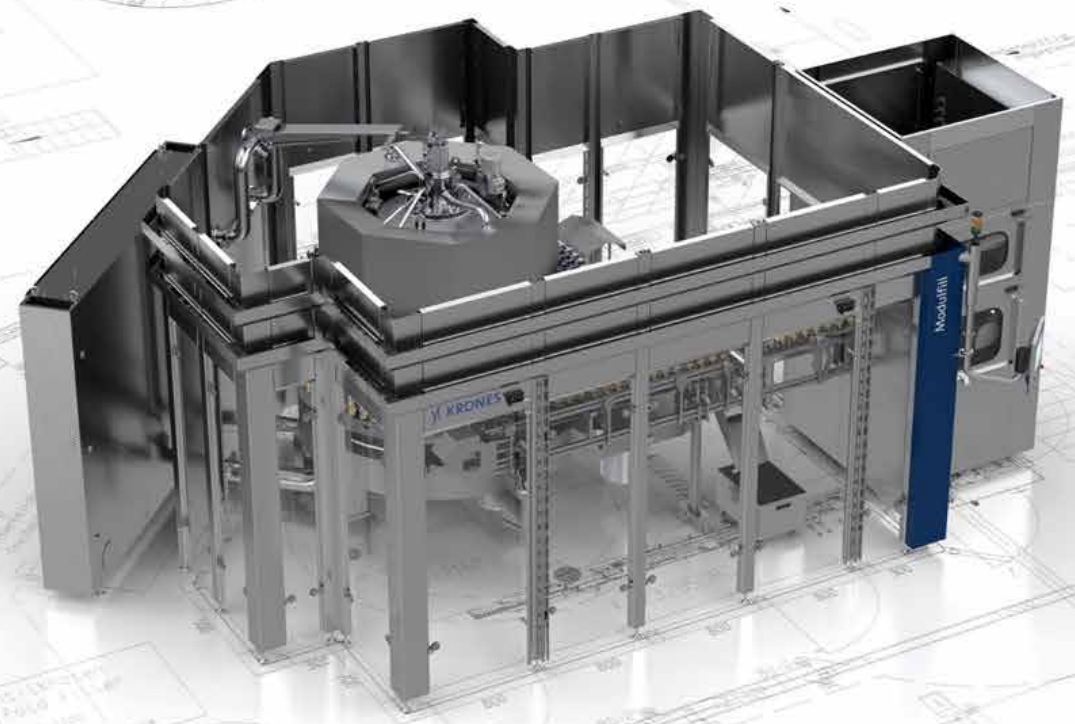
Modulfill Bloc FS-C



Can filler and seamer from a single source

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Krones filler-seamer block for cans
Also available with a small clean room

