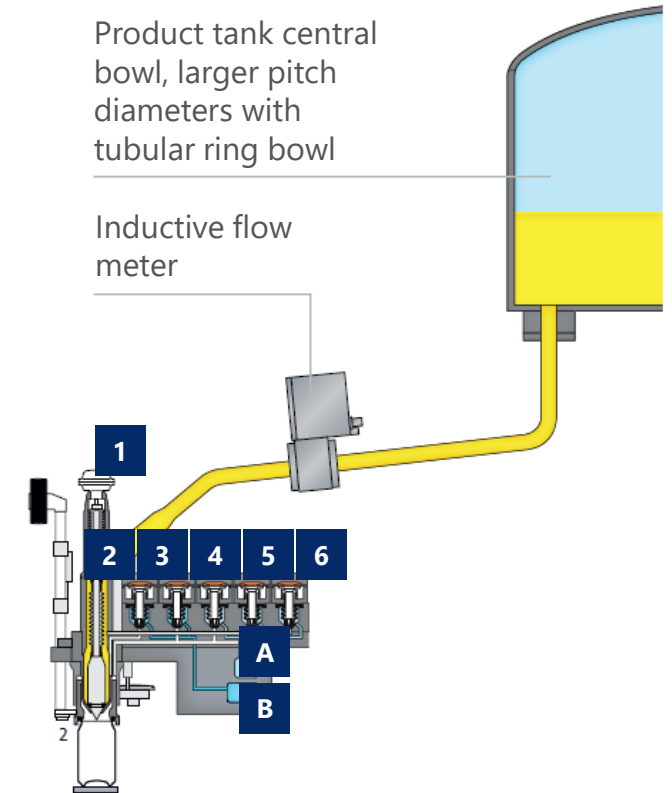
Performance

Up to 78,000 containers per hour

VFJ-C: Volumetric filling system, Flow meter, Full jet, Can

Basic position

- 1** Valve stem open/closed
- 2** Flushing valve
- 3** Pressurisation valve
- 4** Snifting valve
- 5** Snifting valve, rinsing
- 6** Hot return valve, CIP return valve
- A** Hot return channel and return gas channel
- B** CIP return channel



Modulfill VFJ-C

For hot filling

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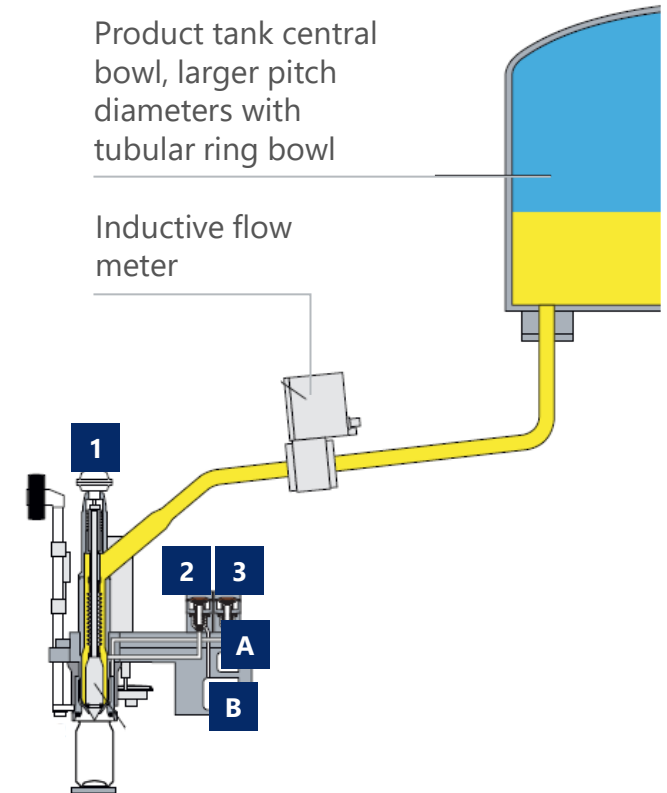
Performance

