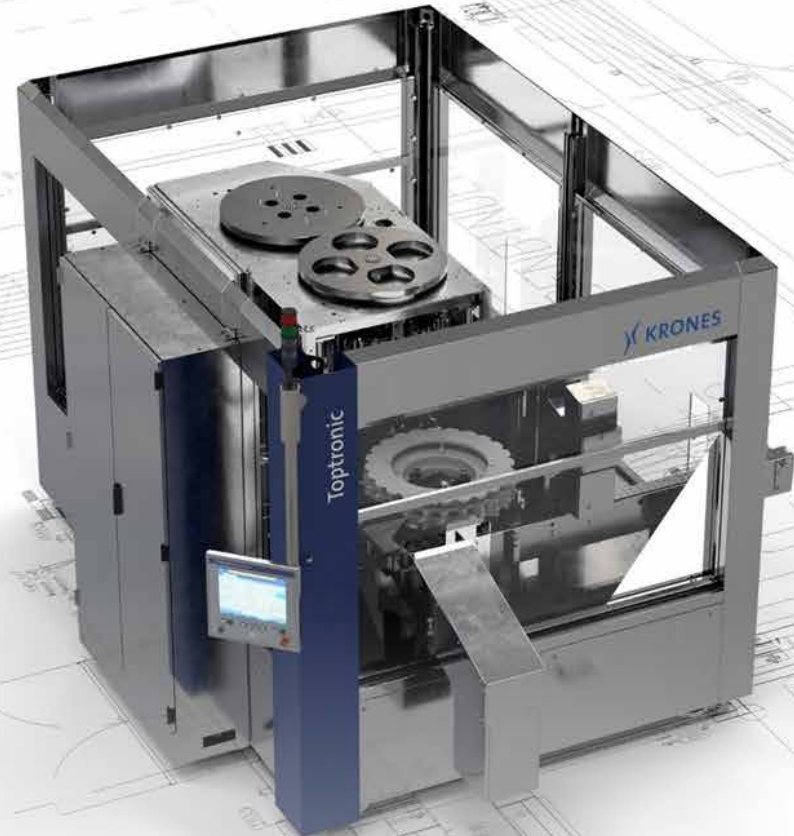




Toptronic

Empty container inspection in rotary operation



 **KRONES**

Safe inspection with each revolution



Safety for returnable bottles of glass and PET: With its highly sensitive camera technology, the Toptronic rotary inspection machine detects even the smallest damage and contamination in empty containers. Depending on the application, different inspection units are available. Which of the many options you want to use is entirely up to you.

At a glance

- Inspection of empty returnable glass and PET bottles
- Modules for all-surface bottle inspection:
 - Foreign container detection
 - Side-wall inspection including film and Scuffing detection
 - Sealing surface inspection unit
 - Base inspection including film detection
 - High-frequency residual caustic detection
 - Infrared residual liquid detection
 - Inner side-wall inspection
 - Lateral neck finish inspection and rust detection
 - Thread inspection



Foreign container detection



Technology used	Two sensors	Camera
Inspects the containers for	Height (too high/too low)	<ul style="list-style-type: none">– Height– Diameter– Contours– Colour
Benefits to you	<ul style="list-style-type: none">– No machine stop– Increased efficiency	<ul style="list-style-type: none">– No machine stop– Increased efficiency– No mechanical adjustment required– Simple cleaning

