

Conversion Catalogue



KHS AFTER SALES & SERVICE



Fasten Your Seat Belts...

The KHS Innofill Glass series:
Faster and safer filling at up to 75,000 bottles per hour.



Filling and Packaging – Worldwide



Please choose a language

Bitte Sprache auswahlen

Por favor sellecione un idioma

Пожалуйста, выберите язык

Por favor, seleccione um idioma

يرجى تحديد لغة

Lutfen bir dil sein



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Ortmann + Herbst	



Dear customer,

KHS machines are up-to-the-minute in their development.

In order also for older machines embedded in your production to continue to meet these standards, we have developed upgrades for keeping your machines up to date.

As regards the technical further development of our upgrades, we attach great importance to taking the requirements of our customers into consideration and to continuously growing with the demands specific to our industry. As a result, old functional machines do not have to be replaced by expensive machines.

We would be pleased to arrange an appointment with you for a personal meeting. We would also be happy to receive any comments and suggestions you may have at any time.

Best regards,

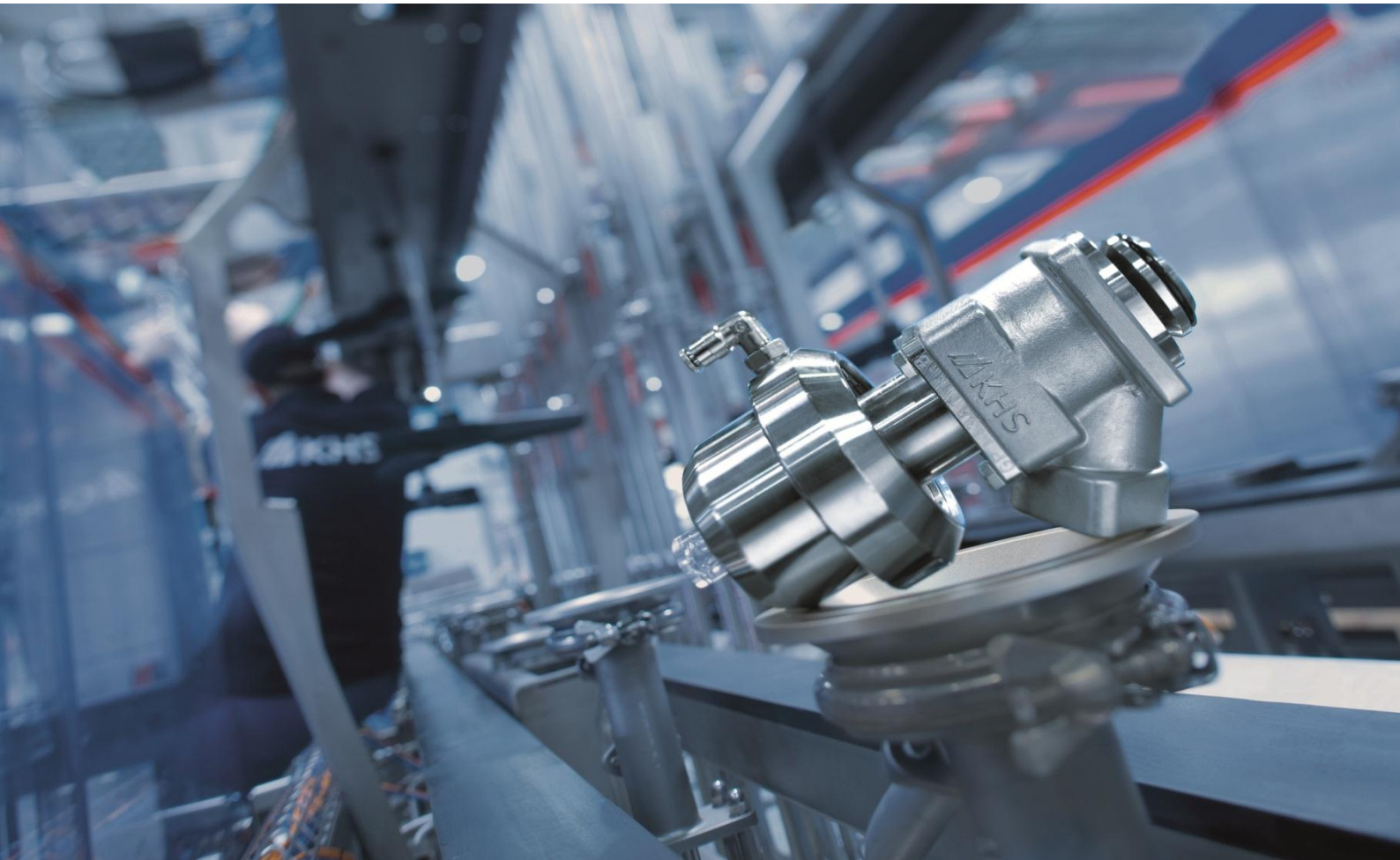
Günter Unkrig

Head of After Sales & Service



KHS Conversion Catalogue

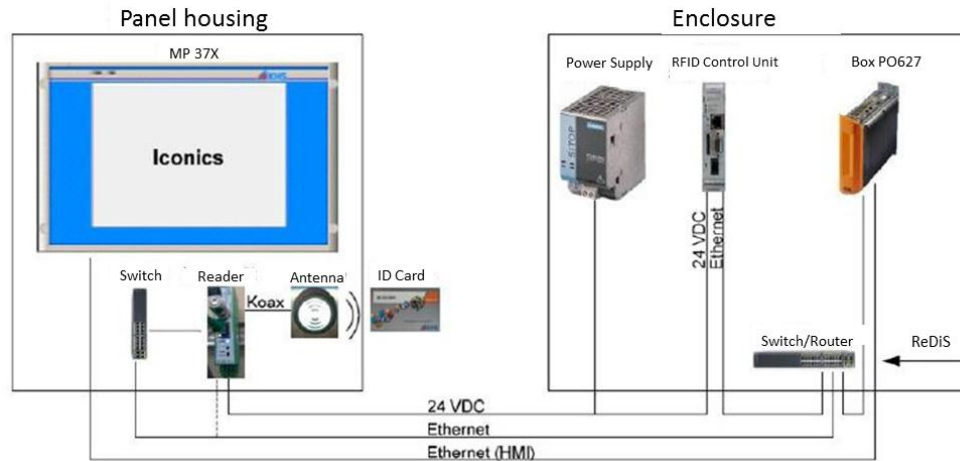
KHS Innobit





Suitability

KHS machines equipped with -
Simatic S7 PLC - Iconics V7.x
machine operating system



Description

Supplement for older machines to enable identical login to the visualization as on new KHS machines. Upgrade to enable use of RFID tags. Eliminates the necessity of entering user names and passwords to log in and off at the control unit. Login and logoff by holding the RFID tag in front of the antenna. The user's operating role is stored on his/her tag.

Benefit

- Efficient and exact user account management for the machine
- Individual rights for different user roles
- Avoids operating errors
- Avoids multi-user accounts
- Automatic login by holding the RFID tag in front of the reader.
- Automatic logoff by holding the RFID tag in front of the reader again or by a parameterizable time-out period

Scope of supply

- RFID reader with IP65 antenna (22.5-mm hole size)
- KHS RFID control unit including pre-parameterized RFID tags with stored user roles for the machine
- Driver to establish a link to the Iconics Security Server
- Wiring for the RFID reader

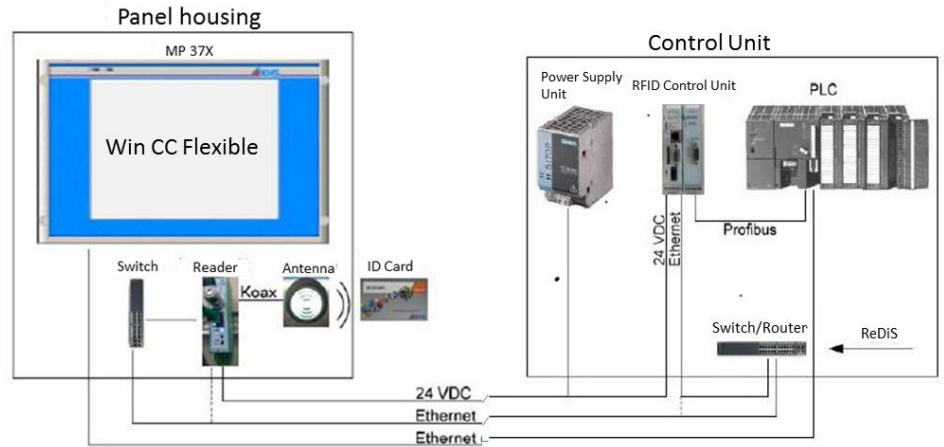
Contact

Karsten.Vollmer@KHS.com



Suitability

KHS machines equipped with -
Simatic S7 PLC - WinCC Flexible
as machine operating system



Description

Supplement for older machines to enable identical login to the visualization as on new KHS machines. Upgrade to enable use of role-based login with RFID tags. Eliminates the necessity of entering user names and passwords to log in and off at the control unit. Login and logoff is carried out by holding the RFID tag in front of the antenna. The user's operating role is stored on his/her tag.

Benefit

- Efficient and exact user account management for the machine
- Individual rights for different user roles
- Avoids operating errors and multi-user accounts
- Automatic login by holding the RFID tag in front of the reader
- Automatic logoff by holding the RFID tag in front of the reader again or by a parameterizable time-out period

Scope of supply

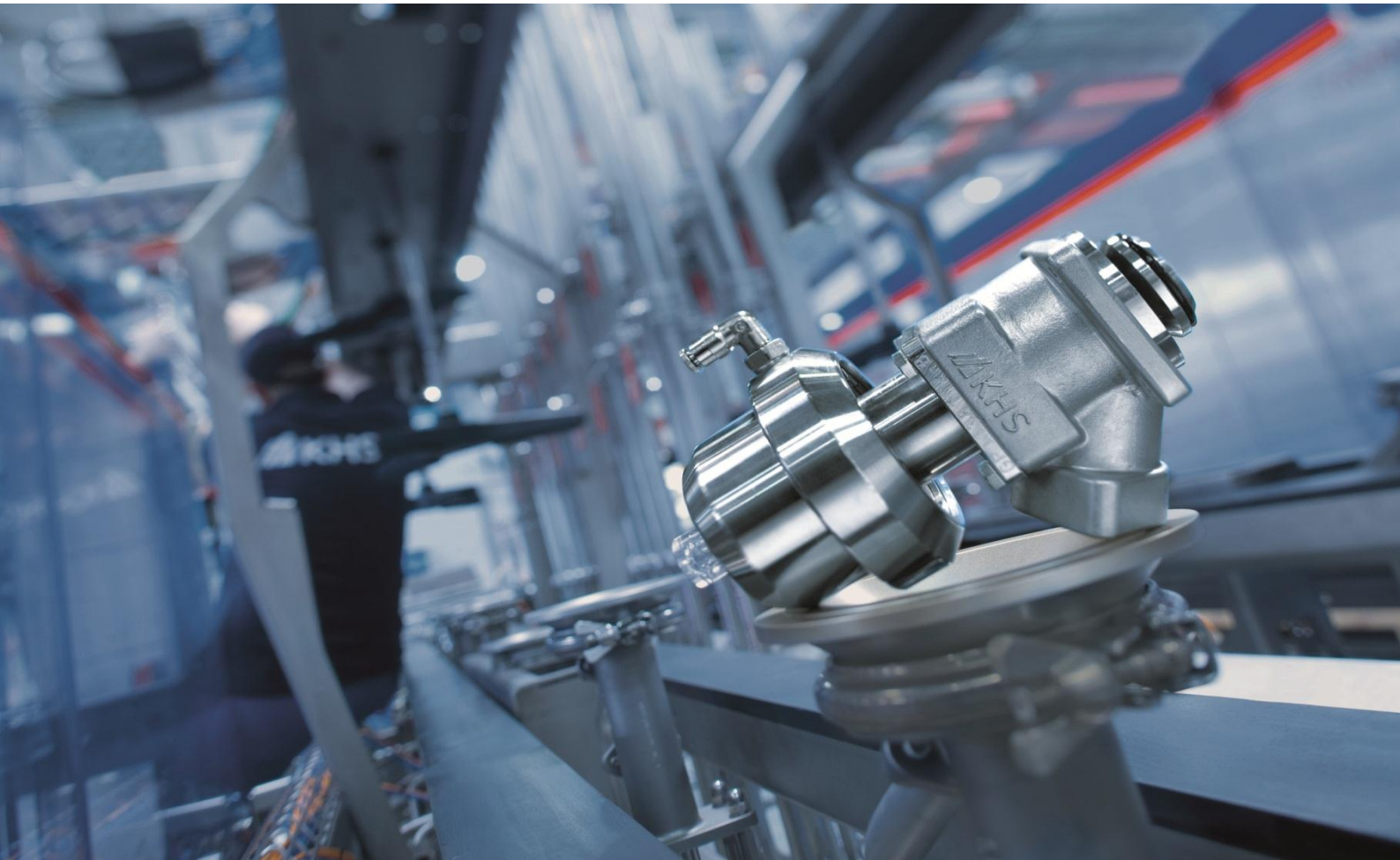
- RFID reader with IP65 antenna (22.5-mm hole size)
- KHS RFID control unit including pre-parameterized RFID tags with stored user roles for the machine
- Standard function module for the Simatic S7
- Modification of the WinCC Flexible application for use of RFID tags for user management
- Wiring for the RFID reader

Contact

Karsten.Vollmer@KHS.com

KHS Conversion Catalogue

KHS Innocheck





Suitability

KHS Innocheck inspection systems



Description

Innocheck CCI crooked cap inspection: compact, effective crooked cap inspection system with only one camera. A very high contrast, extremely sharp and distortion-free image of the closure is achieved by means of a special lens system.

