

MACHINES AND PLANTS FOR THE BEVERAGE INDUSTRIES: CLOSING, PACKING, PASTEURIZATION















GOOD REASONS FOR ...



PROJECT PLANNING · DEVELOPMENT & CONSTRUCTION · MANUFACTURE · AFTER SALES



- + More than **50 years** of experience in the **beverage industry**
- + Construction in accordance with the latest hygiene guidelines
- + Mercedes of swing tops, solidity in multi-shift production
- + One of the leading manufacturers of **pasteurisation chambers**
- + Strong in special solutions with a high degree of automation
- + Service and remote maintenance
- + **Synergy effects** (assembly, construction, software, start-up) through integration into the Pütz Group



- + Established in 1988, approximately 90 employees
- Many years of industrial experience
- Central capital base / local flexibility with the greatest degree of freedom and responsibility

RICO GmbH

Ferdinand-Porsche-Straße 5 73479 Ellwangen GERMANY info@rico-maschinenbau.de Phone: +49 7961 56499-0 Fax: +49 7961 56499-300 www.rico-maschinenbau.de CLOSING, PACKING, PASTEURIZATION



Swing stopper closing machines

For all performance areas - from 1,000 up to 32,000 bottles per hour.





Hygienic Design*

Best microbiological values and perfect hygiene

^{*} Developed with research center Weihenstephan for brewing and food quality



Swing stopper closing machines

RICO swing stopper closing machines are characterized by the latest hygiene technology and optimized design.

A biological table ensures maximum hygiene and cleanliness. The machine table is reduced to the smallest possible surface area. Smooth surfaces on all sides, including beveled edges, ensure immediate drainage of water and prevent the formation of puddles. The average roughness value is just $0.8~\mu m$.



For all performance areas:

BVH1

1,000 bottles/h



BVH 3.5

3,500 bottles/h



BVH7

7,000 bottles/h



BVH 18

18,000 bottles/h



BVH 20

20,000 bottles/h



BVH 32

32,000 bottles/h





Swing stopper closing machines







Height adjustment feature as standard

Optional:

- Rinse and splash system
- Foam cleaning system
- Dynamic high-pressure injection system (HDE)
- Telemaintenance

- Capture of production data with interface
- Vision technology for controlling swing stoppers, rubber seals, logotypes, etc.
- Motorized height adjustment

- Mechanical test of the pressure closing system with automatic discharge of incorrectly closed bottles
- Integrated flip-top test
- Closing ratio of new and returnable bottles > 98%
 - = highest closure rate on the market
- Integrated height adjustment for processing different bottle heights
- Hygienic Design
 (developed with research center
 Weihenstephan for brewing and food quality)
 for best microbiological values and perfect
 hygiene

- Swing stopper saving mode of operation
- Predominantly in stainless steel design
- High-quality engines and control components of well-known manufacturers
- Modern, maintenance-free gearbox and drive system
- SPC-control system (Siemens Simatic S7)
- Hardly any wearing parts
- Low energy consumption



Your specialist for swing stopper closing machines offers more:

Swing stopper installation machine

6,000 bottles/h



Swing stopper opener

up to 12,000 bottles/h



Swing stopper inspection machine

34,000 bottles/h



Rubber seal changer

10,000 bottles/h



Everything from a single source

Take advantage of the **synergy effects** that result from our integration into the **Pütz Group!** In addition to machines and plants for the beverage industry, we are able to equip your plant with the most modern control and vision technology.

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SWING STOPPER OPENER

Robust construction - high opening rate





Optional:

- Rinsing and flushing device (foam cleaning on request)
- + Remote maintenance
- + Operating data collection





Low-maintenance gear drive

Your benefits:

- Low energy consumption
- Impervious to leaking liquids and dirt
- Good accessibility for cleaning
- Easy alignment and opening of the swing stopper without alignment errors

all on the star wheel

- Tried and tested press-on station
 - adjustable pressure
 - cam-controlled slide
- Easily convertible

 to different bottle sizes
- Stainless, low-maintenance gear drive
- as no belt, aligner, opener and clamp star are necessary
- Low energy consumption



SWING STOPPER OPENER



Technical details:

- ➤ Up to 12 000 bottles/h
- > Suitable for porcelain and plastic bobbins
- > Stainless steel design
- > PLC control system
- ➤ High-quality motors and control components from renowned manufacturers
- ➤ Modern, maintenance-free transmission and drive system



The alignment station lowers onto the closed swing stopper, the alignment flap engages and turns the bottle to the opening position.