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

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

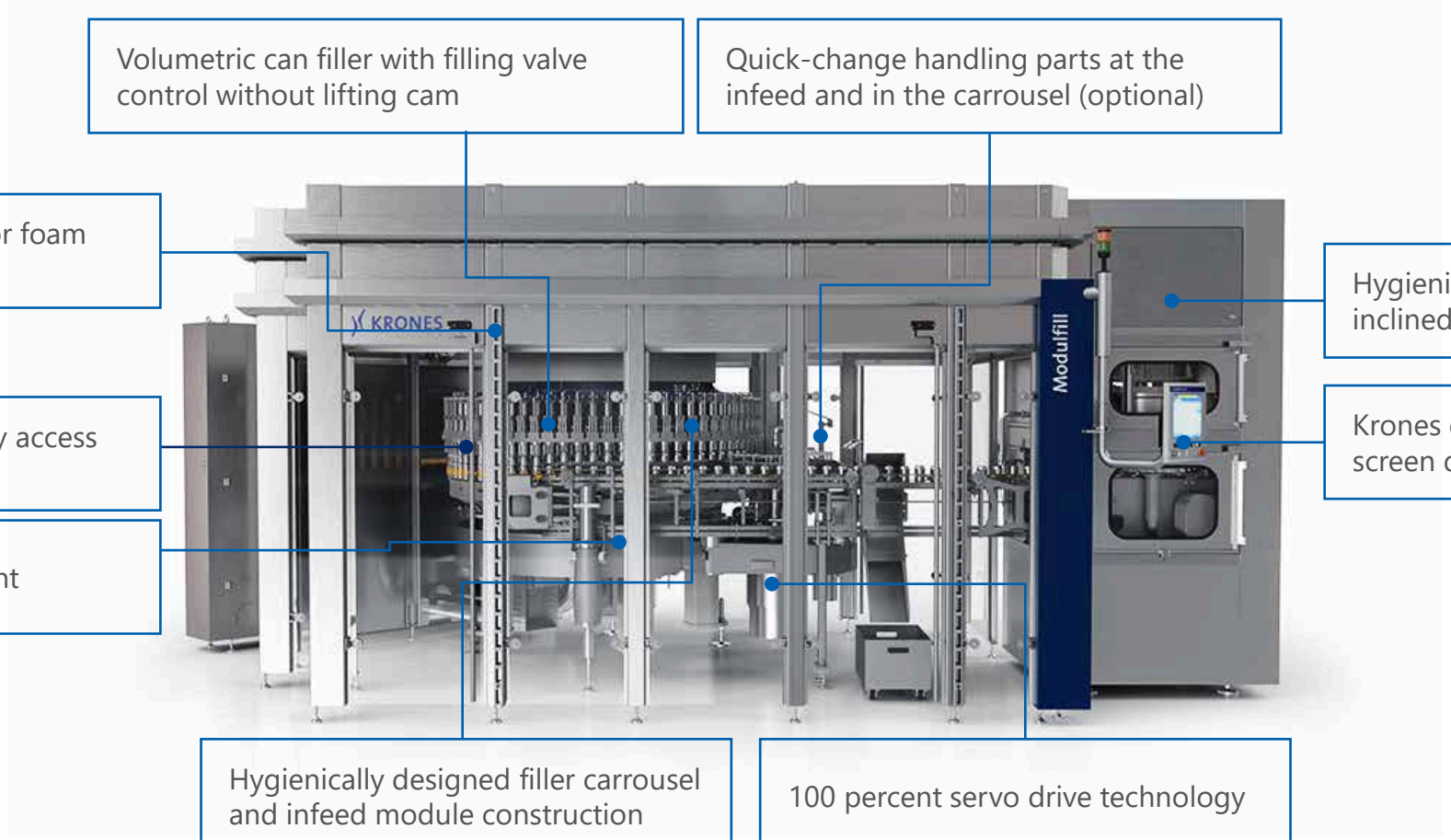
At a glance

- Block solution comprising can filler and seamer
- Fills and caps 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
- Is optionally available with a small clean room
  - Improved standard of hygiene
  - Low production costs and TCO

FS-C: Filling Seaming Can | * Depending on the current can format, only with third-party filler