Up to 78,000 containers per hour

VFJ-C: Volumetric filling system, Flow meter, Full jet, Can

Basic position

- 1** Valve stem open/closed
- 2** Hot return valve, CIP return valve
- 3** Return gas valve, CIP return valve
- A** Return gas channel
- B** Hot return channel and CIP return channel



Moduleseam

A seamer that is perfectly tailored to the Krones can filler



Filler and seamer from one manufacturer – it goes without saying that this set-up only offers advantages both for the production as well as for the operators. This exactly is the reason why Krones placed its Moduleseam can seamer on the market in 2017. In the meantime, the machine has proven itself in the field and is consequently also part of the Modulfill Bloc FS-C for cans.

At a glance

- Perfect seamer for Modulfill VFS-C can filler
- Output: up to 135,000 cans per hour
- Comprehensive cleaning concept
- Included as standard:
 - Bubble breaker
 - Under-lid gassing with CO₂
 - Quick-change handling parts
 - Continuous servo drive concept
 - Central lubrication unit
 - Quickly adjustable quick-set cam for a swift change-over from steel to aluminium cans



Moduleseam

Hygienic design

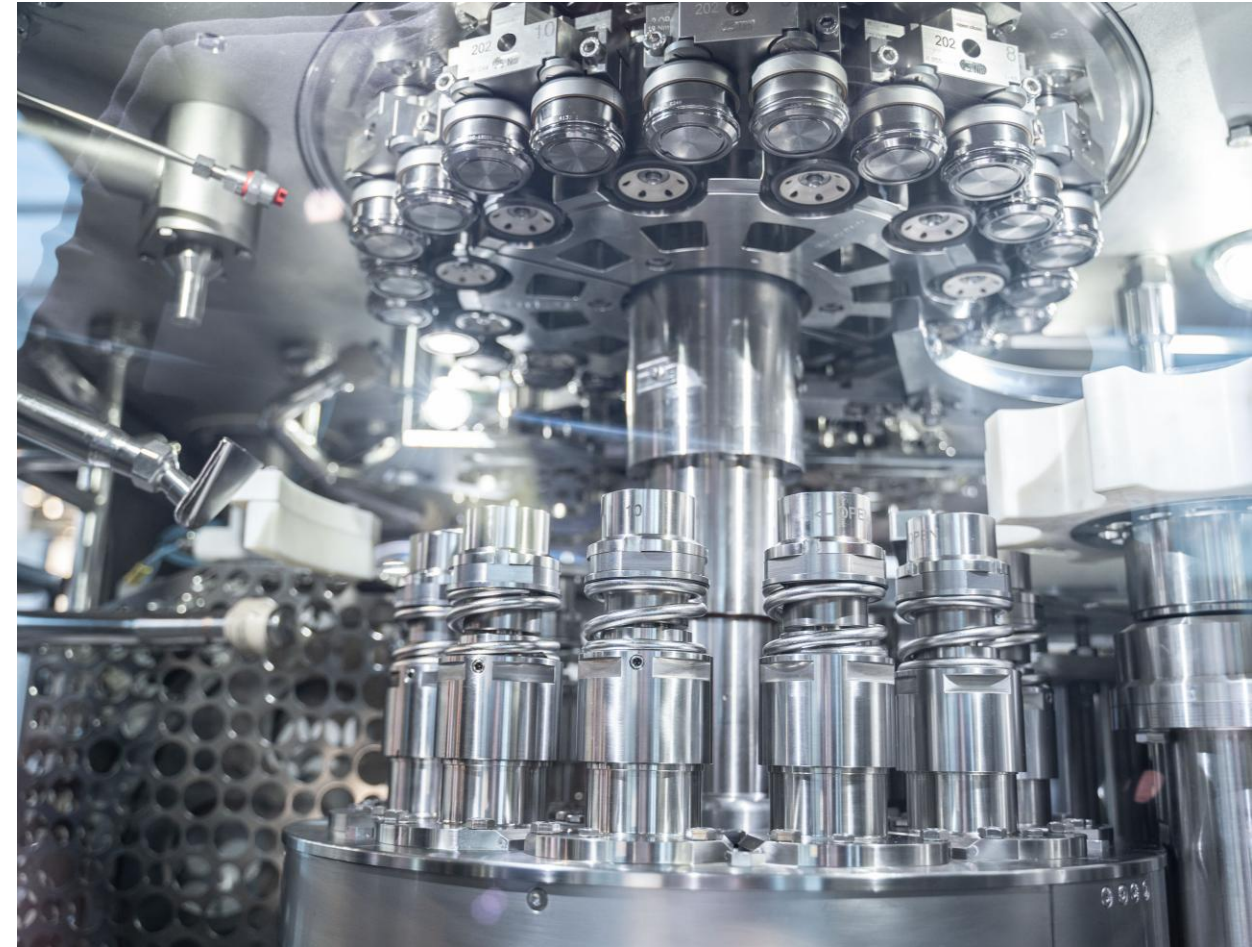


Best hygiene conditions

- Inclined table top for optimum cleaning
- All components in the process area are made of stainless steel
- Process area separated from drive and supply area
- Easy access for change-over and maintenance
- Cleaning through integrated nozzle system