The press-on station opens the swing stopper. The pressure is adjustable, and the sliders are cam-controlled.



Lifting the swing stopperEscaping liquids or dirt cannot harm the bottle plate located under the bottle.

EVERYTHING FROM A SINGLE SOURCE

Thanks to our integration into the **PÜTZ GROUP** and the resulting **synergy effects** we are able to offer you not just machines and equipment for the beverage industry, but also the appropriate testing technology.

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FOR OVER 50 YEARS

we have been successfully producing complex, customerspecific individual machines and complete systems for the beverage industry.

We will get your production on the path to success.



FULLY AUTOMATIC SWING STOPPER INSTALLATION MACHINE

Fast and accurate swing stopper installation

The fully automatic RICO swing stopper installation machine makes the swing stopper installation highly efficient and cost effective: It impresses with a very high throughput and minimal error rates. The correct installation is monitored by a camera; defective bottles are automatically discharged to a downstream workstation.









- Highly efficient
 short payback period thanks
 to a high assembly performance
 of 6 000 swing stoppers / h
- Automatic transfer
 of the swing stoppers from
 the swing stopper production
 machine to the swing stopper
 installation machine of feeding
 as bulk material
- Automatic alignment
 of the swing stopper installation
 using the bottle crest
- Camera monitoring for monitoring the correct swing stopper installation
- Consistent installation performance and installation quality
- Low setup costs
 thanks to automatic
 format changes
- Low follow-up costs
 new formats are easily
 and simply retrofitted



FULLY AUTOMATIC SWING STOPPER INSTALLATION MACHINE



Technical details:

- ➤ 6 000 bottles/swing stoppers/h
- ➤ Bottle diameter: 50 mm 90 mm
- ➤ Bottle hight: 180 mm 330 mm
- > Feeding of the swing stoppers: bulk material or direct connection with the production machine





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SWING STOPPER INSPECTION MACHINE

New hygiene technology and improved design

Optimum hygiene guarantee!

All the components were revised in accordance with the latest hygiene guidelines.





Toggle test

- Toggle breakage
- Logo test (Presence, Recognition of foreign logo, Recognition of bleached logo)

Seal rubber test

- Availability
- Quality (Colour, Contamination, Mould detection, Damages)

Bracket test

- Detection of faulty bracket mounting
- Detection of bending bracket
- Bracket symmetry test

Empty Bottle Inspection

- Bottom Inspection
- Bottle Mouth Inspection
- Side Wall Inspection
- Residual Liquid Inspection
- Caustic Control
- Bottle too high/too short
- Diameter Detection
- Bottle Colour

- Construction kit principle: simple to assemble and dismantle
- Fewer parts, less area
- CIP-capable

- Simple cleaning:
 - machine can be completely covered in foam and is open for detergents
- High-strength plastic parts
 with approval for use
 with foodstuffs
- Maintenance-free, energy-saving drive
- Simple and fast repair



SWING STOPPER INSPECTION MACHINE



Technical details:

- ➤ Up to 34 000 bottles/h
- > Predominantly in stainless steel design
- > Integrated height adjustment for processing different bottle height
- ➤ Gentle work process for bracket
- > Designed according to latest hygienic findings and therefore excellent biological values
- ➤ High-quality engines and controll components of well-known manufacturers
- ➤ Modern and maintainance-free drive systems

Optional:

- + Feed-out system
- + Operating data entry
- + Remote control
- + Integration in available filling line

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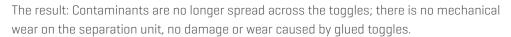
We will get your production on the path to success.