Modulfill Bloc FS-C in standard design

The structure



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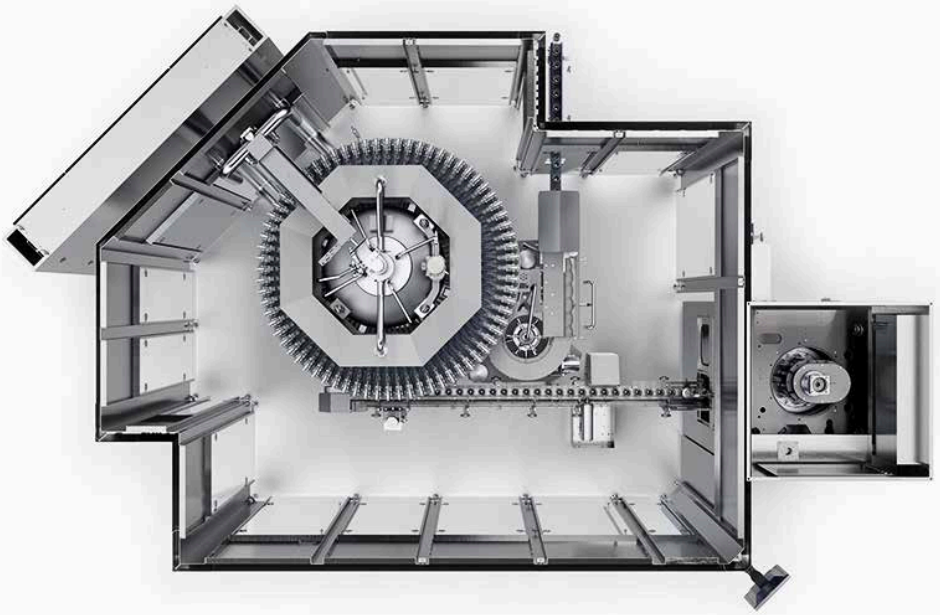
Modulfill Bloc FS-C in standard design
Facts and figures

Output	Up to 135,000 cans per hour*
Efficiency	> 98 percent
CO_2 consumption	Reduction by up to 40 percent**
CO_2 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



***** Depending on the current can format, only with third-party capper | ****** Compared to conventional filling and capping systems | Afore-mentioned values are examples taken from measurements recorded at customer facilities and cannot be viewed as being the general rule.

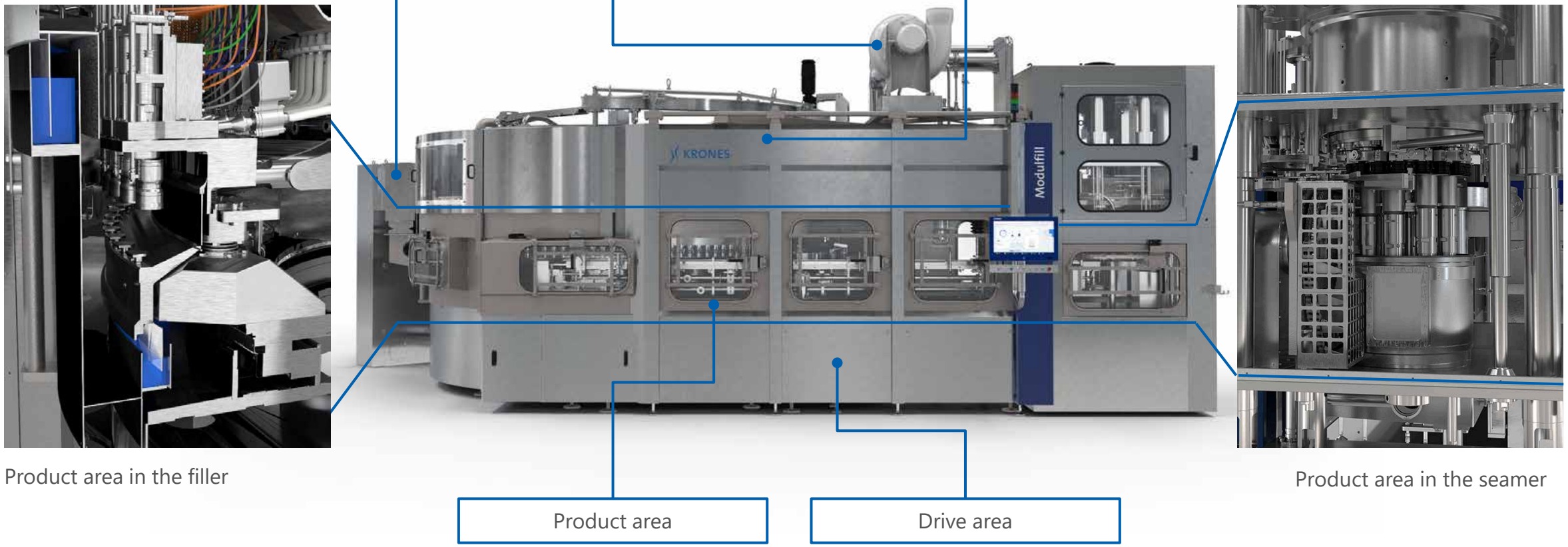
Modulfill Bloc FS-C in standard design
Clever handling parts management