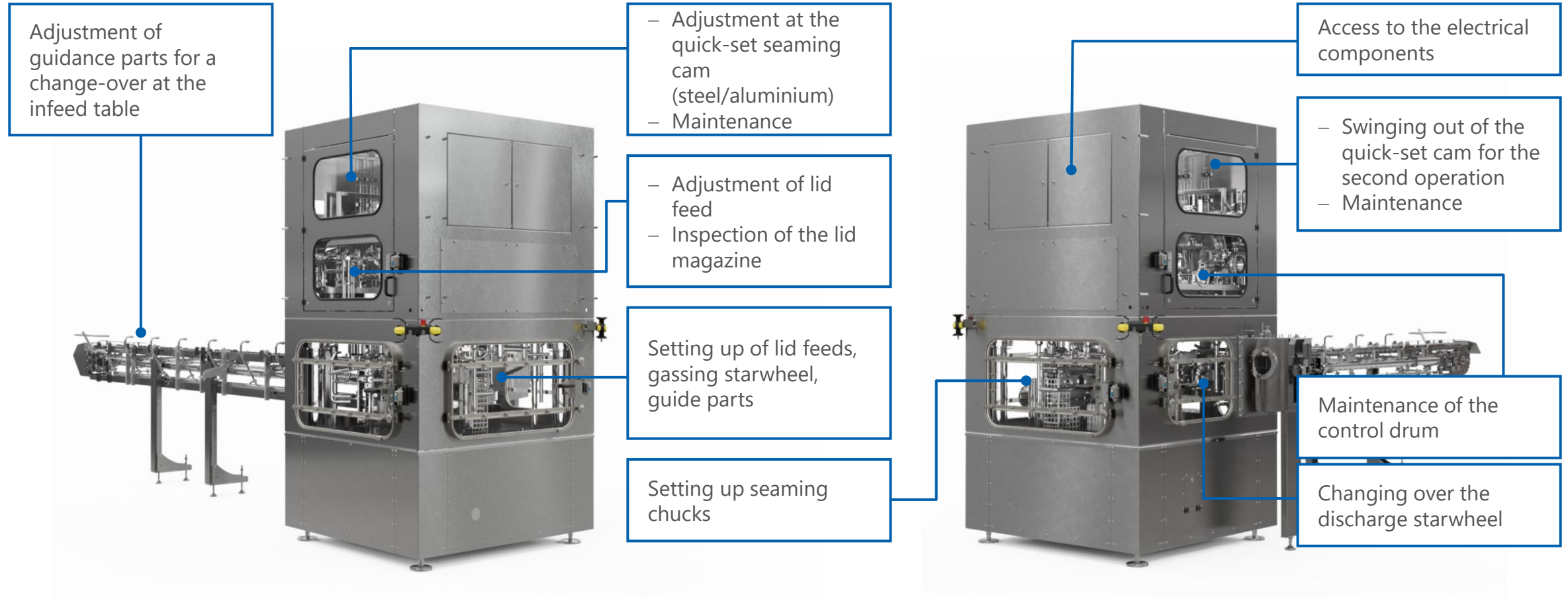
Operator comfort

- Simple change-over to another container
- Automatic height adjustment system
- Good accessibility from three sides as the media and power supply are not provided outside on the can seamer but inside the control cabinet and valve manifold, and/or on the seamer top



Moduleseam

Accessibility from all sides



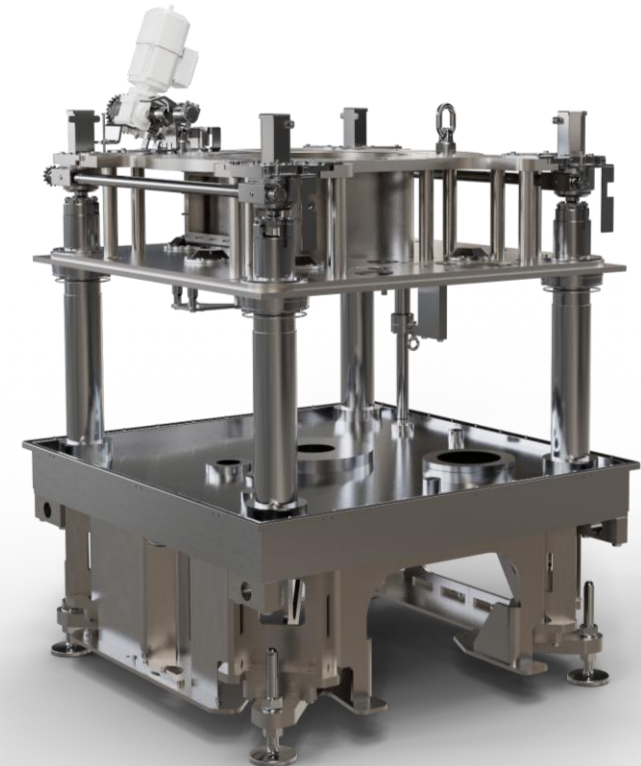
Moduleseam

The machine bed – a stable base

The seaming process in the can filling sector not only requires maximum precision, but also places the highest demands on machine stability. The newly designed machine bed of the Krones Moduleseam is the answer to the dynamic loads that occur.

At a glance

- Sandwich design of the machine bed and base section
- Easy access to the bottom part thanks to the elimination of belts
- Slanted roof table with central discharge
- Four columns for height adjustment
- Integrated cable glands
- Exterior height adjustment
- Easy change-over of bearings and scrapers