RUBBER SEAL CHANGER GW 10

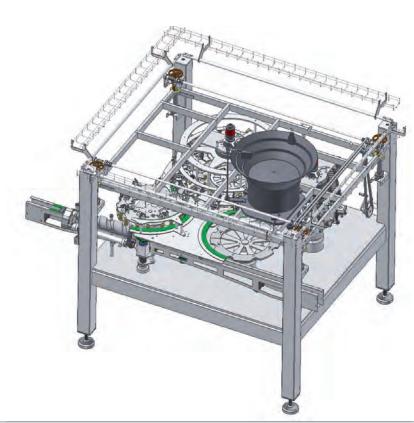
Optimum swing stopper hygiene. Maximum protection against complaints.

The removal of old rubber seals as well as the simultaneous cleaning of porcelain or plastic toggles is no longer performed mechanically but with high pressure water.









- Optimum swing stopper hygiene and therefore maximum protection against complaints
- Very high rubber seal replacement rate
- Low maintenance costs thanks to the wear-resistant drive concept and rubber seal removal unit
- Compatible with our proven rubber seal inspector detects soiled rubber seals
- Convertible to different
 bottle formats
 via a height adjustment feature
- Process-secure rubber seal placement
 - thanks to a new rubber seal installation unit with integrated expansion mechanism
- Designed in line with the latest hygiene guidelines



RUBBER SEAL CHANGER GW 10

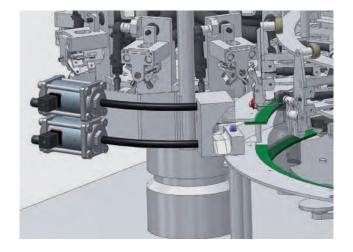


Technical details:

- > 10 000 bottles / h
- > Sorting head with fill-level monitoring for the rubber seals
- > PLC control system
- ➤ Modern, maintenance-free transmission and drive system
- Camera technology for testing:
 The removal of old rubber seals, installation of new rubber seals, toggle soiling
- > Remote maintenance module via the customer's network

Optional:

- Rejection system for the safe rejection of empty bottles while upright
- + Filling device for the sorting head
- + Production data capture



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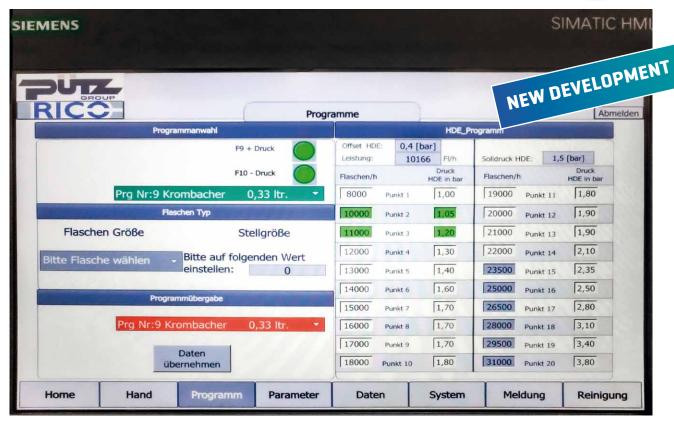
We will get your production on the path to success.



DYNAMIC HIGH-PRESSURE INJECTION (HPI)

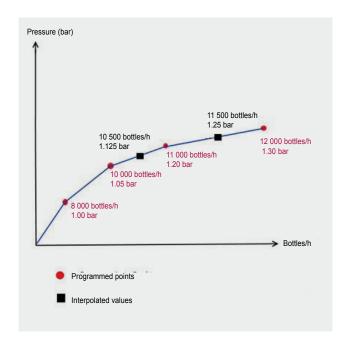
Infinitely adjustable interpolation of the pressure using the bottle speed





Programmable interpolation of the set HPI pressure depending on bottle speed (bottles/h).

The programmed values are entered into a value table. If the bottle speed changes then the pressure adjusts automatically to the correct value.





DYNAMIC HIGH-PRESSURE INJECTION (HPI)



Technical details:

- ➤ The water temperature is 84°C when it leaves the pipe
- > Projected pressure calculation so that the bottles always bubble up equally, even on fast ramp travel
- > Our HPI still maintains the set pressure, even with fluctuations on the in-house grid
- ➤ The water consumption lies between 4 and 8 litres per hour, depending on the pressure that is used
- All areas of HPI that come into contact with water are made of high quality stainless steel and are designed and selected in accordance with the most recent hygiene findings
- Our HPI is an open system, not closed

HPI on the rejection table

- + The temperature at output from the hose is 84°C
- The pressure can be set on the pressure regulator between 1 bar and 4 bar
- Our manual workplace keeps the set pressure even if there are fluctuations in the in-house grid



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RICO systems and machines are designed to be space-saving, low-maintenance and durable.