Side-wall inspection

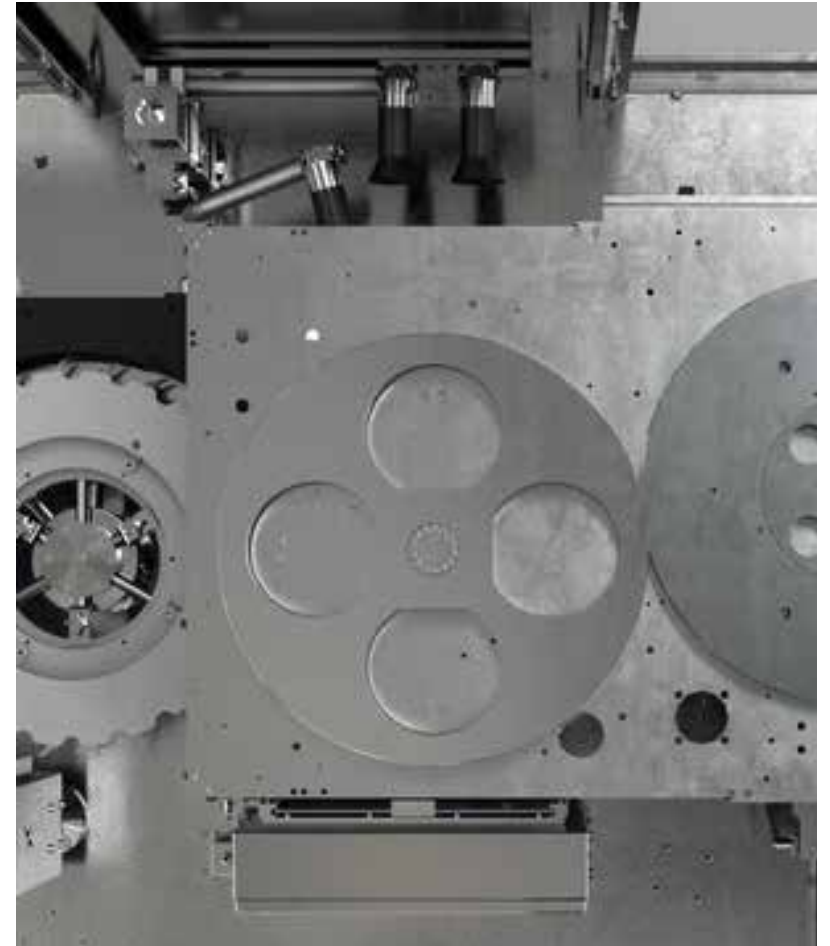


Technology used

- Two cameras
 - Permanent container rotation
 - A total of eight views per container
- Result: 360° side-wall inspection

Inspects the containers for

- Non-transparent contamination
- Semi-transparent contamination
- Scuffing: Scuffing creates its own rejection signal independent of the side-wall analysis



Sealing surface inspection for glass containers



Technology used

- Camera
- Dualflash – lights up the neck finish in two camera images, once from above and once from the side

Inspects the containers for

- Damage
- Cracks
- Overpressed neck finish



Base inspection for glass containers



Technology used

Camera

Inspects the containers for

- Non-transparent contamination
- Semi-transparent contaminations or polarised films
- Damage
- Glass splinters

Benefits to you

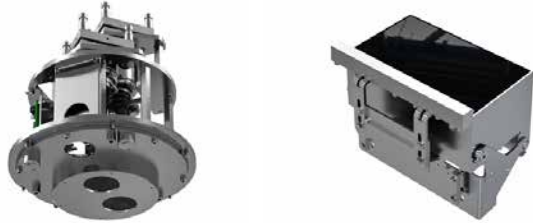

High product safety



Residual liquid and residual caustic detection



Technology used

	infrared	high-frequency
Inspects the containers for	 <p>Water and other residual liquids at a level of 3 mm above the centre of the base</p>	 <ul style="list-style-type: none">– Residual liquids such as water at a level of 3 mm above the centre of the base– Minute quantities of NaOH caustic, e. g. 1.5 % (moisture is sufficient)
Benefits to you		Very high product safety