Benefit

Leaking containers due to crooked caps are detected and rejected as early as possible.

The Innocheck CCI cap inspection system checks that caps are present, seated correctly, and at the correct height. With PET bottles, bottle height tolerances can be compensated for by referencing with respect to the neck ring. Can be used for 28 and 38-mm closures and sports bottle caps.

Scope of supply

- The complete unit including the required piping made of 1.4301 stainless steel (optionally 1.4401 stainless steel for piping exposed to product) mounted on a base frame
- All components relevant to operating the system, including equipment such as valves, filling level probes, and flanges
- Switch cabinet made of 1.4301 stainless steel to accommodate all components required for automated operation, including the PLC hardware and necessary software

Contact

Helmut.Schmitt@KHS.com



Suitability

KHS Innocheck inspection systems



Description

KHS CUB control unit: Basic system for the evaluation, analysis and control of KHS Innocheck inspection systems.

Benefit

Can be used for all inspection systems even in high-performance machines. Flexible expansion and combination option for additional inspection systems. Plug & Play commissioning. Data access to the flash memory of the real-time operating system via freely definable password levels. Simple, intuitive Windows-based operation with display-guided help functions. Use of standardized, long-life industrial components. Can be connected to and networked with external systems via various interfaces such as USB and Gigabit Ethernet. Prepared for KHS ReDiS remote maintenance system.

Scope of supply

- Electrical cabinet in IP 55 stainless steel
- Protective housing with integrated touch screen
- Color display and intelligent software system.

Contact

Helmut.Schmitt@KHS.com



Suitability

- Synchron I
- Synchron IL
- Synchron II



Description

Enhanced characteristics (breakproof and less noise) have been achieved through further development in the design of the ejection lever and the use of an improved material.

Scope of supply

- Breakproof levers in new guide cartridges
- Required new bearings

Benefit

- Breakproof levers
- Reduced maintenance time
- Increased operational reliability
- High-speed ejection
- Operation up to 4 decibels quieter
- Less wear

Contact

Helmut.Schmitt@KHS.com



Suitability

KHS Innocheck inspection systems



Description

KHS Innocheck fill level check high frequency : Reliable, capacitive measuring system for detecting underfilled or overfilled containers. Suitable for glass and PET containers and for products which produce no or only little foam. Not suitable when metalized materials are used in the fill level area (e.g. labels or aluminum foil) or for products with high alcohol content.

Benefit

Underfilling and overfilling can be checked with only one measuring bridge. Robust, non-wearing system. No special safety regulations or time-consuming registration procedures for using the measurement bridge to be complied with. Increased measuring accuracy for different shaped containers thanks to innovative, horizontal adjustment of the distance between transmitter and receiver. Increases product safety and reliability with regard to the statutory minimum filling level.

Scope of supply

- Hygienically designed stainless steel housing
- Height-adjustable stand. Motorized option also available
- Measuring bridge with transmitter and receiver (to generate an electromagnetic field)
- The device is only working in combination with the CUB unit.

Contact

Helmut.Schmitt@KHS.com



Suitability

KHS Innocheck inspection systems



Description

KHS Innocheck GRS rejection/distribution system: Compact, effective rejection/distribution system for glass and PET bottles, cans, glass jars and plastic containers in the beverage, food and non-food industries. The system is equipped with rejection levers whose speed is synchronized with that of the conveyor belt. Each rejection lever can be triggered individually. During the rejection process, a number of levers corresponding to the width of the container are extended by means of a soft guide cam and the container is therefore transferred almost without impact onto a rejection table in an upright position.

Benefit

Reliable, upright transfer of all types of container onto a rejection table for maximum, trouble-free inspection/distribution even in the high-performance range. Ideal for filler/capper management systems with sampling function. Low-maintenance and low-wear system thanks to the use of unbreakable rejection levers. Operating costs are also minimized as a result of the pneumatic-free design. GRS for rejection/distribution from one to two lanes. Can be used for outputs up to 66,000 cph and conveyor speeds of up to 1.6 meters/sec.

Scope of supply

- Hygienically designed stainless steel housing
- Unbreakable rejection levers for maximum product safety
- Electric trigger to extend the levers
- Controlled ejection fingers are contained in closed, robust stainless steel cassettes
- The device is only working in combination with the CUB Unit

Contact

Helmut.Schmitt@KHS.com



Suitability

KHS Innocheck inspection systems



Description

INNOCHECK TSI tamper-evident seal inspection: Compact, effective cap inspection for checking possible cap faults and tamper-evident seal faults. The use of a special lens system provides an uninterrupted, precise, all-round view of the cap. The high-quality image generated enables the smallest defects on the tamper-evident seal to be detected.

Can be expanded to include cap color inspection and the presence of a code on the side of the cap.

Benefit

Increases product safety "all around the cap" by inspecting possible cap defects in the vicinity of the tamper-evident seal. Can be used for 28 and 38-mm closures and sports bottle caps. Reduced maintenance costs thanks to the use of long-life LED lighting and adjustable acrylic cylinders to protect the integral optical components.

Scope of supply

- Hygienically designed stainless steel housing
- Height-adjustable stand. Motorized option also available
- Maintenance-free, configurable LED photoflash lighting
- High resolution color cameras
- Protective cylinders for lens units
- Innovative KHS image processing software
- The device is only working in combination with the CUB unit

Contact

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Suitability

KHS Innocheck inspection systems



Description

KHS Innocheck VRS rejection/distribution system: Pneumatic-free, single-segment rejection system in stainless steel for the reliable rejection of glass bottles, cans and other containers in the high-capacity range. The use of an intelligent control system ensures that the rejection segments are optimally triggered with individual adjustment for stroke and acceleration. In doing so, various parameters such as conveyor belt speed and container type are taken into account.

Benefit

Reliable rejection of glass bottles, cans and other containers in the high-capacity range. Ideal for rejecting/distributing cylindrical glass bottles and cans onto a rejection table. Also ideally suited for filler/capper management systems with sampling function for this container type. Compact, space-saving, low-maintenance, low-wear and low-noise system. Operating costs are also minimized as a result of the pneumatic-free design. Can be used for outputs up to 120,000 cph and conveyor speeds of up to 2.9 meters/sec.

Scope of supply

- Hygienically designed stainless steel housing
- Reject segment with electromagnetic initiator and servo motor independent of container
- The device is only working in combination with the CUB unit

Contact

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Suitability

KHS Innocheck inspection systems



Description

KHS Innocheck X-ray fill level check: Reliable, precision measuring system for detecting underfilled or overfilled containers.

Benefit

Can be used for all container types which are relevant to the market (e.g. bottles, cans etc.) and for all products to be filled. Many possible applications, e.g. after the filling process or after the labeler or after the pasteurizer. Increases product safety and reliability with regard to the statutory minimum filling level.

Scope of supply

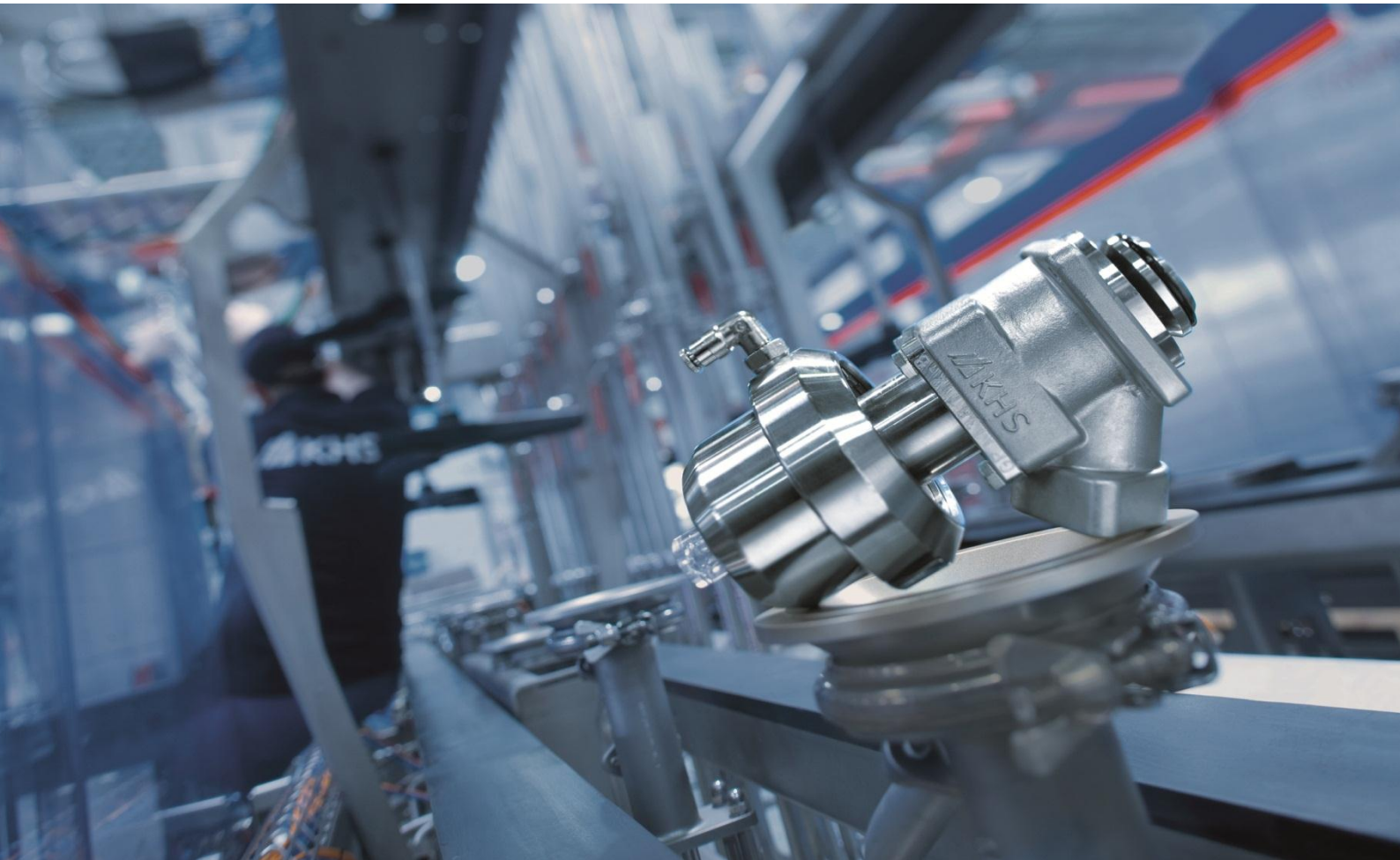
- Hygienically designed stainless steel housing
- Height-adjustable stand. Motorized option also available
- Transmitter (radiation source with manual on/off facility) and receiver
- Signal lamp for indicating that radiation source is active
- The device is only working in combination with the CUB unit

Contact

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KHS Conversion Catalogue

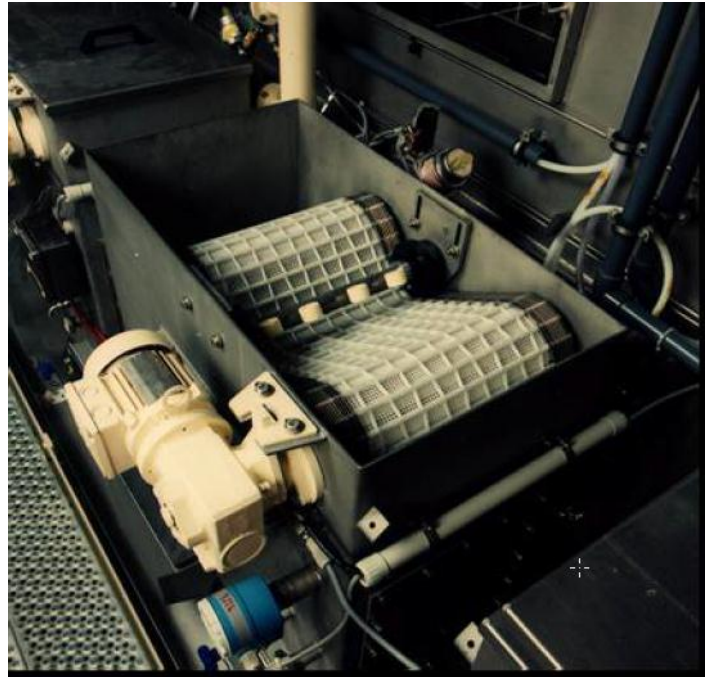
KHS Innoclean





Suitability

INNOCLEAN EE / DM YOM 1988
and later with removable sieves



Description

The automatically rotating sieve belts are self-cleaning.