Two types of handling parts are integrated in the Modulfill Bloc FS-C:
– Quick-change handling parts (e.g. handling parts in the carrousel or at the infeed starwheel, guidance parts)
– Variable handling parts which can be used for more than one can size (e.g. combined centring bells)

Quick-change handling parts	**Change-over time*** (only based on the can height)
Infeed worm	1.5 minutes
Infeed starwheel	3.1 minutes
Can guide (infeed)	4.7 minutes
Can guide (starwheel)	3.5 minutes
Guidance parts	2.0 minutes**
Can seamer	3.0 minutes

* With one operator | ** For a 223-type filler with twelve handling parts; as a comparison: the change-over time for standard guidance parts is 18 minutes

Modulfill Bloc FS-C with compact clean room
The structure



Product area in the filler

Product area in the seamer

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Modulfill Bloc FS-C with compact clean room
The benefits

Low space requirement

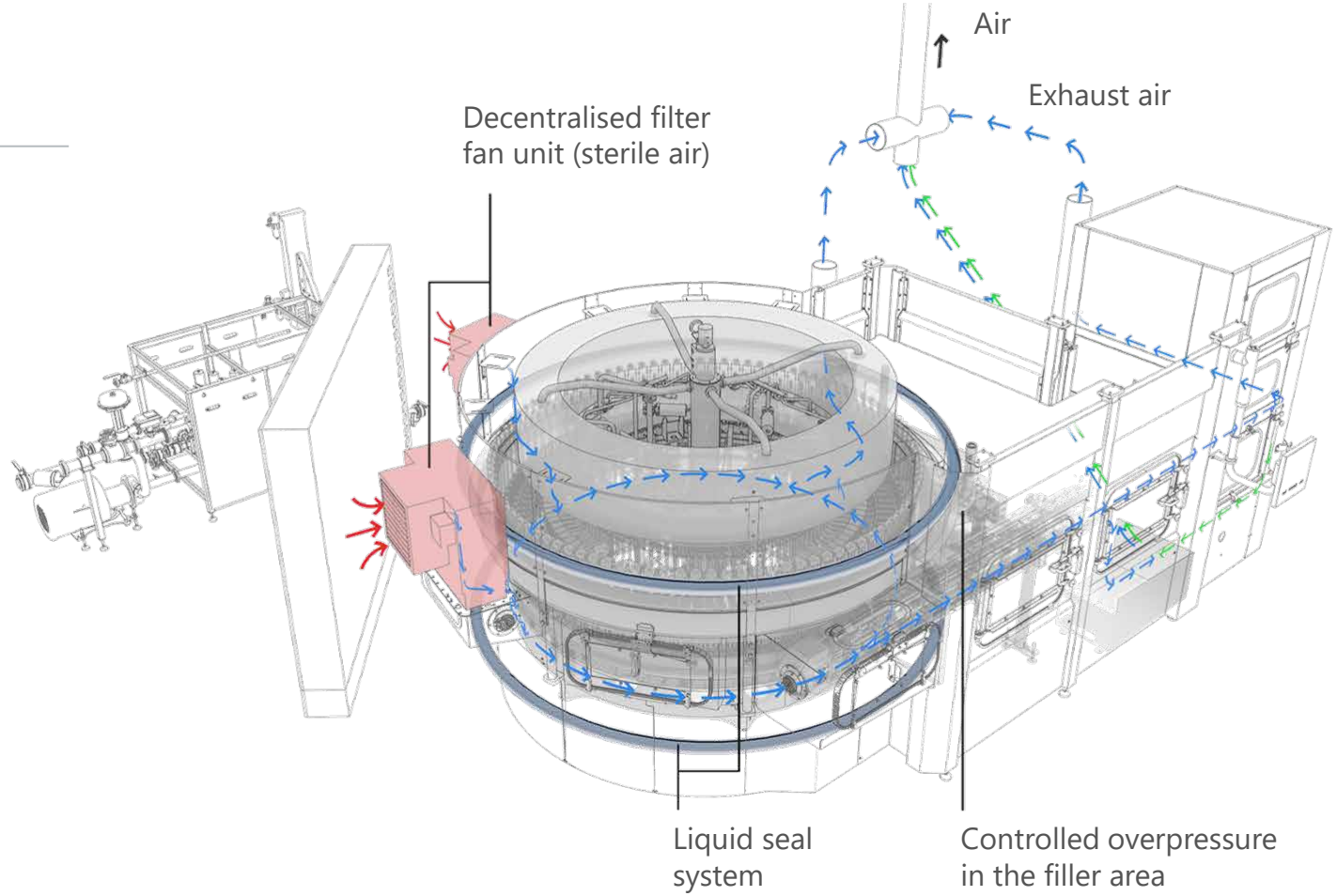
Compared to an arrangement with conventional, stand-alone machine guards:

– Footprint reduced by 35 percent
– Construction height of 3.5 metres (compared to a large clean room of approximately 6 metres)

Modulfill Bloc FS-C with compact clean room
The benefits

Minimisation of the sensitive filling and capping area

- Volume of the small clean room: 8 cubic metres (compared to a filler with large clean room roof: 80 cubic metres)
  - Air supply: approximately 1,600 m^3/h
  - Print: 5 Pa overpressure
  - Filter: G4-F9-H14 filter
  - Clean room class 5 possible
- Air quantity reduced
- Lower filter medium requirement



Air supply Air CO_2

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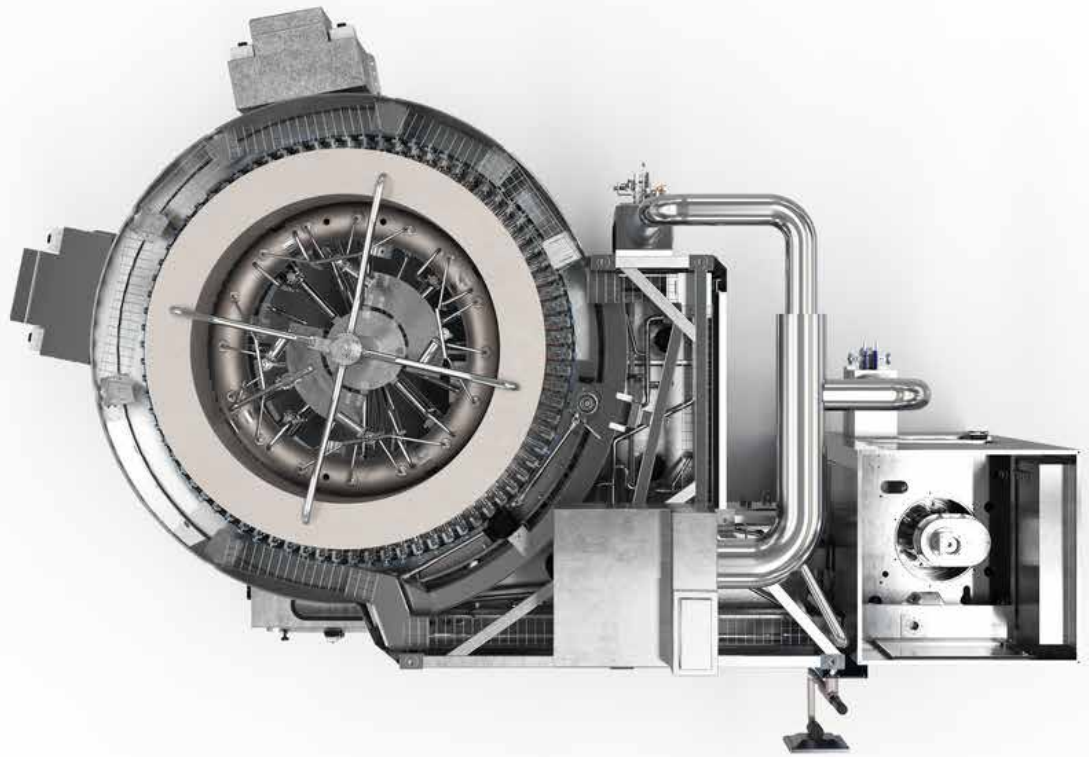
Modulfill Bloc FS-C with compact clean room
Benefits to you