Moduleam

Drive concept with servo technology



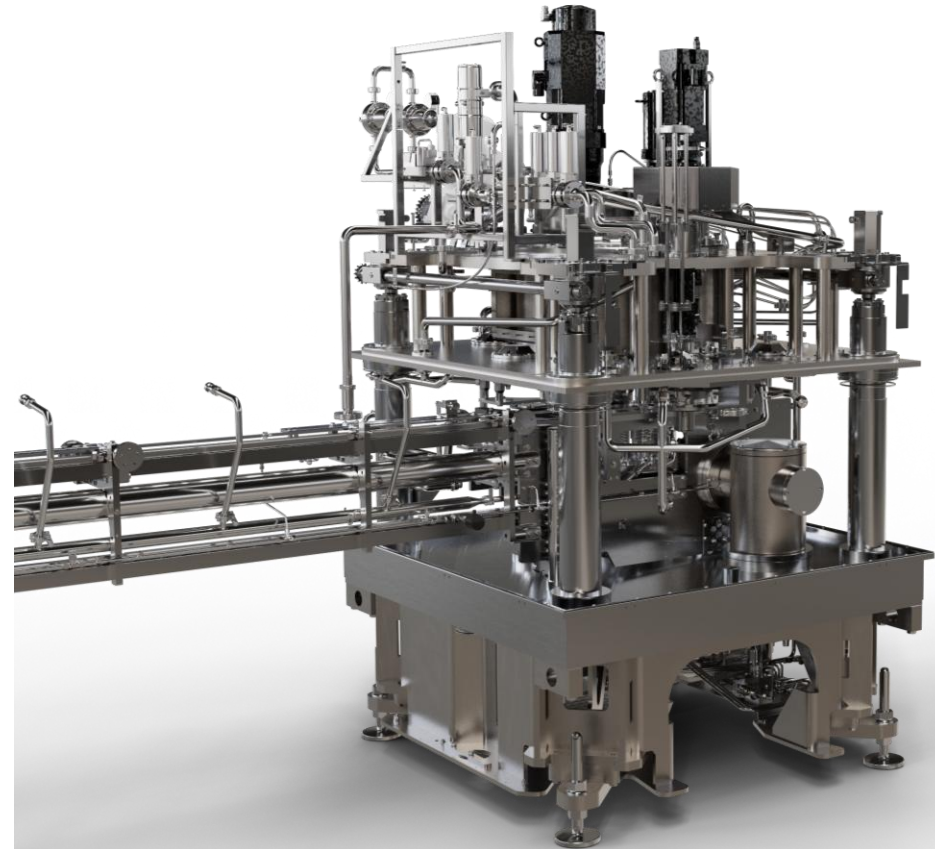
Servo drive technology has been proving its worth in the Modulfill series for over a decade. Based on this experience, Krones has adapted this concept to the Moduleam and is also following the idea of: strict separation between the drive and process areas.

At a glance

- State-of-the-art drive technology on the market
- Separation of drives into functional areas
- Process and wear inspection

Benefits to you

- Separate drive of stacking worm, gassing worm and discharge
- Monitoring of the seaming process
- Best possible adjustment of the can transfer
- Gentle destacking of the lids



Moduleseam

Structure of seamer bottom and top part

Open design for best possible hygiene and optimal cleaning result:
This summarises the benefits of the new bottom and top part of the seamer.

The lubrication system

- Design and implementation based on a proven concept: Sealing arrangement (labyrinth), materials used and oil circulation adapted from the Modulfill VFS-C filler
- Good accessibility and maintenance options via access window in the bottom part of the carousel

Functionality and design of the can disc (quill)

- Influenced by the Krones expertise in capping technology
- Adaption of functional design elements for optimum centring during the closing process



