PET-Asept D
Compact and completely dry
The dry zero-risk solution

PET-Asept D takes the consistent road from the very beginning. The system relies one hundred percent on a dry sterilising medium and germs are not given a chance.

In its latest version, PET-Asept D offers a lot of additional advantages: it requires, for instance, a significantly reduced floorspace and takes only 150 minutes for cleaning between two production cycles.

At a glance

– Aseptic filling of low and high-acid products
– Suitable for all bottle shapes
– Bottle sterilisation by means of hydrogen peroxide ($H_2O_2$)
– Output range from 12,000 to 48,000 bottles per hour*
– Particle filling of up to 10x10x10 millimetres possible
– Also available as PET-AseptBloc D with blow moulder

*D = Dry
*Basis: 500 ml bottle
Microbiological sensitivity of beverages
Aseptic: all process steps at a glance

- Treatment
- Media (e.g. filtration)
- Product (UHT process)
- Caps (hydrogen peroxide steam)

- Packaging (preform or finished container)

- Aseptic filling line
  - Sterile packaging
    - Aseptic filling
    - Aseptic capping

- Finished packed goods
## All KRONES aseptic solutions in direct comparison

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Variant: PET-AseptBloc D with blow moulder

- Valve manifold
- CIP module
- Aseptic filler
- Aseptic capper
- Cap sterilisation
- Blow moulder
- Container decontamination
- Sterile air warm/cold

- Sterile section
- Grey area
- Aseptic capper area
The process: Cleaning and sterilisation of the system

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Parallel processes for fast cleaning

➤ The system is ready for operation after a mere 150 minutes!
The key components: container steriliser

- **Pre-treatment**: The bottles are rinsed with warm sterile air to adjust the temperature, especially in the lower area and in the bottle neck.

- **Sterilisation**: The bottles are flushed with a mixture of vaporised hydrogen peroxide and sterile air.

- **Blowing-out**: After decontamination, the bottles are blown out to reduce residues to ≤ 0.5 ppm.

**Warm gas for warm bottles implies: no condensation!**

- Faster and more efficient sterilisation process
The key components: Aseptic filler

- The sterile bottles reach the filler via a safe transfer area.
- The product is fed from top via a media distributor with axial face seal and integrated condensate barrier.

The filling valve

- Thanks to the double-stroke seat valve it implements two different filling speeds
- It is also suitable for beverages with (fruit) pieces of a size of up to 10 x 10 x 10 millimetres

Cleaning and change-over

- The filler is equipped with its own CIP module.
- The filling valves are sterilised with steam.
- The clean room housing is sterilised with gaseous H₂O₂ – a fully dry method.
- The handling parts can be adjusted fully automatically up to a defined speed.
The key components: Cap sterilisation module

- Simple mechanical design
- Sterilisation of the caps via gaseous hydrogen peroxide
- Short treatment time at adjusted temperature
- Treatment with the precise number of caps: The last cap for the last bottle

Cap inspection unit
Checks caps for
- deformation, ovality
- faultless tear-off ring on caps
- correct orientation
The key components: Aseptic capper

- Every capping head has its own separate servo drive.
- Lowering the closed bottle is done up to a defined speed via a height-adjustable discharge conveyor.
- The bottles leave the block via a transfer tunnel.

Hygiene
- The new KRONES aseptic capper is always in hygienic design and meets even the most difficult hygiene requirements.
- All drives are outside the clean room housing.
- A liquid barrier seals all rotational movements of the capper carrousel.
- The movements of the capping head are sealed with bellows.
- Both, a cone capper and a gripper capper are available.

Cleaning and change-over
- Thanks to its open design, the cap retainer can be easily cleaned.
- The handling parts adjustment system operates fully automatically up to a defined speed.
The peripherals: air handling unit

In the new KRONES air handling unit, the entire air treatment system has been combined to one single functional unit. This way, it is no longer necessary to work with a large number of filter fan units which are placed on the machine housing.

- All filters and ventilators in one unit
- Piping as integrated component of the air handling unit
- Centralised exhaust air pipe system
- Direct air guidance, no pressure cascade required

Benefits to you
- Optimum accessibility
- Time savings of up to 90 percent during filter replacement
- Time savings of up to 90 percent during restart
- Material savings of up to 45 percent
The peripherals: standard CIP module without tank

The PET-Asept D is equipped with its own CIP module. Special features: it works completely without CIP buffer tank because the machine housing of the block also buffers the CIP fluid.

Benefits to you
- Thanks to the fact that no buffer tank is required, about 85 percent of the installation surface and 40 percent of space-consuming volume can be saved.
- No separate valve manifold is required for the CIP return flow.
- All media are provided just in time.

Dimensions: 3.10 m x 1.70 m x 2.60 m (L x W x H)
The peripherals: sterile water UHT system

- Depending on the requirement, it provides 5 to 12 m³ of sterile water per hour
- Kills potential germs by means of thermal treatment
- Equipped with a connection for surface disinfectants
- Enables quick chilling of the bottling system after steam sterilisation to production temperature, for instance for CSD or cold chain products

Benefits to you
- The sophisticated unit arrangement reduces the installation surface by 45 percent and the space-consuming volume by even 60 percent.
- The thermal treatment guarantees a safe sterile water production with low operating costs.

Dimensions: 2.40 m x 2.40 m x 2.70 m (L x W x H)
Benefits to you

No water, high microbiological safety
During production, the entire system consumes not a single drop of liquid. This reduces the water consumption and, at the same time, enhances the microbiological safety.

Efficient container sterilisation
Other H₂O₂ systems heat the containers in order to activate the sterilisation agent, which exposes them to even greater stress. PET-Asept D, on the other hand, brings the medium into the already warm container in gaseous form. This prevents the medium from condensing, reduces contact time and minimises the formation of residues.

Spot landing with regard to materials consumption
From the amount of product still to be filled, the system calculates the precise number of caps it will need, and so sterilises exactly the quantity that it actually needs.

Product change-over within 150 minutes
With the PET-Asept D, the sterilisation of the product route and clean room takes place in parallel. This means that the system is up and ready for the next round just 150 minutes after the last bottle.
Everything from a single source

**Training sessions at the KRONES Academy – trained personnel increases your line efficiency**
The versatile training offer ranges from operation, servicing and maintenance to management training. We will gladly also establish 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.

**Lubricants from KIC KRONES for every 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**
Also after having purchased a new machine, KRONES will take care of your line; the LCS experts are always ready to consult you and translate your goals and wishes into optimal LCS solutions.

**EVOGUARD – excellent valve technology all along the line**
The valve series of EVOGUARD comprises a modular system with hygienic and aseptic components which contributes to every point of the production line with increased performance and which has the perfect solution for every process step.

**EVOGUARD – pumps for absolute process safety**
In addition to the separation and locking of a line, one thing is particularly important - and that is the reliable conveyance of your product. This is why EVOGUARD also offers innovative centrifugal pumps in addition to high-quality valves.
We do more.

Digitalisation
Process technology
Bottling and packaging equipment
Intralogistics
Lifecycle Service