Vari

Absolutely variable. For all bottles, crates and cartons.

Robo

Flexible to use, clearly and simply structured, highly dynamic.

Robot-guided solutions

Economical palletizing and depalletizing / unpacking and packing.

Bottle grippers and packing heads

For all bottles and every performance area.



Maximum hygiene guaranteed:

RICO unpacking and packing machines are predominantly made of stainless steel and designed according to the latest hygienic standards.



Vari

Max. 450 cycles/h 22,000 bottles/h



Vari – the name speaks for itself: absolutely variable, for all bottles, crates and cartons.

Robo

Max. 600 cycles/h Up to 200 kg top load 48,000 bottles/h



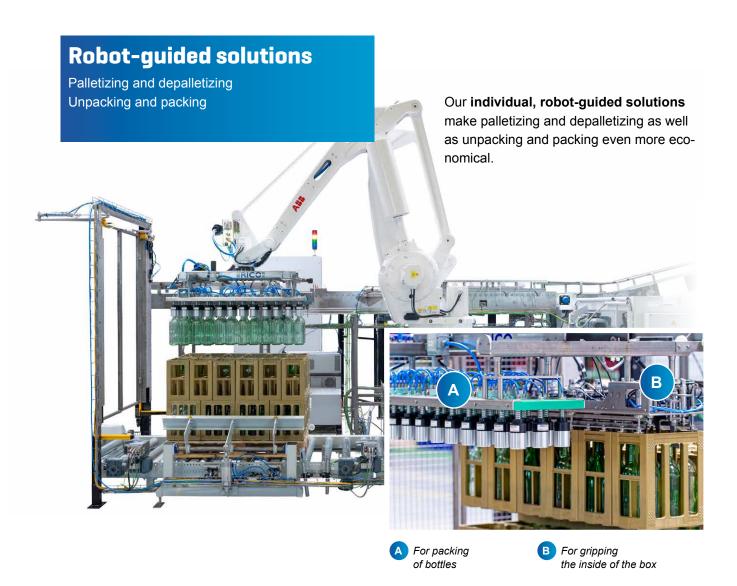
Robo can be used flexibly, has a clear and simple structure and is highly dynamic. It is also suitable for PET bottles.

Optional:

- Packing head quick-changer
- Packing head magazine
- Universal packing head and motorical lane adjustment for automatic format adjustment

- Quiet running and almost maintenance-free,
 Fast and simple format adjustment even with high throughput
- SPC-control system
- Clear operation and text display
- Positioning control ensures optimal flow of movement
- by the operator
- Gripper heads are equipped with **RICO LZT long-term bottle grippers**
- Low consumption
- Designed according to latest hygienic findings





- Processes reusable crates (wine/fruit juices)
- Palletizing and depalletizing of crates and unpacking of bottles
- Packing of bottles <u>and</u> gripping of crates without gripper change
- Sensors for determining the position
- Larger capacity than conventional grippers processes 4 crates lengthwise or 6 crates crosswise, further processing capacities on request
- Space-saving, precise placement of the crates
- No knocking over of other crates because the gripper grips the inside of the crate



Bottle grippers and packing heads

for all bottles and every performance area





Your benefits:

- Very durable
 - robust plastic turned part (not an injection-moulded part)
 - equipped with RICO LZT long-term bottle grippers or flip-top bottle grippers
- Flexible
 - for all glass bottles from 46 mm in diameter, PET bottles, flip-top bottles
 - suitable for all areas of use

- Efficient
 - easy replacement of wearing parts
 - quick and easy format adjustment
- Conserving resources

50% less compressed air consumption than conventional bottle grippers

Customised

customer-specific and machine-specific design

Everything from a single source

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Bottle grippers / Packing machines / Manual packing heads / Packing and gripper heads



Bottle grippers

for all glass bottles from 46 mm in diameter, for all PET bottles and flip-top bottles