Bottom part of the seaming carousel with housing

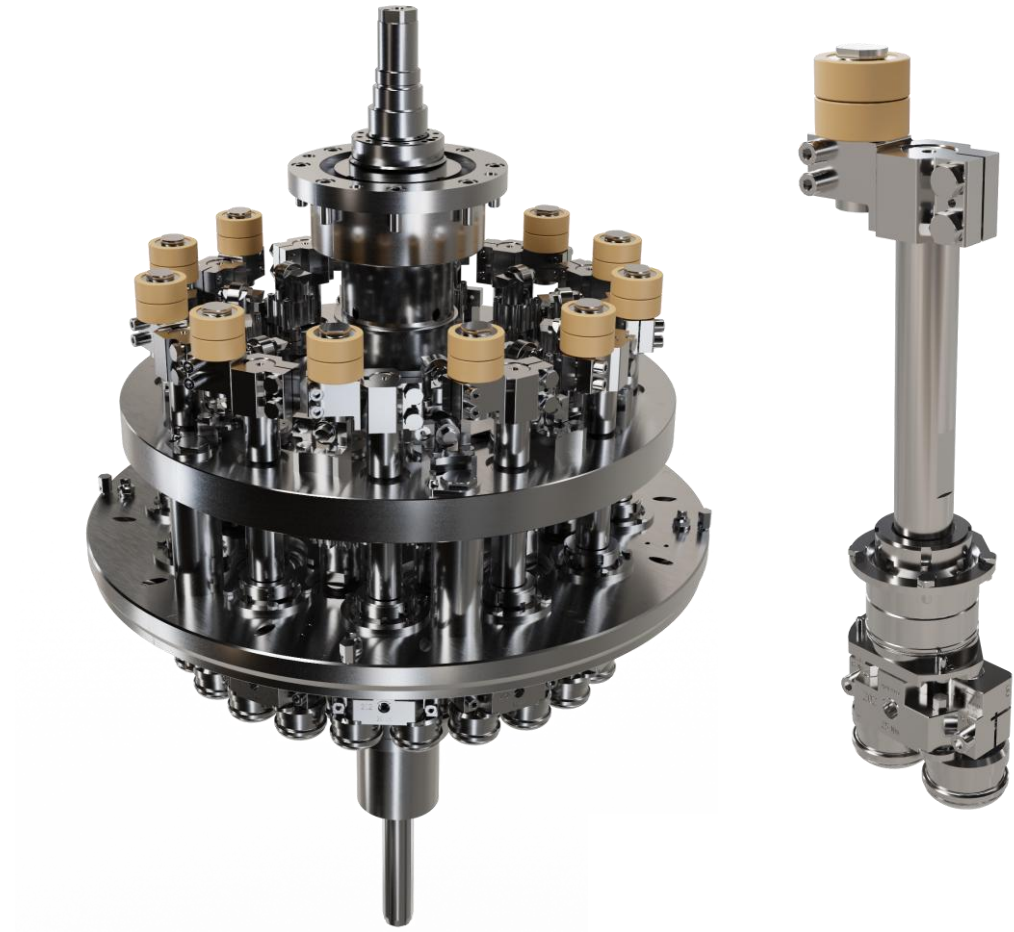
Moduleseam

Structure of seamer bottom and top part



The seamer top part

- Can and lid handling in the seaming process
 - Optimisation of the seaming tools for quicker installation and dismantling
 - Design adjustments on the pressure plate for improved pressure distribution on the can and lid during the seaming process
- Lubrication system for the seaming tools
 - Integration of the oil sluice