Benefit

- Increased operational reliability
- Improved microbial safety
- Increased waste discharge for improved hygienic conditions
- Less maintenance work

Scope of supply

- Pre-assembled automatic belt filter (stainless-steel housing, plastic discharge belt with stainless- steel louvered chains on the sides)
- Piping materials for adaptation to the existing piping
- Necessary electrical components
- Integration of the belt discharges into the electrical control of the machine

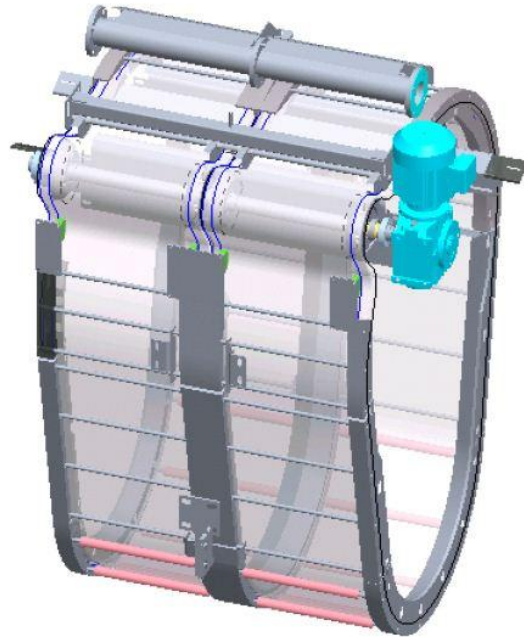
Contact

Urich.Wiedemann@KHS.com



Suitability

INNOCLEAN DM



Description

A rotating sieve belt carries the removed labels out of the machine.

Benefit

- Increased product safety
- The improved discharge rate can reduce the risk of label pulping and defibering
- Increased service life of the caustic
- Less spray clogging
- Increased functional reliability of the belt discharges
- Improved accessibility
- Reduced maintenance
- Ensured availability of spare parts

Scope of supply

- Label discharge belt made of wire eyelet cloth
- belt guide
- housing adaptation
- Additional diverter and drive station
- Electrical integration into the machine control

Contact

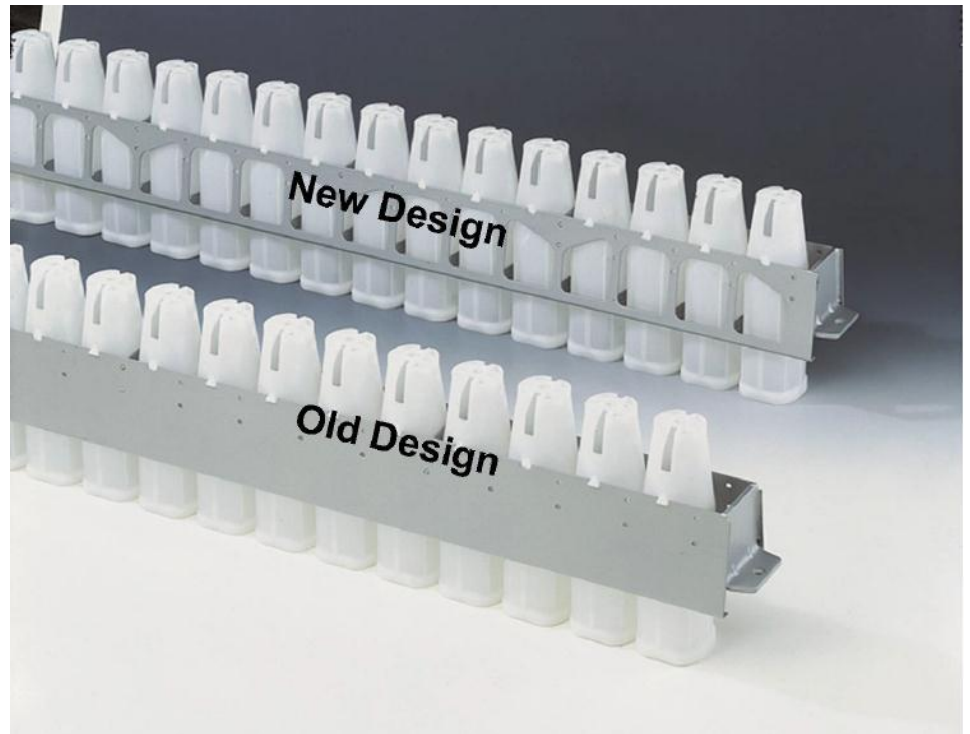
Urich.Wiedemann@KHS.com



Suitability

KHS Innoclean EE

KHS Innoclean DM



Description

An open, noticeably lighter weight bottle carrier system has been developed with the help of FEM simulation. The Eco bottle carrier has been successfully installed in new bottle washing machines and has been proven many times over in practical operation.

Benefit

- Approx. 15 - 20% reduction in fresh water consumption
- 10 - 15% less heat (hot water, saturated steam)
- Liquid carryover decreased down to 8 ml/bottle
- Less maintenance work
- Less wear
- Noticeable decrease in operating costs

Scope of supply

Eco bottle carrier equipped with plastic cells

Contact

Ulrich.Wiedemann@KHS.com

Economic efficiency calculation

If you are interested, we will send you a parameter query to capture the actual consumption and costs. It's a pleasure for us to calculate your individual cost-saving potential.



Suitability

INNOCLEAN EE / DM,
YOM 1978 and later



Description

The existing constant fresh water supply is expanded to include an adjustable pressure reducing valve, which is connected to the clock counter of the machine. This makes it possible to individually adapt the fresh water supply to the machine capacity.

Benefit

High cost savings due to significant reduction of fresh water consumption due to reduced performance of the machine.

Scope of supply

- Electropneumatic control valve including flanged joint
- Program upgrade for integrating the control valve into the machine control

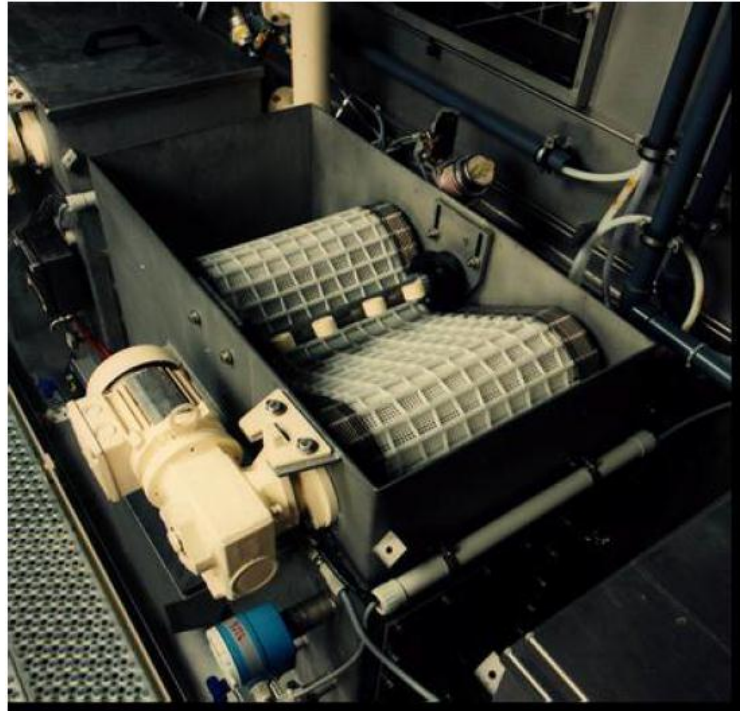
Contact

Urich.Wiedemann@KHS.com



Suitability

INNOCLEAN EE / DM YOM 1988
and later with removable sieves



Description

The automatically rotating sieve belts are self-cleaning.

Benefit

- Increased operational reliability
- Improved microbial safety
- Increased waste discharge for improved hygienic conditions
- Less maintenance work

Scope of supply

- Pre-assembled automatic belt filter (stainless-steel housing, plastic discharge belt with stainless- steel louvered chains on the sides).
- Piping materials for adaptation to the existing piping
- Necessary electrical components
- Integration of the belt discharges into the electrical control of the machine.
- Adaptation of platforms.

Contact

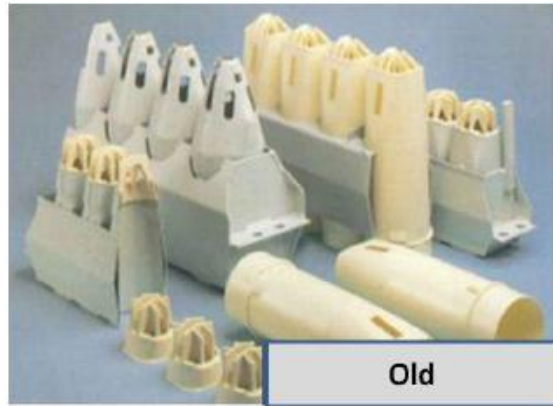
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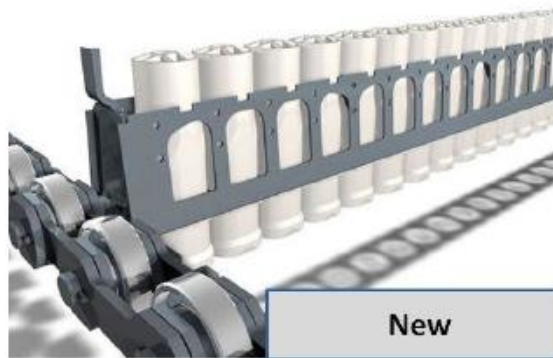
Suitability

O+H Contina DK
(Double-end)

Partition of cells 110mm



Old



New

Fig.: EcoCarrier with smooth running chain

Description

An open, noticeably lighter weight bottle carrier system has been developed with the help of FEM simulation. The Eco bottle carrier has been successfully installed in new bottle washing machines and has been proven many times over in practical operation. The brand new KHS – Eco bottle carrier, with 46% less weight in contrast to the standard carrier, reduces maintenance work, heat and fresh water consumption clearly. The balance of energy will be affected positively and the factor of carryover is getting reduced, both for fresh water and also for base. Optimized flushing of the container and the innovative Snap-On System causes a better separation of the treatment processes and also a quick change of the carriers.

Benefit

- Approx. 15 - 20% reduction in fresh water consumption
- 10 - 15% less heat (hot water, saturated steam)
- Liquid carryover decreased down to 8 ml/bottle
- 46% less weight results in less strain for chain, direction changes and gear
- Less maintenance work
- Less wear
- Noticeable decrease in operating costs

Scope of supply

- The number of bearing is similar to the installed ones
- Every ECO carrier is assembled with the right number of plastic pockets depending to the partition

Economic efficiency calculation

If you are interested, we will send you a parameter query to capture the actual consumption and costs. It's a pleasure for us to calculate your individual cost-saving potential.

Contact

ulrich.wiedemann@khs.com

Price *

The price depends on the machine design. Please feel free to contact us for an individual offer.

* Technische und Preisänderungen vorbehalten; auf Nachfrage erstellen wir für Sie gerne ein verbindliches Angebot.



Suitability

For all spray pumps on bottle washing machines



Description

The spray pumps are slowed down to a minimum pressure of approx. 0.3 bar when the machine is stopped.

Benefit

Energy savings of up to 40%.

savings calculation:

- 4 KW down to 0,6 KW
- 7,5 KW down to 1,1 KW

Scope of supply

- Frequency equipment
- Switch cabinet
- Shielded cables
- Software

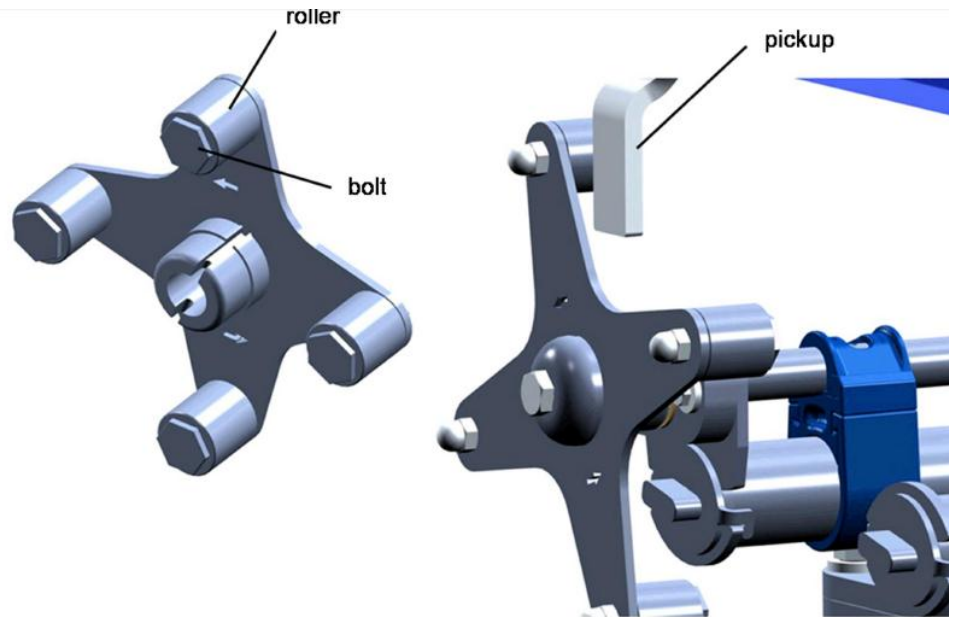
Contact

Urich.Wiedemann@KHS.com



Suitability

For all Innoclean DM and EE models



Star wheels removed (left) and operational star wheels (right)

Description

The rigid round elements on the existing stars are replaced with rotating rollers. The bearing arrangement allows the new bolts to rotate during the cleaning process. The previous sliding friction is turned into rolling friction thereby reducing the coefficient of friction considerably. In order to profit fully from the benefits indicated, we recommend that all stars be replaced in the bottle washer.