Packing machines

for unpacking and packing

Manual packing heads

for the manual processing of smaller bottle quantities or special bottle types

Packing and gripper heads

for unpacking and packing machines









Bottle grippers / Packing machines / Manual packing heads / Packing and gripper heads

Packing machines

for unpacking and packing

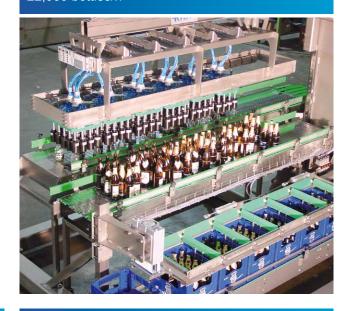
We offer you packing machines for all performance areas.

Vari – the name speaks for itself: absolutely variable – for all bottles, crates and cartons – with fast and simple format adjustment.

Robo has a simple design and can still be used flexibly. Movable in all directions.
Also suitable for PET bottles.

Our **individual**, **robot-guided solutions** make palletizing and depalletizing as well as unpacking and packing even more economical.

Vari 22,000 bottles/h



Robo

48,000 bottles/h



Robot-guided solutions

for economical packing and gripping





Bottle grippers / Packing machines / Manual packing heads / Packing and gripper heads

Manual packing heads

for the manual processing of smaller bottle quantities or special bottle types

Have you had to go to the trouble of manually packing small quantities or special bottle types up to now? Or do you simply not have the money to invest in expensive machines? With its manual packing heads, RICO offers an inexpensive solution for automating the packing process.



20-piece manual packing head for 0.5 I Euro bottles



Special manual packing head to move two six pack packages into pin-partitioned crates



6-piece manual packing head for 0.7l VdF bottles

Your benefits:

- Individually produced according to customer's specifications
- Very durable due to equipment with our high-quality RICO LZT long-term bottle grippers
- Simple operation by hand valve or balancer

Optional:

- Conveyer belt for bottles or crates



Bottle grippers / Packing machines / Manual packing heads / Packing and gripper heads

Packing and gripper heads

for unpacking and packing machines





Your benefits:

- Universal & flexible
 - for all bottle types, all capacity ranges and all areas of use.
 - all glass bottles from 46 mm in diameter
 - all PET and flip-top bottles
- Durable

robust plastic turned part (not an injection-moulded part), all gripper heads are equipped with RICO LZT long-term bottle grippers or flip-top bottle grippers (3x longer service life than conventional grippers)

- Efficient
 - easy replacement of wearing parts
 - quick and easy format adjustment
- Trouble-free integration in all packer types
- Customised

customer-specific and machine-specific design

 Conserving resources
 50% less compressed air consumption than conventional bottle grippers

Everything from a single source

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Optional:

- Universal packing head and motorical lane adjustment for automatic format adjustment
- + Packing head quick-changer
- + Packing head magazine
- + Combinations with our series and layer palletizing systems
- + Transport systems



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PACKAGING AND PALLETIZING CARTONS AND CRATES

Packaging solutions for the entire process chain







Palletizing robot with vacuum suction grippers

We plan in accordance with the requests and requirements of our customers as well as local conditions – in the smallest spaces if necessary!



Carton closer



Carton erector

- We offer both series and layer palletizing systems
- Space-saving, low-maintenance and long lasting designs
- Fast format adjustment and low consumption values
- All machines can be combined with our crating machines, carton erectors and carton closers



Erection, packing, closing and gluing packaging solutions for the entire process chain

We plan in accordance with the requests and requirements of our customers as well as local conditions – in the smallest spaces if necessary!





- The combi module machine can:
 - **erect** cartons
 - pack cartons
 - **close** cartons
 - glue cartons
- Designed according to latest hygienic and energetic findings
- Most modern robot kinematics
 with high performance
 servomotors
- Fast and simple format adjustment because there is no forced quided mechanism
- Space-saving, low-maintenance and long-lasting designs

- User-friendly indicator and control unit
- Max. 1 000 cartons/hour
- Stainless steel design



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PACKAGING AND PALLETIZING CARTONS AND CRATES

WORLD MARKET LEADER

Optional:



Empty pallet magazine in different designs



Transport systems



Pallet storing positions

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ROBOTICS





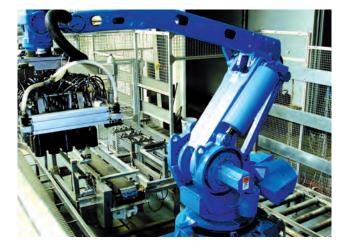
- Four-axle robot
- Axle drive by means of servo-motors
- Control system

- Manual programming device with control panel
- Combined gripper heads for all application areas
- Safety enclosure with safety switches or security light grids



ROBOTICS









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Cutting-edge energy and control technology combined with low purchase and installation costs make your decision for a RICO chamber pasteurizer easy. The fully automatic process control can be customised easily to the different process parameters of a variety of products and at the same time allows for the documentation of process data.



Energetically highly efficient thermal insulation ensures a large, usable interior volume with small external dimensions and noticeably reduces operating costs.



CHOOSE THE RIGHT SIZE FOR YOU.

Chamber pasteurizers for 1 to 12 pallets. We are happy to realise special customer requests.

VERSATILE IN USE

Thanks to mobile design versions and the optional indoor / outdoor installation.

Standard configuration (for 1-12 pallets per throughput):

- + Stainless steel design
- + Statistical data recorder
- + Several retrievable pasteurization programmes
- + Temperature measurements inside the bottle incl. a digital display
- + Residual steam blowout
- + Throughput time: approx. 40 50 minutes
- + Pasteurization data recording to a USB storage device and the customer's network

Optional:

- + Lift gate
- Available as a continuous throughput system for increased outputs with pallet feed and discharge conveyors
- + Version with heavy-duty castors
- + Flexible steam line
- + Special version for outdoor installation



Our chamber pasteurizers – maximum benefits for your production















Internal pallet transport



Large internal fans



Automatic lift gate

Your benefits:

- Maximum energy efficiency thanks to improved 100 mm thick, high-quality insulation
- High-quality workmanship Stainless steel construction and pneumatic components from Festo
- Shortest response times thanks to integrated remote maintenance (as standard)
- Stable construction including impact protection, designed for harsh production environments with forklift loading
- Maintenance-friendly design
 Fan wheels can be replaced
 from below
- Optimum steam circulation
 Large-diameter fan wheels
 inside the chamber
- Optimum air circulation and easiest forklift loading thanks to the large interior

• Steam exhaust valves

After pasteurization, steam is automatically vented from the pasteurizer via a chimney / when the door is opened almost no steam is released

Modern quality data recording

Pasteurization data is recorded on a USB stick or sent to production control systems via the network

 More than 40 years of experience

> in the construction of chamber pasteurizers with over 300 installed units

 The latest fully automatic pasteurization and process monitoring controls

allow for individual adjustments for different customer products to achieve the best possible pasteurization results Uniform heating of the pasteurization products proven in numerous measurement tests

throughout the entire chamber pasteurizer

Extreme flexibility

thanks to mobile design versions and optional outdoor installation

- Customer-specific special versions on request
- Meets strict hygiene requirements
- Minimal personnel requirements
- Low product loss
- Space saving
- **Cost effective**

thanks to low investment costs, energy savings and low spare part requirements





Technical details:

Performance	1-12 Euro pallets (other pallets on requests)
Insulation	100 mm
Savings thanks to the insulation's improved insulating properties	2-pallet device: 1 kWh per pasteurization process = up to 1 400 € per year (steam generation using electricity)
	12-pallet device: 4 kWh per pasteurization process = up to approx. 1 500 € per year (steam generation using natural gas)
Connection values	400 V / 50 Hz + N + PE
Compressed air feed line	6 mm ²
Compressed air operating pressure	4.5 to 6 bar
Compressed air connection	NW 7 coupling plug
Required steam pressure	0.5 - 1 bar (with the steam valve open)
Steam connection	DN40 / DN65 (depending on size of the plant)
Control	Siemens S7 with TP 700 Touch Panel

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RICO GmbH

Ferdinand-Porsche-Straße 5 73479 Ellwangen GERMANY info@rico-maschinenbau.de Phone: +49 7961 56499-0 Fax: +49 7961 56499-300 www.rico-maschinenbau.de

FOR OVER 50 YEARS

we have been successfully producing complex, customer-specific individual machines and complete systems for the beverage industry.