Inner side-wall inspection

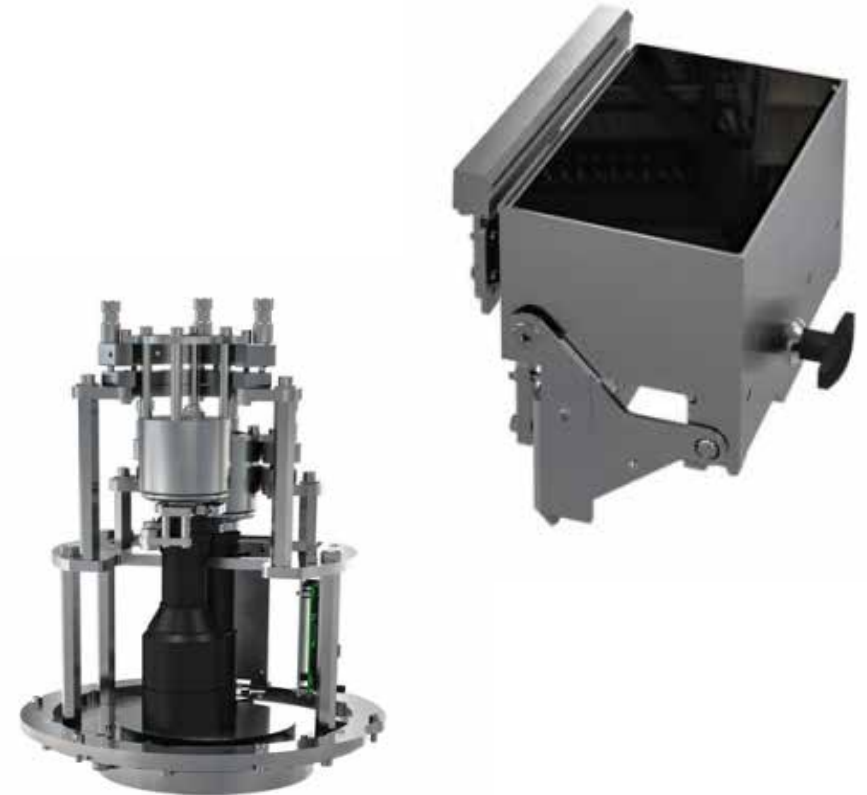


Technology used

Camera

Inspects the containers for

Protruding semi-transparent and non-transparent dirt particles from a size of 1 mm (depending on the shape and quality of the container)



Lateral neck finish inspection and rust detection



Technology used

Colour camera

Inspects the containers for

- Rust deposits
- Chips below the neck finish
- Mortar splashes



Thread inspection

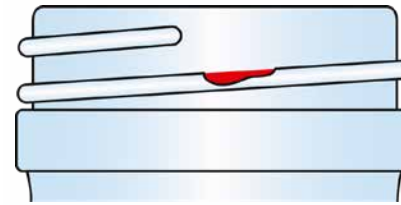


Technology used

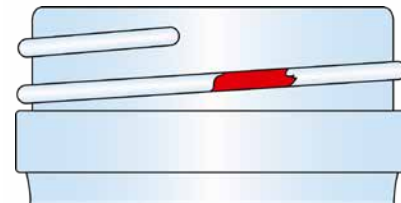
Camera

Inspects the containers for

- Damage to the top edge of the thread
- Fully broken thread
- Roughness
- Non-transparent contamination



Damage to the top edge of the thread



Fully broken thread



Test container program



Is the inspector working as precisely as it should? The test container program provides a clear answer to this question. For the method of operation of the individual inspection units is put to the test using test containers containing faults.