Benefit

- Reduced wear thanks to less friction between the pickup and the roller
- Uniform loads on rollers
- Ensure exact spraying accuracy over an extended time period
- High process reliability thanks to longer maintenance intervals and shorter maintenance times

Scope of supply

For one star wheel:

- 4 bolts with screws
- 4 rollers each with 2 slide bearings
- 4 cap nuts

Contact

Urich.Wiedemann@KHS.com



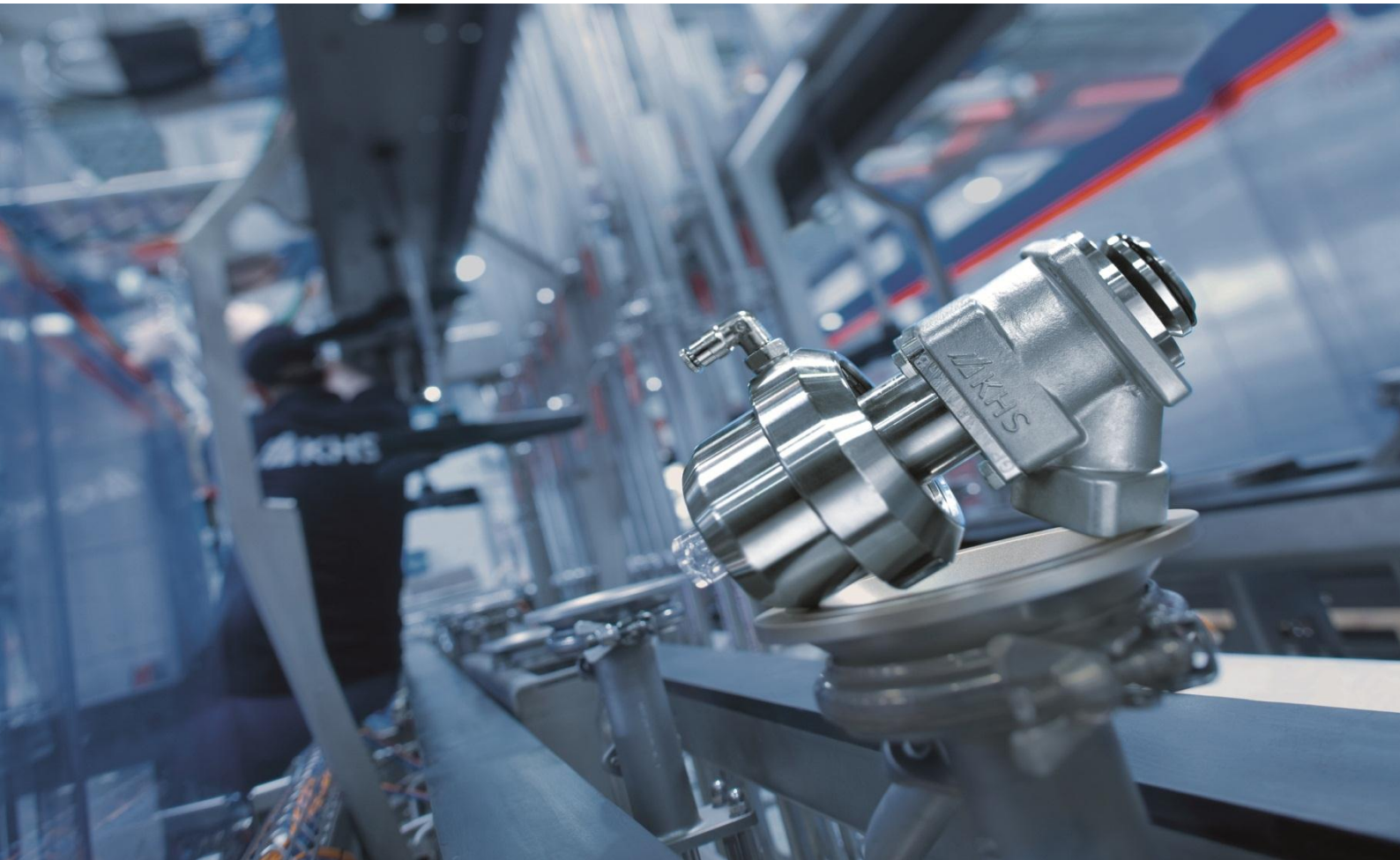
Big for small
and medium-sized breweries.

The KHS Innofill Glass Micro: For up to 25,000 bottles per hour.



KHS Conversion Catalogue

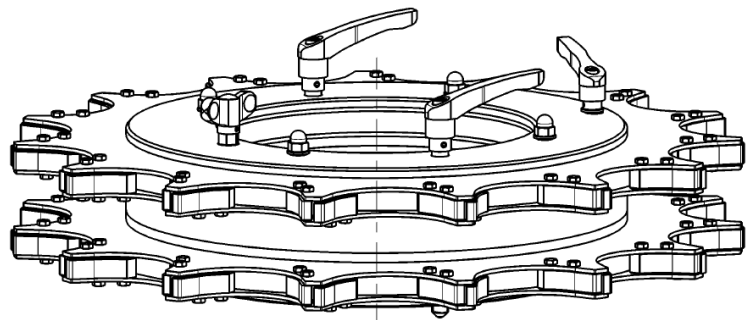
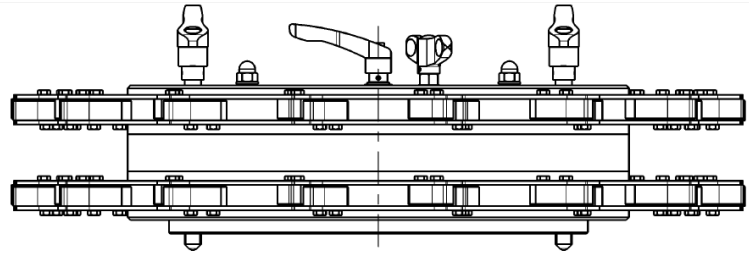
KHS Innofill





Suitability

Glass bottling lines, preferably up
30,000 bottles per hour



Technical drawing of Adjustable Stars by KHS

Description

Easy handling by turning a clamping shaft and locking the clamping lever in place.
Separate adjustment of the top and bottom star pockets possible.

Scope of supply

Universally adjustable stars

Benefit

- Only one star each is required for all bottles
- Application areas for bottles 50-mm to 90-mm in diameter
- Available for the following pitch circles: 360-mm dia., 540-mm dia., and 720-mm dia

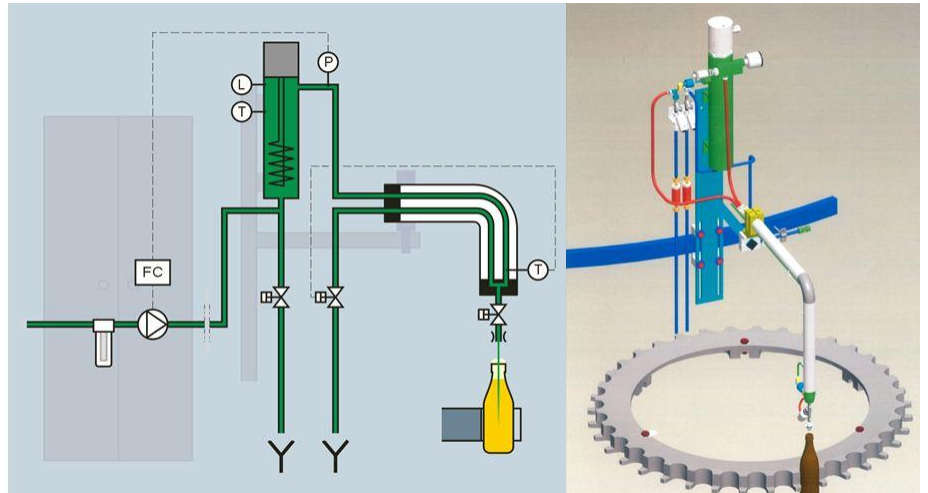
Contact

Ulrich.Wiedemann@khs.com



Suitability

KHS fillers for beer beverages



Description

The injection quantity can be optimally adapted by using various diameters of nozzle hole or by varying the injection pressure. Using programs stored for specific products ensures high reproducibility.

Benefit

- Regulation of the injection pressure from 1 to 15 bar depending on the filler output
- Guaranteed reproducible settings
- Simplified product changeover

Scope of supply

- HP pump with frequency control
- Pump motor
- Heater mounting parts
- 3,000-watt capacity heater
- Nozzle arm with pressure gauge and thermometer
- Housing
- If KHS-S7 is not yet existing: Terminal and electrical parts (including frequency controller)

Contact

Ulrich.Wiedemann@khs.com



Suitability

KHS Innofill crowners



New



3 years / 3 shifts



Demolition of lacquer

Description

Replacement of the capping rings with very rugged and durable ceramic rings (cone).

Benefit

- Extremely long service life
- Considerably less damage to the paint
- Closing dimension remains constant for years, particularly important for twist-off crown corks
- Time required for maintenance is reduced considerably as regular replacement is no longer

Scope of supply

Number of capping rings according to the number of crowning head

Contact

Ulrich.Wiedemann@khs.com



Suitability

KHS fillers and filler/rinser systems



Description

Thanks to retrofitting on existing fillers and filler/rinser systems, an enclosed clean room is created. Compared with open fillers, the problem of contamination with foreign particles as regards sensitive beverages is considerably reduced.

Benefit

- Significant increase in security in the entire filling process thanks to enclosed clean room
- Reasonably priced system/upgrade compared with replacement/new investment
- Achievement of defined clean room classes is possible

Scope of supply

- Clean room with walk-on hygiene ceiling including the entire air management system with switch cabinet
- Optional: validation, acceptance test and particle measurement as well as the corresponding documentation of the clean room

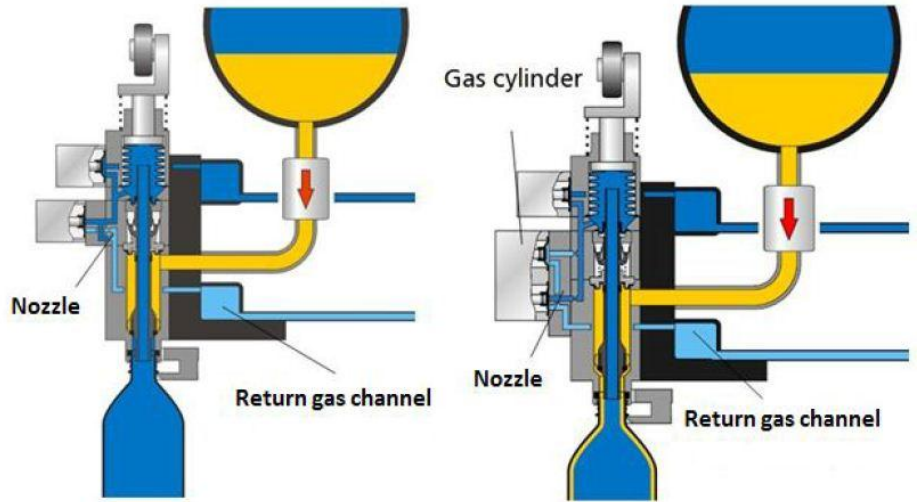
Contact

Armin.Wille@KHS.com



Suitability

Innofill CO₂ savings for filler types DRV VF and VF/N from YOM 2006.



Single-chamber system (left) and the Eco conversion (right)

Description

Innofill CO₂ savings for filler types DRV VF and VF/N from YOM 2006. By adding an extra gas cylinder the nozzles to the return gas channel are only opened for slow filling and snifting instead of the nozzles to the return gas channel being permanently open, as in the single-chamber system.

Benefit

As the CO₂ nozzles to the return gas channel open and close automatically - as opposed to the single-chamber filling system - up to 70% of the CO₂ previously consumed can be saved.

Economic efficiency calculation

ROI assumptions Filling volume in hectoliters per hour: 625 Price for 1,000 kg of CO₂: €1

- 60 Savings as opposed to the single-chamber system:
 - 75% CO₂ per hour in kg (118 kg instead of 375 kg)
 - €42 per hour • €336 per eight-hour shift per day
 - €672 with two shifts per day
 - €3,360 per week (five days) with two shifts per day
 - €168,000 per 50 weeks with two shifts per day

Scope of supply

- Gas cylinder
- Additional valve cartridges
- New filling program
- Center valve parts

Contact

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Suitability

For the following electronic filling systems:
 Compacta-Tronic,
 Delta-Tronic,
 Rola-Tronic,
 Innofill

up to YOM 2003 with a Siemens SMP computer



Description

The old Siemens SMP computer is replaced by a new B&R (Bernecker&Rainer) computer. New computer software is loaded. The old visualization system is left intact.

The probe cards of probe fillers are also replaced.
 The electronic rotary distributor remains unchanged.