Improved cleaning

Closed cleaning system: combined exterior and interior cleaning of the treatment area, filling valves and additional pipe system

- Time saving of approximately one hour per day*
- Reduced quantity and variance of the cleaning media: CIP and COP with the same medium
- Use of caustic and acid instead of foam
- No more CIP cups required



* For approximately three cleaning processes per day, depending on the shift model

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Modulfill Bloc FS-C – with and without compact clean room

Benefits to you

Product quality

The volumetric filling valve with inductive flow meter ensures the highest accuracy during filling – and keeps the product quality high. Low oxygen values combined with a 40 percent lower CO_2 consumption ensure that the product quality is high while the media consumption remains low.

Ease of operation

The machines in the block share a joint control panel and the controller.

Quick change-over

Best equipped, even for type and format change-overs: the height adjustment is fully automatic, and quick-change handling parts keep change-over times short, while the combined centring bell can even be used for multiple can formats.

Easy to clean

The entire block has a hygienic design without table top in its standard version and, if required, can be directly connected to Krones CIP and foam-cleaning systems. In the variant with the compact clean room, exterior and interior cleaning are performed simultaneously.

High energy saving

Thanks to the use of servo technology, energy savings of 30 percent are possible in comparison to conventional drive concepts.

Everything from a single source

With the Modulfill Bloc FS-C, Krones now offers its first ever block solution for the filling and sealing of cans.

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The individual machines
Modulfill VFS-C can filler

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

- Output ranging 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, Full jet, Can | * Depending on the respective can format | ** Other can heights available on request

The individual machines
Modulfill VFS-C can filler

The method of operation of the new filling valve

The can is fed into the filler and positioned underneath 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.

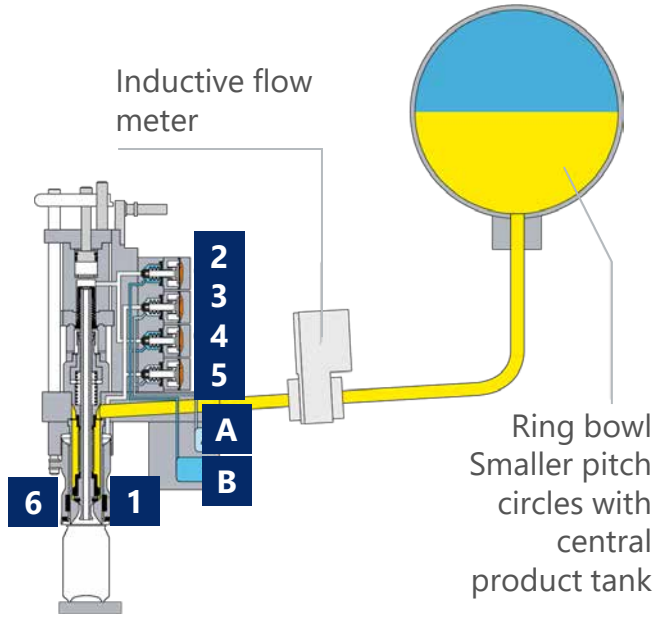
The filling process begins immediately after rinsing. An inductive flow meter monitors the fed filling quantity. The valve closes once the specified filling volume has been reached.