Moduleseam

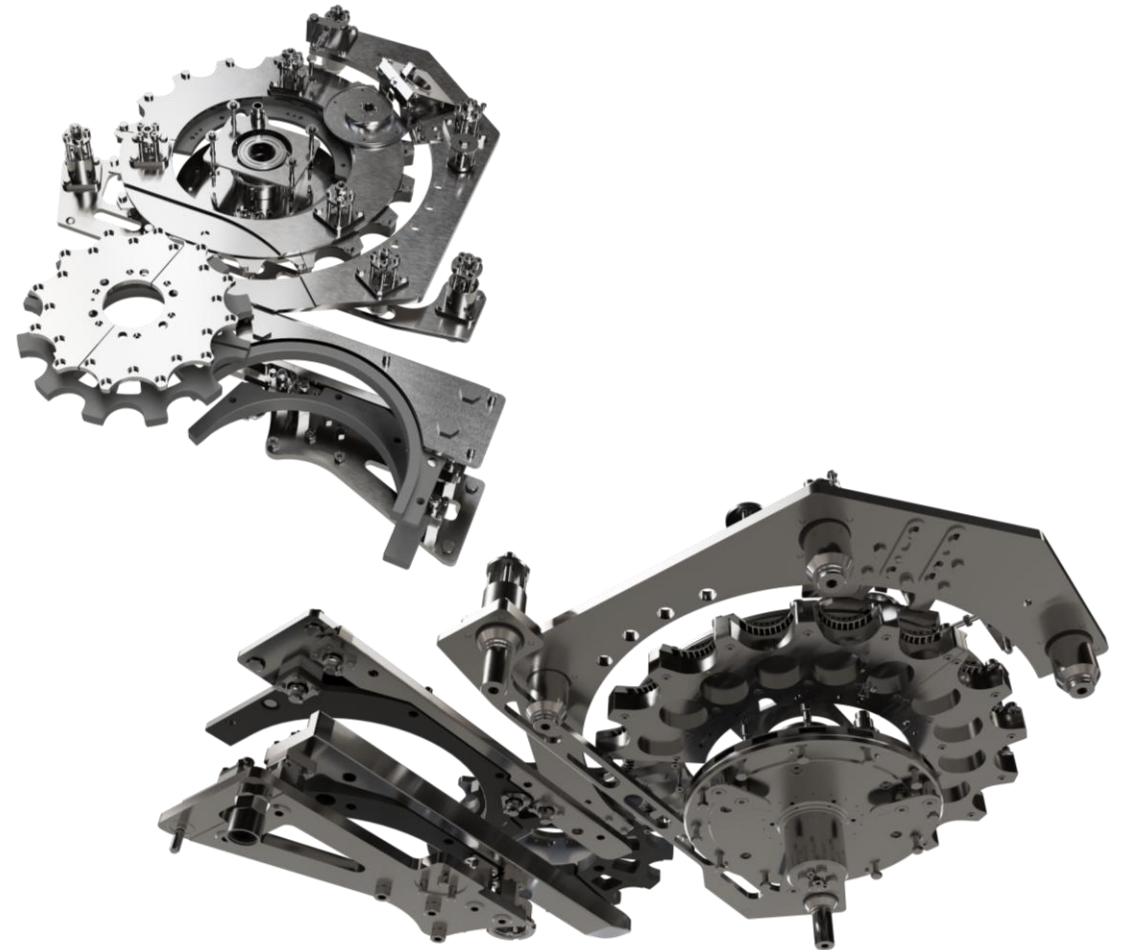
Handling parts: Quick-change system and optimised hygiene



A wide range of products characterises many beverage companies. For production itself, this means: Smaller batches and an increasing number of containers to be handled and types to be produced. Maintaining machine efficiency despite numerous change-overs and retooling processes is often a challenge for line operators. With its seamer, Krones meets this challenge with new quick-change systems and hygiene optimisations

Benefits to you

- Cleaning of all handling parts with hot caustic or acid possible
- Faster and tool-free change-over of the guide rails thanks to adapters
- Quick-change system on the discharge starwheel based on the proven solution in the Modulfill VFS-C
- Convenient replacement of the gassing starwheel with support straps
- Lowered guide rail connected to the upper seamer section to reduce change-over times
- Reduction of screw fastenings and corresponding positioning for optimum accessibility



Everything from a single source



Training sessions at the Krones Academy – trained personnel for an increased efficiency of your line

The multifaceted offer by the Krones Academy ranges from operation, servicing and maintenance courses through to management training. We will gladly also create your individual training programme.

KIC Krones cleaning agents make your machine shine

Only if the production environment is immaculate, can your product be brilliant. KIC Krones provides you with the optimum cleaning agents and disinfectants for each individual production step.

KIC Krones lubricants for each production step

Whether for gears, chains or central lubrication systems – our greases and oils are true all-round talents. They can reach every lubrication point, protect your line and ensure gentle treatment for your products thanks to their food-grade quality.

Krones Lifecycle Service – Partner for Performance

It goes without saying that also after the purchase of new machines, Krones takes care of your lines: The Krones LCS experts are always there to help you reaching your goals and turn your wishes into optimal LCS solutions.

High-quality components from Evoguard and Ampco

Are you looking for shut-off, separation or control valves? For hygienic or aseptic applications? Would you like to have pump technology that perfectly fits into your machines? You will find exactly what you are looking for at Evoguard and Ampco Pumps. The two Krones subsidiaries cover the entire spectrum of process technology components that you need for high-quality production.

**SOLUTIONS
BEYOND
TOMORROW**