Benefit

- Ensured availability of spare parts
- Modernization of the filler control
- Integrated fault diagnosis

Scope of supply

- B&R computer (processor, I/O cards)
- Hardware (probe cards for probe fillers)
- Software

Contact

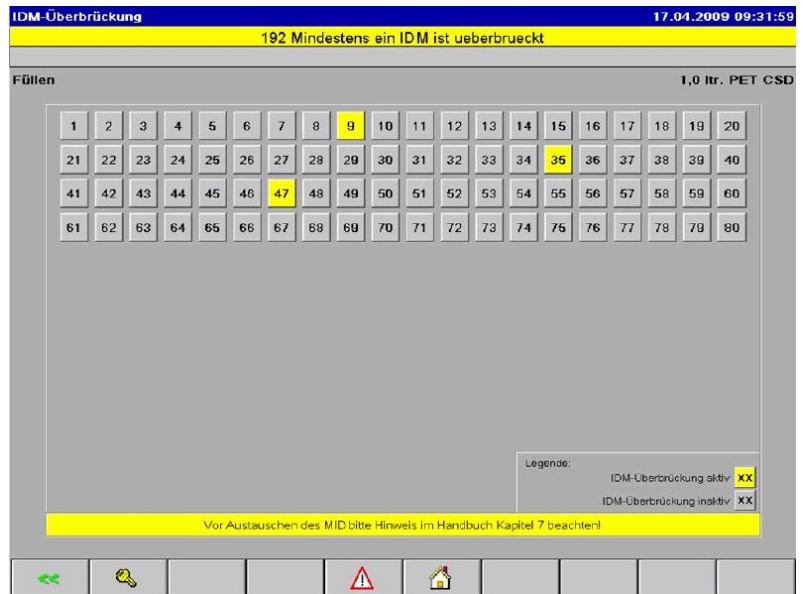
Andreas.Hense@KHS.com



Suitability

For all B & R filler computers and one of the following monitors:

Simotion PC 670
MP370
MP377



Description

Should a magnetic inductive flow meter (EIF) fail, this software package enables the user to connect a filling valve in parallel with a neighboring filling valve. This bridging retains the function of the filling valve until the user has the opportunity to replace the defective EIF.

It should be noted, however, that during parallel operation the fill level tolerances at the bridged filling valves are greater than those running under normal conditions.

Because the active filling angle is shortened by one filling station, it is also necessary to reduce the maximum capacity.

Benefit

- Maintain the production process
- Reduction of production downtime

Scope of supply

- A new selection screen for the touch monitor (see figure)
- Transmission program for the PLC
- New filler computer program

Contact

Karl.Lorenz@KHS.com



Suitability

KHS Innofill crowners



Description

The vibrator of the cork turner tube is converted in such a way that it is driven by gear wheels and no longer by a belt.

Benefit

- No more machine downtime caused by drive belt failure
- No more extensive installation effort required for changing belts
- No more adjustment of the belt tension
- Minimized grease carryover

Scope of supply

- Gear wheels
- Drives

Contact

Ulrich.Wiedemann@KHS.com



Suitability

INNOFILL DVD



Description

The EPDM diaphragm currently used in the product cylinder is replaced by a Teflon expansion joint. The phenomenon of taste transfer occurs particularly with energy drinks. EPDM and other elastomers pick up the ingredients of these products and then release them when other (more neutral in taste) products are subsequently filled. Teflon does not have this property.

Benefit

Protection against taste transfer

Scope of supply

- 1 valve tube
- 1 expansion joint
- 1 O-ring
- 1 pressure piece
- 1 seal
- 1 assembly tool

Contact

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Suitability

INNOFILL crowners



Old version (left) versus the new version (right)

Description

The cork chute in the crowner is equipped with wear pieces for increased system productivity.

Benefit

- In the past, the cork chute of the old model had to be replaced if it was worn.
- Using wear pieces reduces the cost of maintenance
- Considerably less installation effort reduces machine downtime
- No re-adjustment necessary after wear piece replacement

Scope of supply

- Crown cork chute Number of wear parts depends on the model

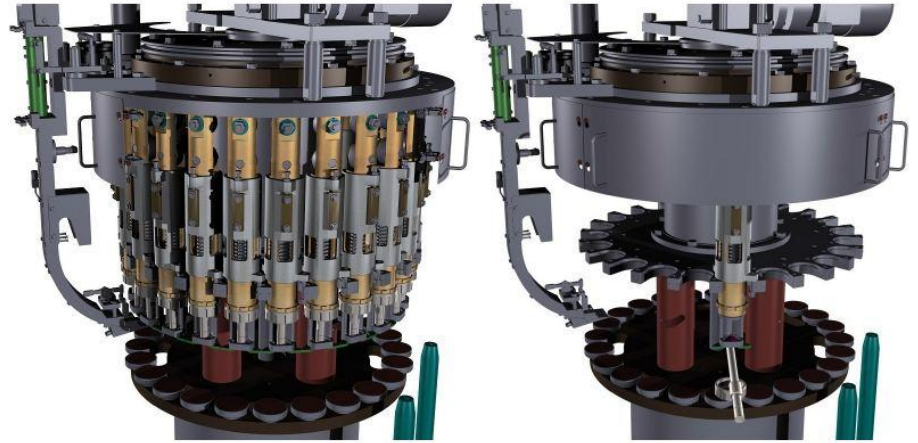
Contact

Ulrich.Wiedemann@khs.com



Suitability

For all KHS fillers
(KHS, SEN, H&K, O+H)



Description

The new KHS crowner turret is characterized by its open machine design. If required, the new greaseless crowning elements can be changed on site with very little effort. The crowner turrets enable direct crown cork blow feed using sterile air and a capacity of up to 72,000 bph. The magnetic agitator enables gentle treatment of the crown corks.

Benefit

- High microbiological product safety
- Greaseless design
- Open machine design in accordance with the principle of hygienic design
- Improved accessibility for cleaning
- Easy disassembly and fast replacement
- One crowning element replaced within 10 minutes maximum

Scope of supply

- Crowning head support
- New crowning elements
- Crown cork feed
- Sorter
- Flushoff facility
- Torque support
- Necessary electrical components including software, software adaptation
- Required format parts

Contact

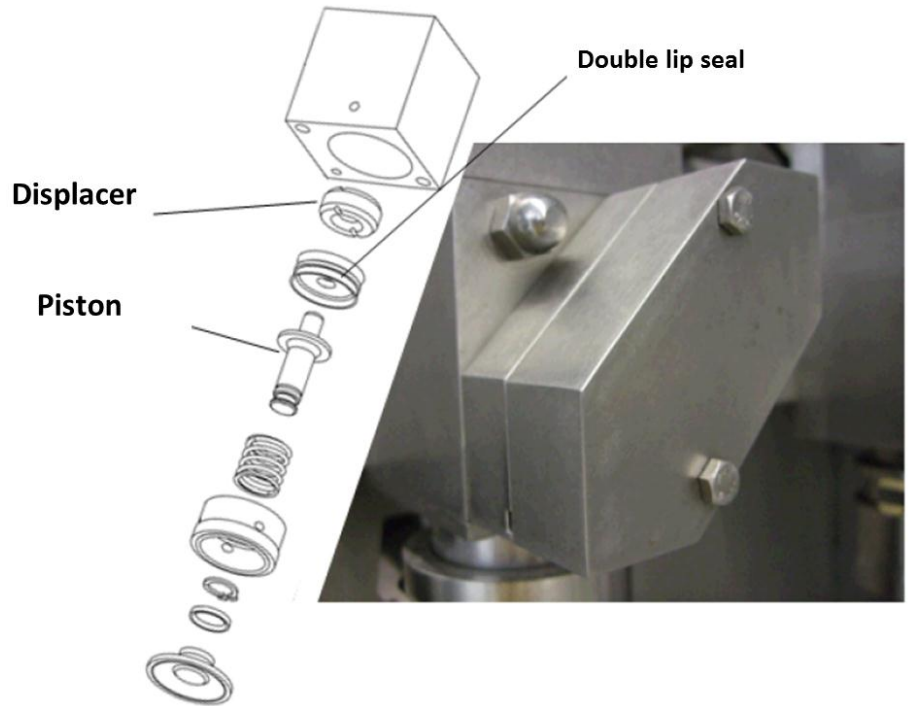
Ulrich.Wiedemann@KHS.com



Suitability

For electronic filling systems with one or multiple gas control cylinders

Requirement: Replacement of every Cup seal.



Description

The existing pneumatic gas cylinders will be converted to cup seals with double lip seal.

Benefit

Protection against consequential damage as regards membrane damage: Using the new double lip seal prevents cleaning media from entering the cup seal during CIP cleaning and in the event of a defective gas membrane. The entering of cleaning fluids can cause consequential damage to the circuit boards and solenoid valves. Therefore not only will operational safety and reliability be increased, but also the probability of an unscheduled complete breakdown is further reduced.

Scope of supply

- 1 kit consists of:
- 1 x cup seal with double lip
 - 1 x displacer
 - 1 x piston

Contact

Ulrich.Wiedemann@KHS.com



Suitability

For KHS Delta D type can fillers equipped with 30 to 165 filling stations



Low-wear Delta D bell actuators

Description

The bell actuators of DELTA D can fillers can be replaced with the new lower wear version. It should be noted that the bells will have to be mechanically revised according to KHS specifications. The required information will be provided. Future wear will occur mainly in the new cost-effective plastic elements. This relieves the strain on mechanical control elements downstream and thus lengthens the life span of these components.

Benefit

Using a special type of plastic improves the service life of the bell guides by 50%.

Considerably fewer wear parts in the future Lower cost of maintenance: the price for a set of new plastic guides is about €25 for one filling station. This minimizes the varying differences in quality among all filling stations so that no filling problems occur caused by leaks at individual bells during the life span of the bells.

Scope of supply

- Complete bell actuation (see photo)
- Processing instructions for the bells

Note! Also not including the bells shown.

Contact

Ulrich.Wiedemann@KHS.com



Suitability

For DELTA A-C bottle fillers



Description

Replacement of bell guides with articulated joints for DELTA bottle fillers with linear-type bell guides.

Benefit

- Improved service life
- Fewer wear parts
- Lower maintenance costs
- Possibility for use of stainless injector sleeves

Scope of supply

- Linear-type bell guides, complete
- Centering pump with rubber contact seal
- Tools

Contact

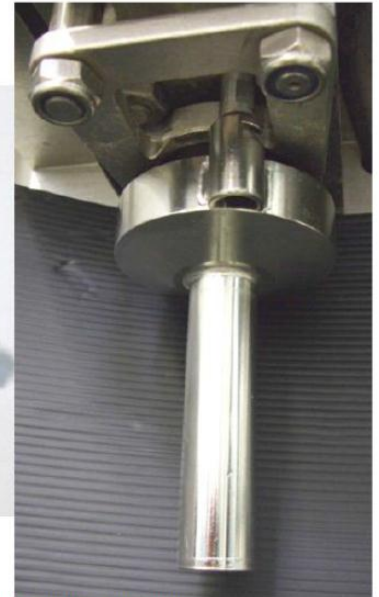
Ulrich.Wiedemann@KHS.com



Suitability

Delta A-C
Delta F
DMG - INNOFILL

For use of Delta A-C only in conjunction with linear bell guides.



Removed rinsing cup for Delta A-C bottle fillers (left) and embedded rinsing cup for Delta F (right)

Description

After conversion, CIP sanitizing may be carried out independent of the type of air tube.

In addition, the rinsing cups are not bottle-type-dependent.

Benefit

- Simple handling
- Fewer wear parts
- Reduced cost of maintenance
- No effect on air tubes

Scope of supply

Delta A-C

- Quarter-turn fastener rinsing cups
- Adapter bolts for fastening

Delta F and DMG

+ conversion parts for tulip arrangement

Contact

Ulrich.Wiedemann@KHS.com



Suitability

monoblock
DELTA bottle filler
Combi REV



Description

Minimum O₂ levels are attained by purging with CO₂ and then again pre-evacuating.

Benefit

- Considerably reduced oxygen pickup.
- The oxygen content inside the bottle is reduced from 10% to 1%.
- Lower air levels in the bottle neck.
- High product safety.

Scope of supply

- New vacuum controls (electric and manual).
- Additional opening and closing control.
- Required electrical parts (including S7-300 mini-PLC).
- Software modification.

Contact

Ulrich.Wiedemann@KHS.com



Suitability

For filling systems manufactured from:

1993 - 2000 equipped with individual cartridges

2000 - 2001 equipped with 8-valve valve clusters

2001 - 2005 equipped with 16-valve valve clusters



IP65-grade 16-valve valve cluster

Description

The old, partially covered valve arrays are replaced with cutting-edge, IP65-grade valve technology including the required mounting parts. The protective covers required in the past are no longer needed.

Benefit

- Improved processing reliability of filling valve functions.
- Reduction of downtime.
- Elimination of pressure losses.
- Elimination of cladding parts for easier exterior cleaning.
- Accessible installation.
- Lower valve cluster power consumption with circuit board for connecting cartridges (previously individual conductor connections).

Scope of supply

- State-of-the-art 16-valve valve clusters including hoses and mounting parts
- Compressed air tank and supply unit
- FRL group with water trap.
- Pneumatic hoses between the valve cluster and the filling valve made of PVDF
- Connecting pieces to the filling valves (optional depending on the design)

Contact

Ulrich.Wiedemann@KHS.com



Suitability

For filling lines equipped with DC drives.

(Installed in machines up to YOM 1995)



Description

Conversion of older model systems to frequency control is necessary because DC motors and inverters are no longer available on the market.

The conversion offered involves replacing the main drive motor and the main drive gear.

The frequency converter is located in a separate switch cabinet.

In most cases, the software implemented in this conversion is compatible with the existing software.

Benefit

- Modernization of the existing drive system
- Ensured supply of spare parts
- Reduced maintenance time thanks to the lack of carbon brushes in the motors

Scope of supply

- Three-phase motor
- Gear
- Frequency converter
- Hardware and software
- External switch cabinet

Contact

Andreas.Hense@KHS.com

* Subject to technical modifications and price changes. On request, we will be glad to provide you with a binding offer.