Technology used

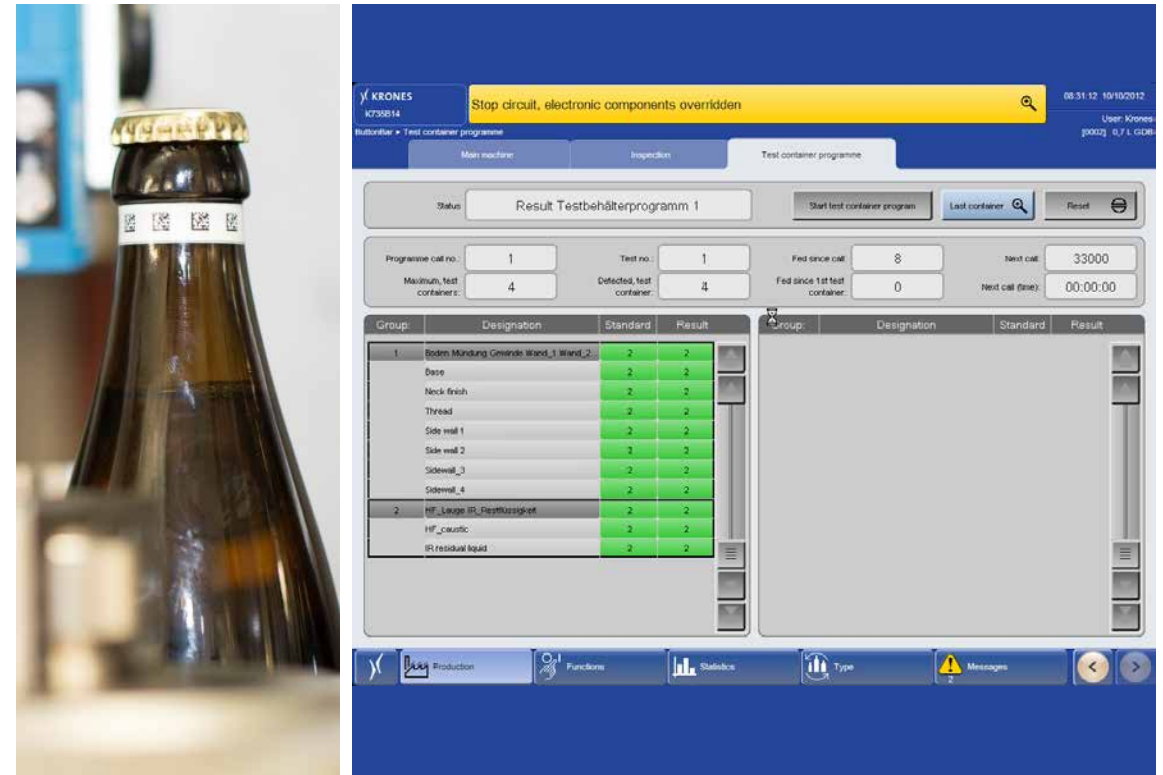
- Multifunctional test containers
- Reflective strips with 2D code

Method of operation

- The program is called up automatically after a specified number of containers or time
- All of the results are saved automatically with the date and time

Benefits to you

Regularly checking the inspection performance guarantees highly reliable production.



Safety management



Password protection with transponder

- Production is started once an authorised person logs on
- Identification using transponder technology
- Password protection with automatic log-out function

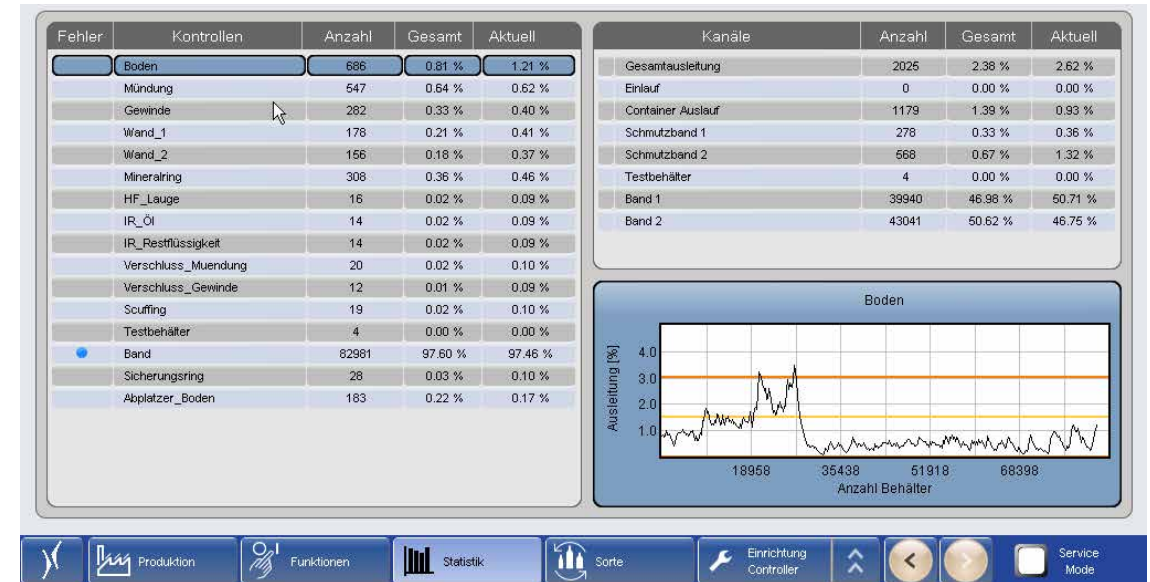
Data backup

To ensure continuous traceability, the following production data is saved automatically:

- Production data
- Parameter changes
- Malfunctions
- Results of the test container program

Rejection monitoring

Monitoring of the rejection unit



Remote maintenance



Remote maintenance is performed on the Toptronic via the GRS (Global Remote Service) remote service platform. If required, one person from the Krones team of inspection experts accesses the machine using a safe internet connection in order, for example, to

- optimise the inspection units.
- set up new container types.
- train the operators.

Benefits to you

- Quick access
- Available around the clock
- No travelling time



Benefits to you



Safety for you and your products

The Toptronic protects your consumers against unpleasant surprises. For its inspection modules scrutinise every container and detect even the smallest defects or irregularities.

Economic operation

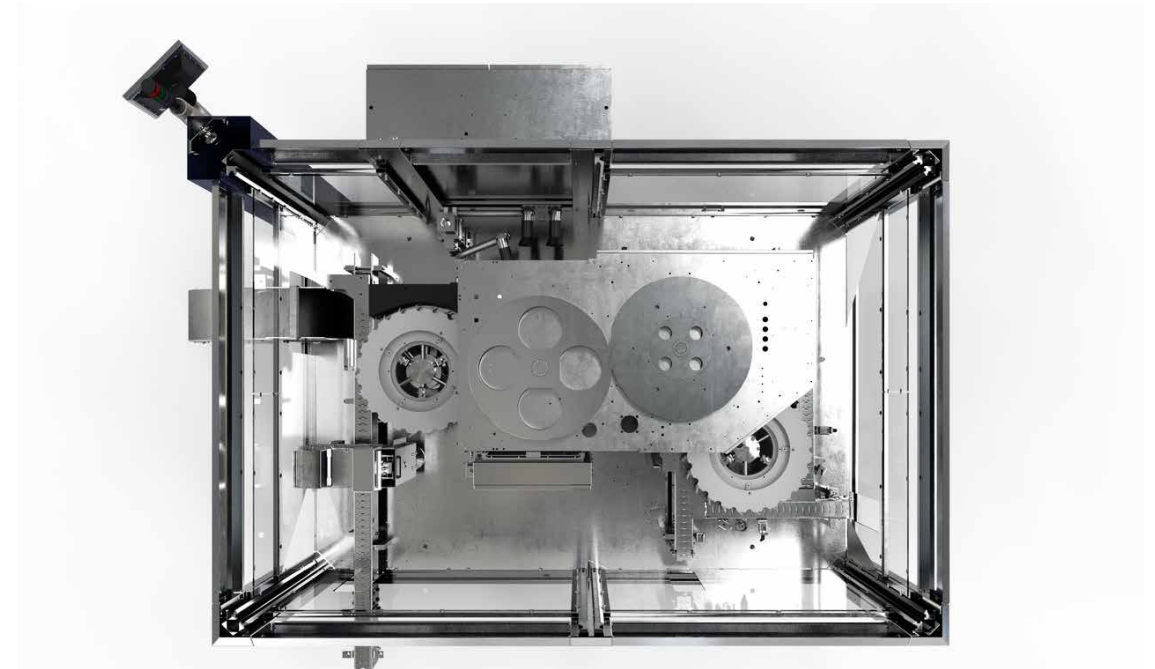
Inspection modules capable of multitasking, energy-saving components and a false rejection rate of just 0.3 percent prove that it is also possible to create maximum production reliability with a low total cost of ownership.

Easy expandability

Would you like to expand the inspection performance of your Toptronic? No problem - since additional inspection modules can be easily and quickly retrofitted.

Seamless tracking

In order to prevent the containers from shifting, they are conveyed through the machine in a fixed position. Therefore, nothing can stop them from being seamlessly tracked.



Requesting a new machine

You can easily send a request for a non-binding quotation in our [Krones.shop](#).



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.

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.

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.

**SOLUTIONS
BEYOND
TOMORROW**