We will get your production on the path to success.



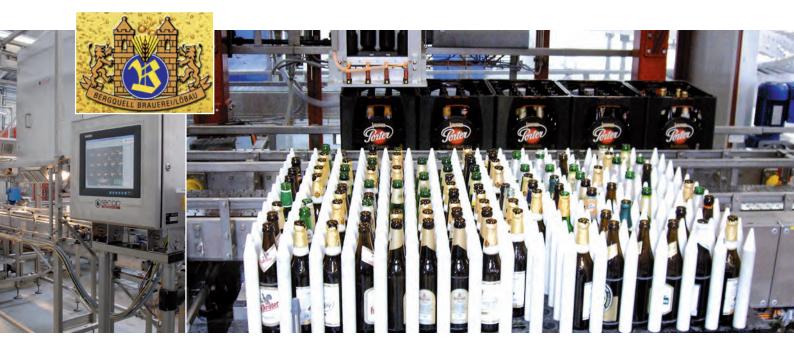
EMPTIES SORTING SYSTEM

Bergquell Brauerei / Löbau

Due to the increased mixing degree in the case of returned empties problems and disturbances may occur in the filling line due to the unnecessary input of large amounts of foreign bottles. The inevitable effect is a drastic loss of power.

In order to operate the bottling line with a constantly high degree of efficiency, it is mandatory to fill the line with correctly sorted empties.





Task:

- > Optimal utilization of the available space
- ➤ Connection to the existing filling line
- > Low employment of staff
- > Expandable for the future

Our solution:

- ➤ Plant capacity of up to 1 000 cases per hour, to be operated by only two workers
- ➤ Expandable to 1 500 cases per hour by the use of a second sorting robot

... and this can be realized within a period of 4 months!

RICO has been ready to tackle this challenging task, has taken over the complete project planning and has been the interface of all partners.



EMPTIES SORTING SYSTEM







- + Combined layer palletizer / depalletizer with two gripper heads
- Complete case transport system with various distributor steeps, junction steeps, case stoppers
- + Pallet transport system
- + Belt antiseize agent dosing system
- + Case transport control system
- + Project engineering and realisation

@recop

- + Case control system
- + Sorting robot
- + Transfer systems

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PACKAGING MACHINE

Weingut Schloss Fels

Plant planning possible on the smallest space

To plan a complete bottling and packaging line in which are integrated all required units, ranging from new glass to the pallets ready for dispatch on less than 200 m², is really a challenge. Storage space that is indispensable for the smooth running operation must be reduced to a justifiable minimum.



Packaging machines have especially been reduced to your installation size and newly designed according to the plurality of your cardboards.



Scope of Delivery:

- > Semi-automatic new glass removing system
- ➤ Packer type VARI, 1-head with universal packing head
- > Cardboard turn-up system with hot glue
- > Cardboard closer with hot glue
- ➤ Palletizer robots with vacuum suction grippers
- ➤ Empty pallet magazine
- > Bottle transport
- > Package transport
- > Pallet transport
- > Packaged goods pallet stretcher
- > Project planning and implementation



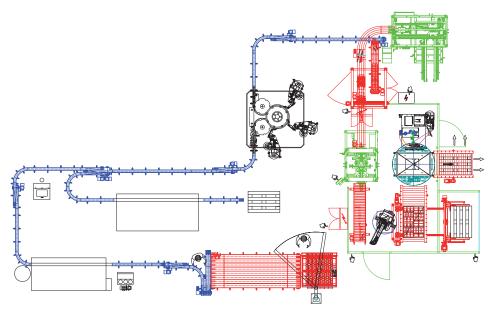


PACKAGING MACHINE



Technical details:

- ➤ 3 000 bottles/h
- ➤ Bottles: 8 different sizes, ø 72 mm up to ø 96 mm
- Packages: pre-glued and pre-cut cardboard
 3 bottles / cardboard and 6 bottles / cardboard
 Minimum cardboard with 75 mm



Layout packaging machine Weingut Schloss Fels

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MACHINES AND PLANTS FOR THE BEVERAGE INDUSTRIES:

CLOSING, PACKING, PASTEURIZATION