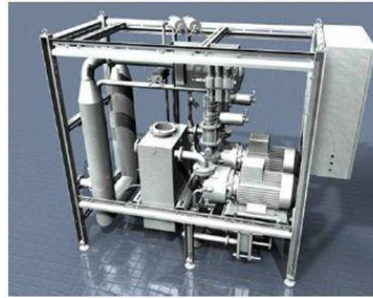


Suitability

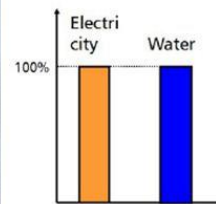
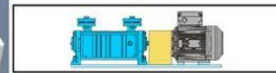
KHS beer bottling machines:

DRS-ZMS
DPG-ZMS
DMG-SVF

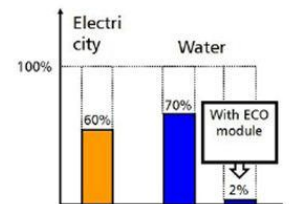
suitable for competition filler



Previous standard



New ECO execution



Description

The modular system and control design achieves an optimum operating characteristic curve with high energy efficiency. The ECO vacuum pump requires a cooling medium, which should be provided by the customer (optionally by KHS).

Benefit

- up to 45% energy savings through demand-controlled pump performance
- up to 98% savings in fresh water and wastewater (ECO)
- System availability increases thanks to redundant system set-up and permanent Spare parts availability from KHS warehouse
- Simplified maintenance - possibly even during ongoing operation
- Process reliability through optimum vacuum control with separate PLC

Scope of supply

- Standardized frame for: 1-3 identical Eco-vacuum pumps made of stainless steel
- Each with its own frequency converter
- Own control with interface for system integration
- Heat exchanger for ECO operation
- Seal water container made of stainless Steel

Contact

Gregor.Schaefer@KHS.com

Economic efficiency calculation

Example of potential savings:

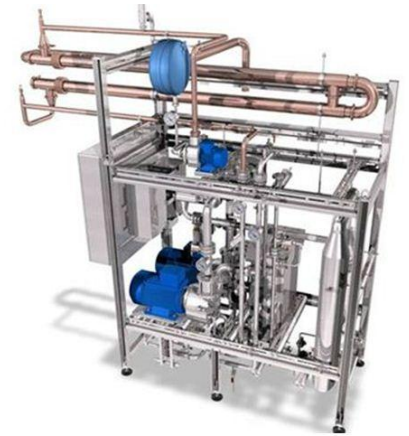
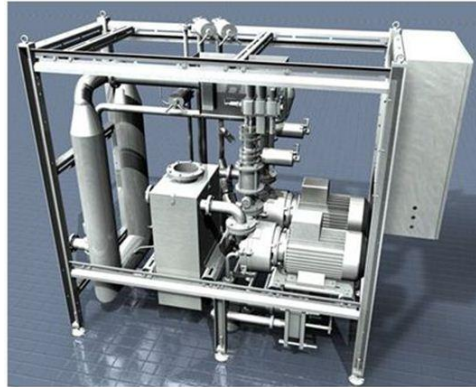
Reduction in the required amount of fresh water by approx. 12 liters per produced hectoliter of beer to approx. 0.3 liters. Additionally reduction in electricity costs.

Assuming that about 600,000 hectoliters of beer per year will be produced, there is a cost saving potential of about 38,000 € / year.



Suitability

For all KHS glass bottle fillers for beer.
Also available for non-KHS fillers
(review on case-by-case basis).



Modular vacuum pump (left) and with ECO+ equipment mounted (right)

Description

Conversion to ECO or ECO+ version by replacing standard vacuum pumps with modular vacuum pumps. Not only one modular system of vacuum pumps is used in both cases. A coolant (provided either by the customer or optionally by KHS) is used for the ECO version. A tubular heat exchanger is installed for the ECO + version which uses the product as the coolant. This makes it possible to achieve higher productivity and high water savings.

Scope of supply

Modular pumps depending on the version

Benefit

- Up to 98% saving of fresh water and wastewater (ECO and ECO+)
- Stable vacuum thanks to constant pump cooling water temperature
- Increased system availability through redundant system design and a constant availability of spare parts from KHS' warehouse.
- Simplified maintenance - conceivably possible even during operation
- Process reliability through optimum vacuum control by a separate PLC

Contact

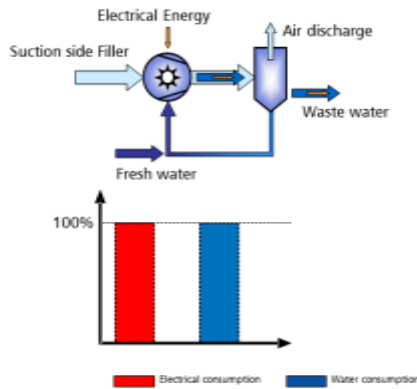
Ulrich.Wiedemann@KHS.com



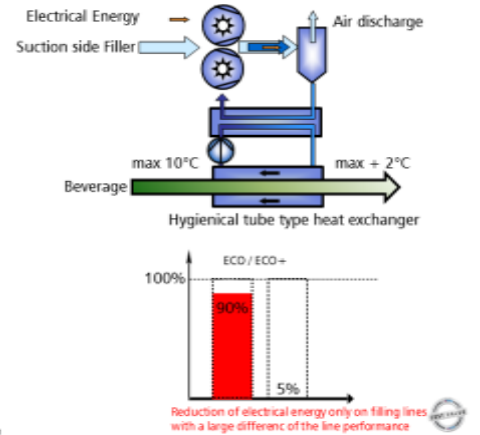
Suitability

For all KHS glass bottle fillers for beer.
Also available for non-KHS fillers (review on case-by-case basis).

Single-Pump System
Ein-Pumpen System



KHS Module ECO+ System
KHS Modul ECO+ System



Economic efficiency calculation

Sample savings potential:
Reduction in the required amount of fresh water by approx. 12 liters to about 0.3 liters per hectoliter of produced beer.

Potential cost savings of approx. €38,000/year based on an output of about 600,000 hectoliters of beer per year filled in various container types.

Conversions time / Delivery time

The delivery time is generally 8 to 10 weeks.

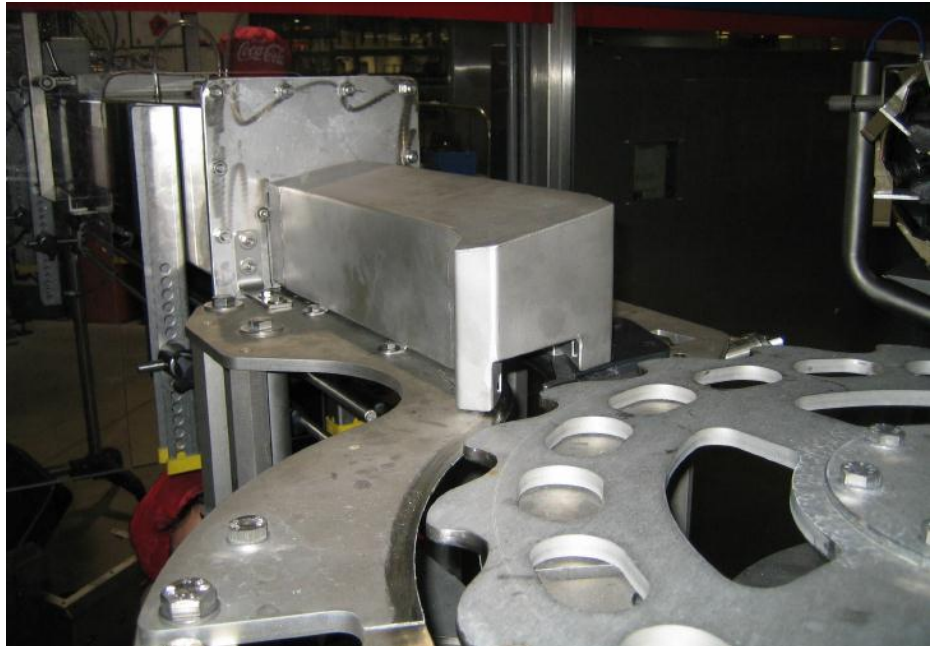
Approx. 4 days are required for conversion.





Suitability

For PET fillers equipped with transfer star systems without front tables



Description

The infeed plate used to date between the air conveyor and the infeed star is eliminated and replaced with an extension of the air conveyor. This infeed configuration has been successfully implemented in new PET systems. Various bottle mouth heights (e.g. Shorty closures) can be processed without conversion.

Benefit

- Less susceptibility to breakdown
- Suitable for all bottle mouth heights
- Elimination of the 0.37 KW drive motor for the infeed plate
- Compatible with an extremely wide range of PET grades

Scope of supply

- Air conveyor extension
- Bottle flowgate
- Software modification

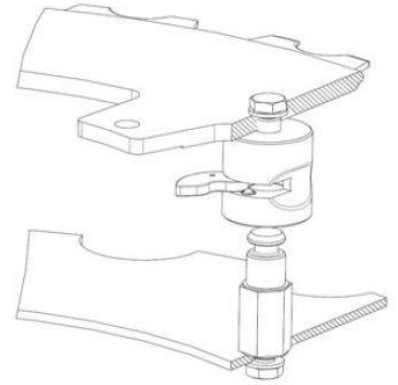
Contact

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Suitability

For PET fillers equipped with transfer star systems without front tables



Description

The original lower body guide of the existing format part set can continue to be used.

Required are new fastening elements on the upper guides and new spacer bolts on the body guides.

Benefit

- The time required for changing over the format parts of a filling line equipped with a rinser, filler, and capper is reduced from approx. 90 min to 15 min
- Particularly suitable when format parts are frequently changed over
- Flexibility in production planning. Smaller production batches may now become profitable
- Changeover possible without tools and special training

Scope of supply

- Modification of approx. 60 fastening elements for basic conversion
- Modification of approx. 60 spacer bolts for each format part set

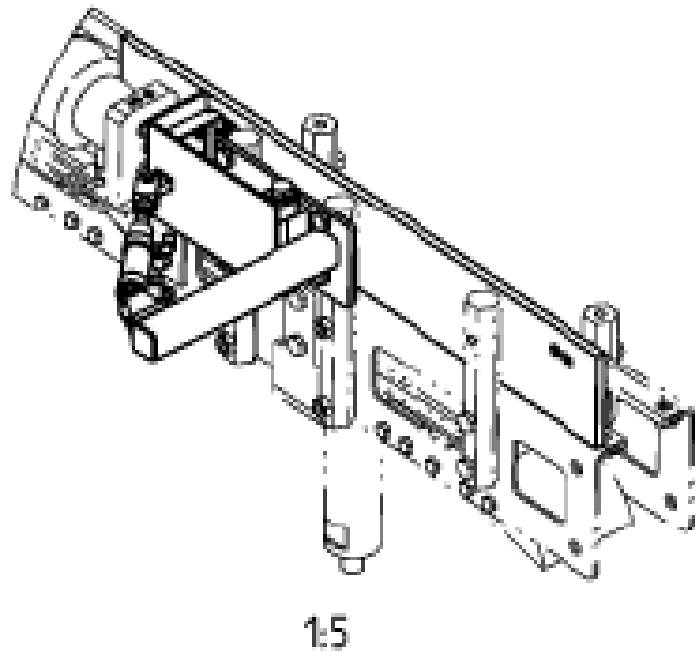
Contact

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Suitability

KHS INNOFILL Delta D can filler



Description

The electric can flowgate (PEKU) is replaced with a pneumatic can flowgate. This results in significantly improved insensitivity to moisture and detergents.

Benefit

- Insensitive to moisture and detergents

Scope of supply

- Can flowgate
- Actuation cylinder
- Software modification (only if an S7 control system is installed)

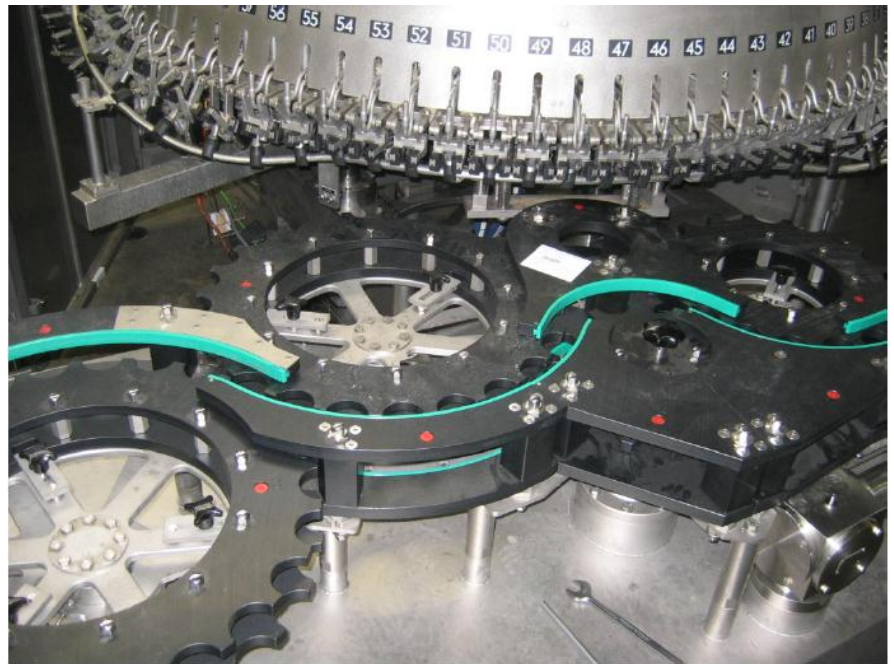
Contact

Ulrich.Wiedemann@KHS.com



Suitability

For all bottle fillers equipped with standard KHS front tables (type 1000)



Description

There are some types of bottle that do not need to pass through the rinser. In order to save cleaning media and energy, a transfer star is installed between the infeed and discharge stars of the rinser thereby enabling the bottles to be conducted directly to the filler carousel and avoiding unnecessary consumption of rinsing media in the rinser. The rinser can be switched off completely if a coupling is installed.