Optional

Cleaning in a closed system using automatically positioned CIP cups

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 the can headroom, centring bell
- **A** Snifting channel
- **B** Pressurisation channel



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Modulfill VFS-C can filler
Benefits to you

Best hygiene conditions

- Hygienic filling valve
- Machine concept without a front table but with a consistent use of Krones Monotec starwheel columns
- Grease-free main bearing with automatic oil-circulating lubrication system

Reliable filling procedure

- Separated gas channels for pressurisation and snifting
- Pneumatic pressing-on and centring
- Flushing is performed when pressed on

Operator convenience

- Format-flexible pressing-on unit: Several can formats can be handled without handling parts
- Quick-change handling parts

Promoting energy efficiency

Use of servo drive technology

Requesting a new machine
You can easily send a request for a non-binding quotation in our Krones.shop.

The individual machines
Modulseam can seamer

Krones integrated its many years of experience in the filling and capping technology sectors in the Modulseam. The key factor: the can seamer is precisely designed to complement the Modulfill VFS-C filler – and therefore works hand in hand with it.

The following features are integrated as standard:

- Bubble breaker
- Under-lid gassing with CO_2
- CIP cleaning
- Quick-change handling parts
- Servo drive concept
- Central lubrication system

Modulseam can seamer
Facts and figures

Field of application: Beverages					Future options
Capping heads	6	8	12	14	18
Maximum output* (cans per minute)	750	1.000	1.600	1.750**	2.200**
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***	53 – 73***	53 – 73***

* Depending on can format | ** Planned output for this size | *** Depending in filler pitch

KRONES

Modulseam can seamer
Benefits to you

Best hygiene conditions

- Capper area separated from the working environment
- All metallised components in the process area are made of stainless steel
- Inclined table top: Cables and supply hoses outside of the process area
- Optional: foam cleaning of all gas channels

Operator convenience

- 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 (as with the competition) but inside the control cabinet and valve manifold, and/or on the seamer top

Low CO_2 consumption

Approx. 460 grams per hectolitre (example value based on customer measurements)

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Contiflow mixer

Non-alcoholic refreshment drinks are becoming a hit with consumers. As a result, more and more flavour combinations are appearing on the market and awaking consumer curiosity. A flexible line technology which provides a maximum leeway for the beverage manufacturers is required.

At a glance

- Deaerators, mixers and carbonators for the production of different beverage types
- Up to five different sizes with variable outputs (33 to 100 percent) of 15, 30, 45, 60 and 90 m^3/h are available.
- Extremely precise dosing of syrup and CO_2
- Depending on your demands:
  - 2-components mixer (water + syrup + CO_2)
  - Multiple-components mixer for up to 8 components
- Optional: Integration in the Modulfill VFS-M through the elimination of the interface between the filler and the mixer

VarioFlash B and J flash pasteurisers

Processes aimed at preservation and safe hygienic processes are key factors in the manufacture of a product. The KRONES VarioFlash flash pasteuriser guarantees the microbiologically safe filling of your product. Since every product has its own requirements, Krones adjusts the machines individually to their respective applications.

At a glance

- Output range from 1,800 to 60,000 litres per hour
- Fields of application: Beer, beer-based beverages, wines and wine spritzers, carbonated soft drinks, juices
- Upon line standstills: Standby mode "Eco-hygienic sleep mode" for minimal energy and water consumption
- Highest microbiological safety thanks to line sterilisation and variable PU control
- Intelligent use of excessive energy such as from the bottle washer
- Beer: enhanced beer quality with express pasteurisation

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 CO_2 consumption
- Minimised water consumption

Everything from a single source

Training courses at the Krones Academy – trained personnel will increase your line efficiency

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 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

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