Benefit

- Decoupling of the rinser carousel
- Energy savings
- Reduced wear

Scope of supply

- Star bearing
- Slide strip
- Format parts (1 set for 1 bottle shape)
- Drill hole template

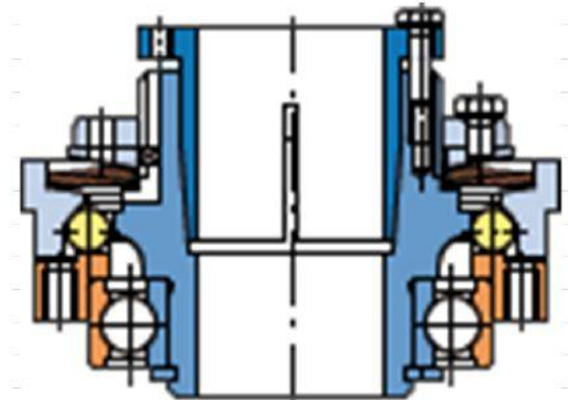
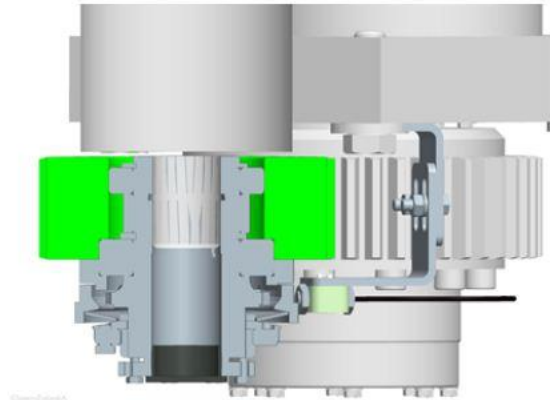
Contact

Ulrich.Wiedemann@KHS.com



Suitability

KHS fillers and rinsers equipped with screw drives via helical gear stages



Description

An overload occurs which can damage the helical gear when bottles jam in the feed screw and thereby block the screw shaft. The conversion involves defining a limit torque.

When this limit is reached, the coupling disengages and the machine is switched off.

When the cause of the overload has been eliminated, the coupling reengages automatically at the correct position.

Scope of supply

- Safety coupling
- Helical gear
- Fastening materials

Benefit

- Protects the helical gear against overloads
- Prevents damage
- Decreases spare part costs
- Avoids production interruptions

Contact

Ulrich.Wiedemann@khs.com



Suitability

KHS filling systems equipped with Simatic S5 up to YOM 1999



Description

The Simatic S5 components are replaced by S7 components. The software is adapted to the existing standard library. Options, such as a new visualization system, new switch cabinets and new electrical machine equipment, are possible. The ReDiS remote diagnostics system can also be installed. In addition, the KHS touch panel can considerably increase the ease of operation.

Benefit

- Ensured availability of spare parts.
 - Modernization of the filler control
 - Modern visualization
 - Increased ease of operation
 - Flexible machine functions
 - Optional: the ReDiS remote diagnostics system

Scope of supply

- S7 components
 - Wiring diagram modifications
 - Hardware, software and visualization modifications
 - Options (where applicable)

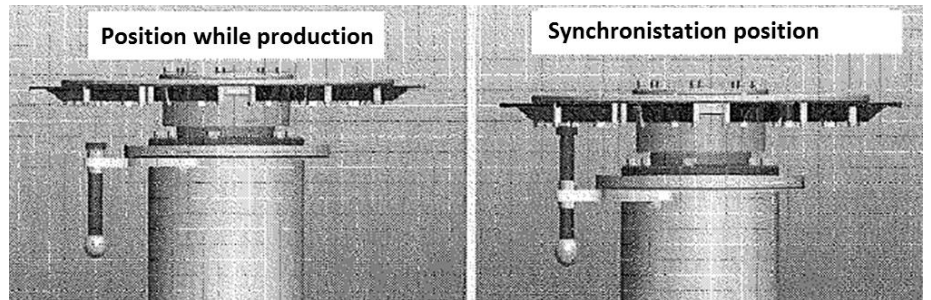
Contact

Andreas.Hense@KHS.com



Suitability

Servo star shafts for PET fillers manufactured in 2006 and later (versions without front tables) with or without blow molders or rinser monoblocks.



Description

A bolt unit is required for each star shaft. The star can be exactly aligned by moving the bolt to the reference point. After all star shafts have been adjusted this way, all that is necessary is to press the synchronization button at the display screen.

Benefit

Provides a simple method of synchronizing when synchronization is lost, after a power failure for example.

Scope of supply

- Synchronization bolts
- Pointer
- Accessories

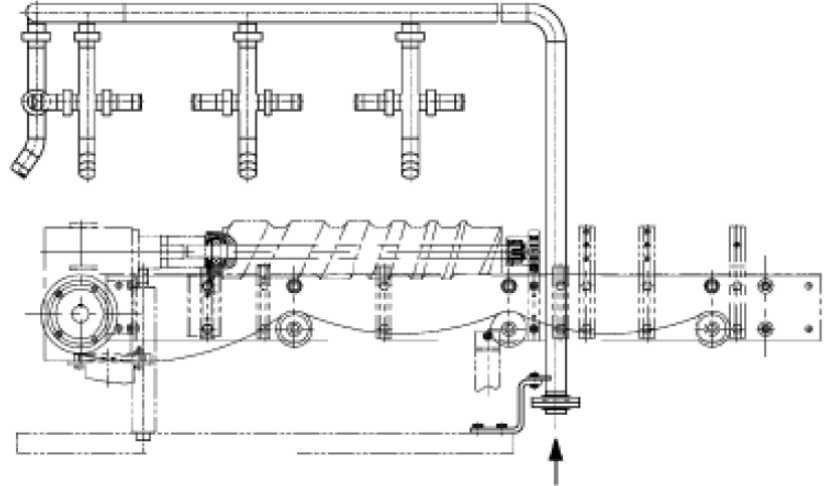
Contact

Ulrich.Wiedemann@KHS.com



Suitability

All KHS INNOFILL can fillers



Water flushing at the filler infeed (feed screw)

Description

Flushing with water rinses beverage remnants off the filler. This reduces the amount of carryover of beverage residue significantly, which in turn improves filler hygiene. The following areas are flushed off:

- Can guide parts
- Front table
- Exterior of the filler bowl
- External parts of the filling valves
- Bell actuation

Benefit

- Noticeable improvement in hygiene

Contact

Ulrich.Wiedemann@KHS.com

Scope of supply

- Valve manifold
- Spray nozzles and piping
- Software with hardware adaptation of the existing KHS S7 control system

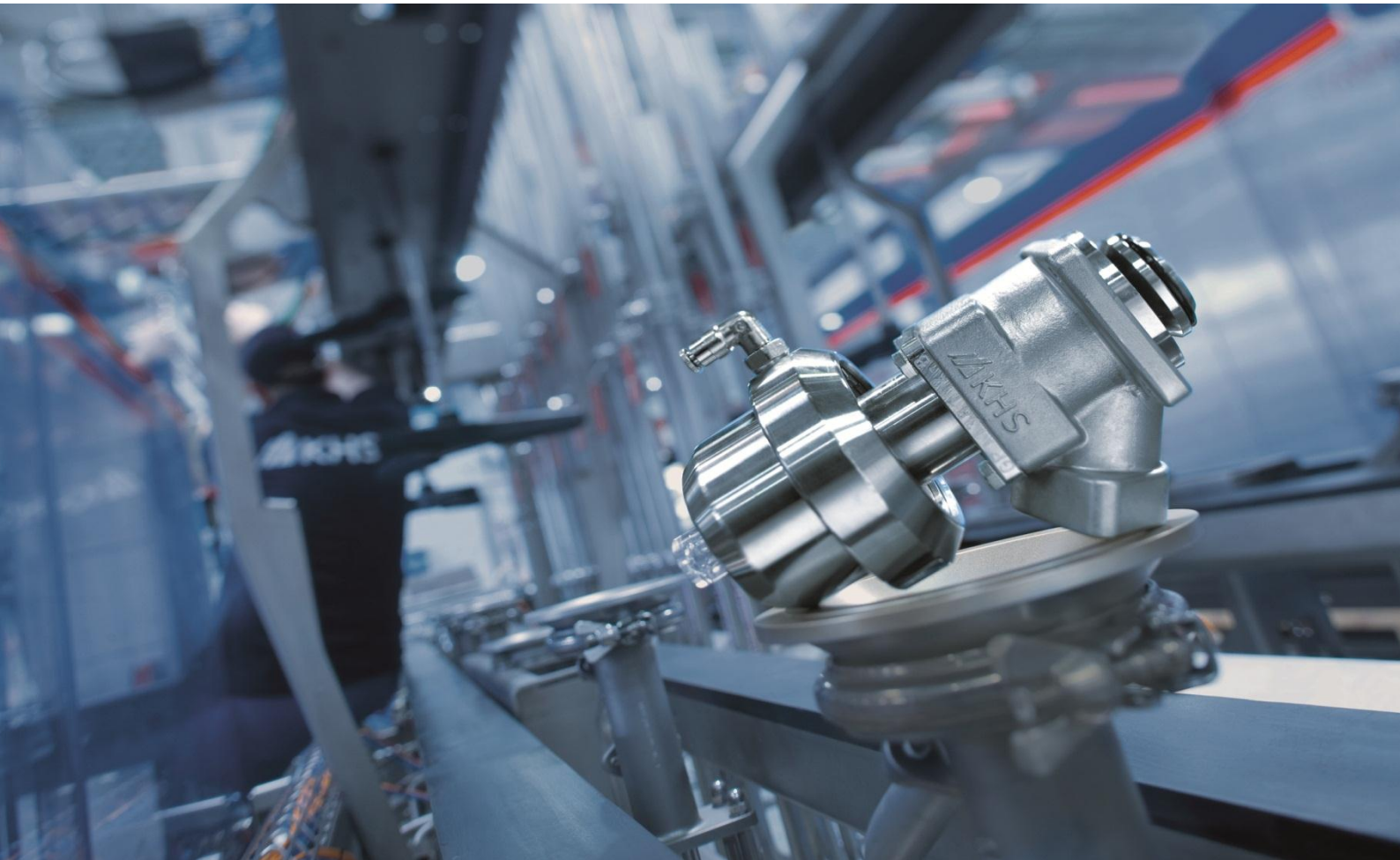
Note: The following items are not included in the scope of delivery:

- Storage vessel for water
- Piping between the storage vessel and the KHS valve manifold
- Water feed pump
- Pump for circulating water when hot water is used
- Storage vessel heater when hot water is used

These parts can be optionally offered also by KHS.

KHS Conversion Catalogue

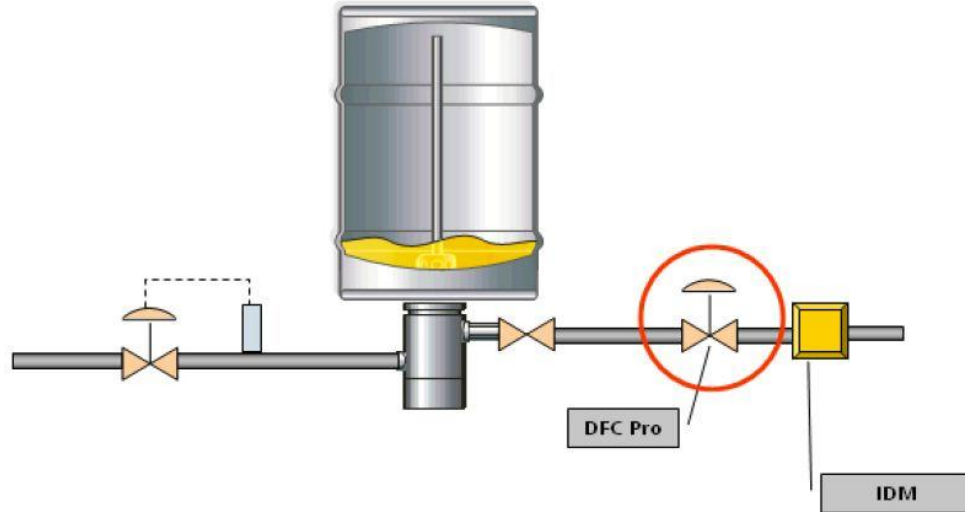
KHS Innokeg





Suitability

For keg equipment fitted with a Siemens S7 control and an IFM flow meter and a product pressure of approx. 3.8 bar



Description

The Direct Flow Control principle controls filling directly in place of the conventional indirect filling method of controlling the return gas. The kegs are pressurized at the lower saturation pressure and no longer at product pressure.

Benefit

- Compared to conventional filling, about 1 bar less of CO₂ pressure is required for pressurizing, which results in approx. 100 g less CO₂ needed per 50-liter keg
- Up to 15% faster filling
- Less O₂ pickup for particularly gentle filling

Scope of supply

- DFC valve including suitable connections

Contact

Wolfgang.Kraemer@KHS.com

Economic efficiency calculation

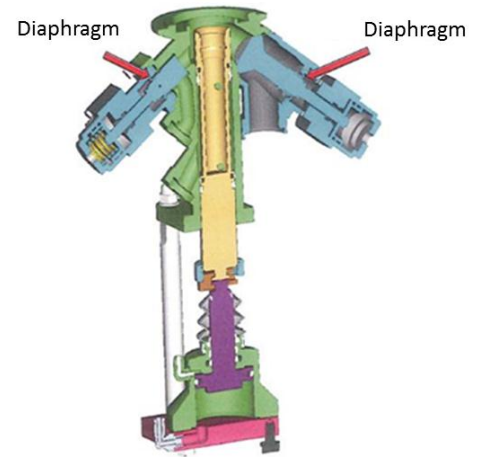
Sample pay-off method:

The potential CO₂ cost savings are approx. 7,000 € per year for a Transmat 3/1 with a filling capacity of 70 kegs/hour and an operating period of 4,000 hours per year.



Suitability

For keg filling systems



Description

High biological safety and a longer holding time is achieved by the membrane technology of the further developed filling heads.

Benefit

- Lower seal wear reduces maintenance costs by approx. 35%
- Maintenance time reduced by approx. 70 minutes per filling head
- Increased microbiological safety
- Format part changing time shortened from approx. 7 to approx. 3 minutes
- Beer splattering amount reduced from previously approx. 58 ml/keg to approx. 27 ml/keg for example at flatfitting type RS-A

Scope of supply

- Filling head
- Format part set
- Modification of the piping and of the keg tables

Contact

Wolfgang.Kraemer@KHS.com

Economic efficiency calculation

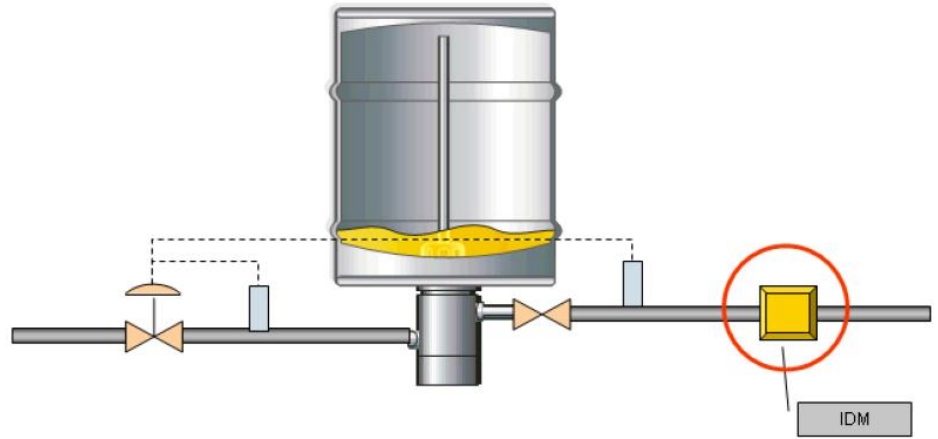
Sample pay-off method:

About 8,680 liters of beer per year are saved for a Transomat 3/1 with a filling capacity of 70 kegs/hour operating 4,000 hours per year. Potential cost savings: approx. 4,300 €/year.



Suitability

For all keg technology systems



Description

The conventional fill level control is replaced by an extremely accurate volumetric filling control. An inductive flow meter (IFM) determines the flow velocity of the liquid through the pipe with the help of electromagnetic induction.

Benefit

- Enables very exact filling
- Reduces product loss by up to 50% by avoiding overfilling

Scope of supply

- Flow meter

Contact

Wolfgang.Kraemer@KHS.com

Economic efficiency calculation

Sample pay-off method:

About 33,600 liters of beer are saved per year for a Transomat 3/1 with a filling capacity of 70 kegs/hour operating 4,000 hours per year. Potential cost savings: approx. € 16,500.



Suitability

for KHS Transomat, ContiKeg,
Keg-Boy keg systems
for processing flat and basket
fittings on disposable kegs



Description

Disposable containers do not need to be cleaned and can be filled without pre-treatment, i.e. all process steps in connection with interior cleaning must be disabled. For PET disposable containers, the keg is handled on conventional KHS lines using a plastic adapter (cage). The PET containers are clamped by hand in the adapter bracket and can then, as with 20l/ 30l slim kegs, be run through the system and filled. KHS offers this adapter for the 20l and 30l container of the PETAINER company. The infeed and discharge upstream and downstream of the machine is carried out manually. The full PET keg is removed from the adapter after filling and packaged/ palletized.

Note: For USD - Petainer please ask the KHS-Experts.

Benefit

For smaller quantities there is the possibility of processing (PET) disposable containers on standard KEG lines, i.e. with minimum effort and without investment in new disposable keg filling equipment it is possible to fill new types of containers. In this way, it is possible to serve e.g. test and / or export markets or react to peaks in demand quickly and conveniently.

Scope of supply

- Software package with new "disposable keg" operation mode and optimized filling cycle
- Switch for manual operation mode selection
- Format parts for filling the respective current generation (fittings with integrated pressure relief)
- 1 x adapter cage

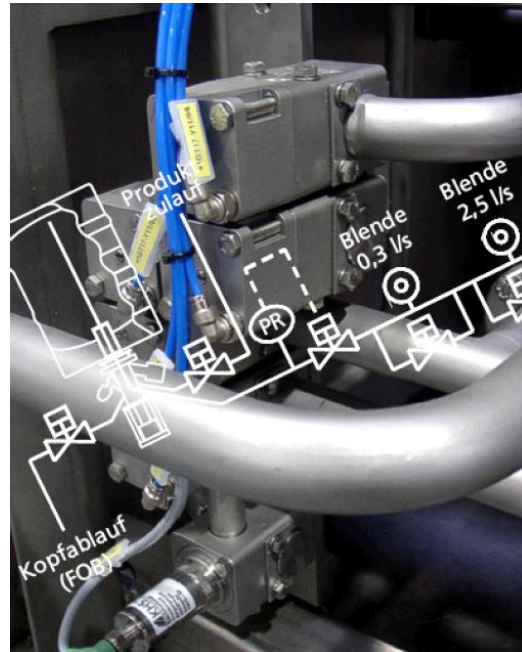
Contact

Wolfgang.Kraemer@KHS.com



Suitability

For keg filling systems



Description

TPOC is the new, innovative return gas control system for linear machines that replaces earlier return gas controls, the proportional valve, and the orifice control.

Benefit

- Enables gentle and continuous filling right up to the end of filling
- Rugged valve eliminates malfunctions
- Valve maintenance completed in approx. 4 minutes
- Assured sterility
- Leakproof

Scope of supply

- TPOC
- Modification of the piping

Contact

Wolfgang.Kraemer@KHS.com



Suitability

For keg technology systems
with Siemens S5 PLC



Description

For standard process components, the SIEMENS S5 automation system can be replaced by the SIEMENS S7 system. For older model systems, this ensures the supply of spare parts. In addition, the KHS touch panel considerably increases operating convenience.

Scope of supply

- Replacement of the automation and visualization system
- Hardware and software modifications

Benefit

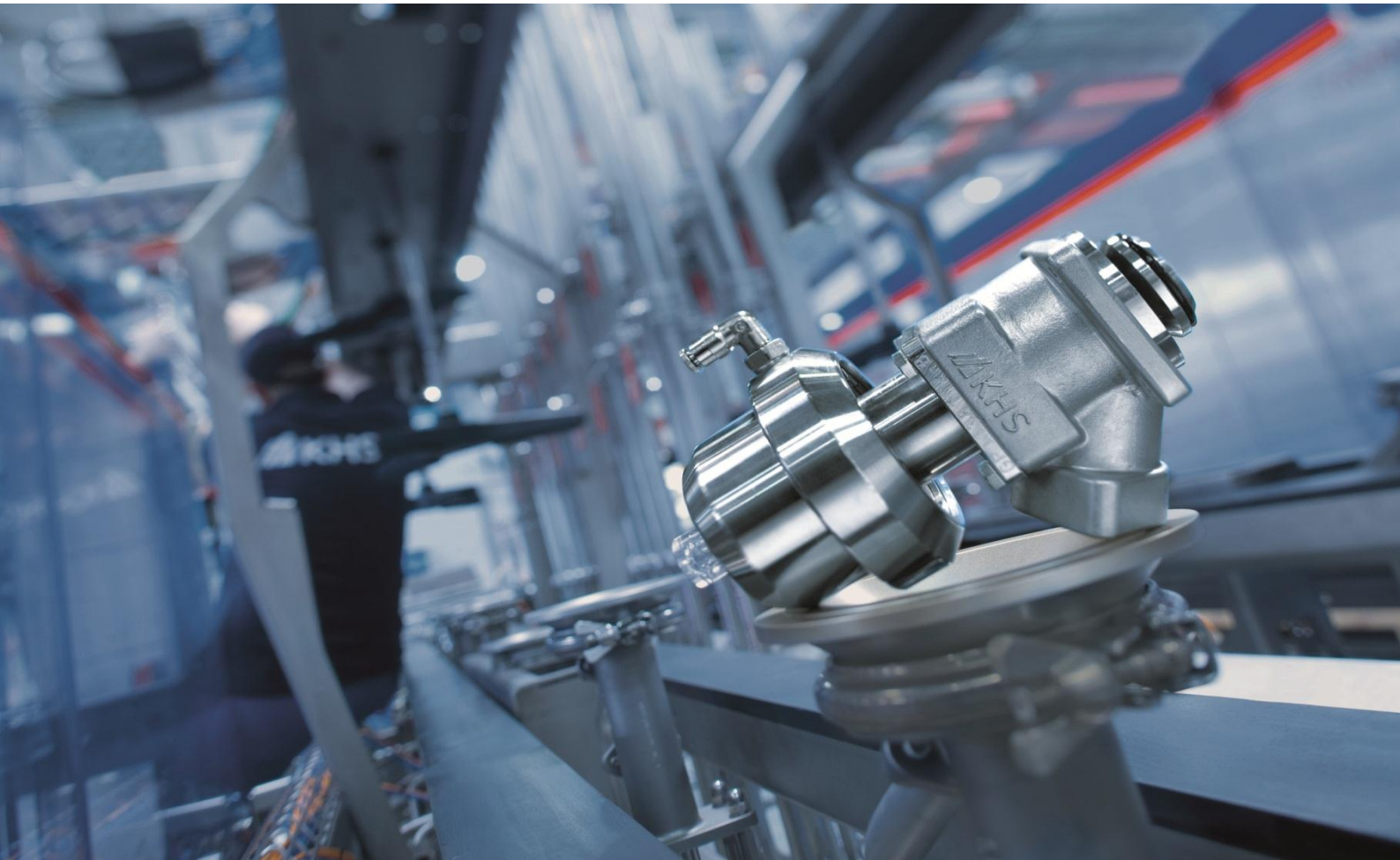
- Ensured supply of spare parts
- Product safety
- Modern visualization methods (VisuKeg)
- Modern HMI with corresponding analysis capabilities
- Optional: Remote diagnostic Service "ReDiS"

Contact

Wolfgang.Kraemer@KHS.com

KHS Conversion Catalogue

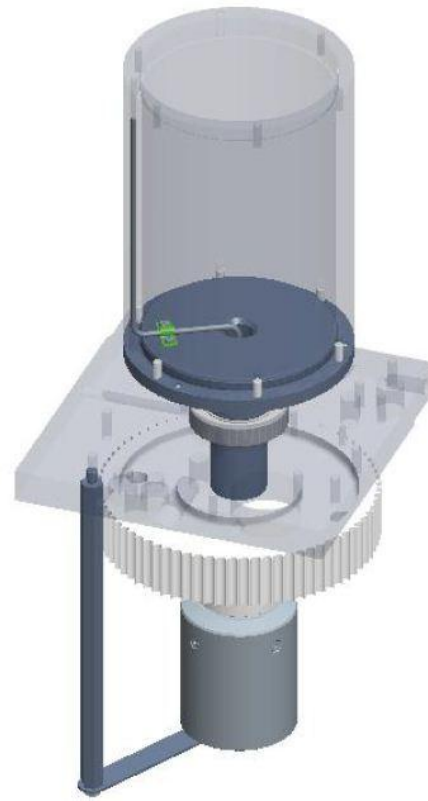
KHS Innoket





Suitability

Innoket 360 up to Jan. 2011



Description

The multiple-zone, induction heating system of the gluing roller shell distributes the temperature very exactly using the temperature sensors and control electronics integrated in the shell. The temperature sensors signal the actual temperatures via a non-contact data transmitter to the controller that subsequently adapts the target temperatures as required. The heat generated by the heater has a significant impact on the aging process of the integrated electronic components. Thanks to the new encapsulated design, the annular gap of the transmitter is now safely protected from soiling thereby increasing process reliability yet again. The newly integrated axial bearing of the rotor in the stator housing is likewise a guarantee for a disruption-free data transmission and thus perfectly controlled temperatures for labeling. This reliably rules out the possibility of any transmitter misadjustment.

Benefit

Protection against sudden complete failure:

The conversion involves moving the electronic components of the temperature control out of the heat-affected zone. The service life of the relevant components is thus considerably longer. This additionally lengthens the time between maintenance intervals. Any required replacement in the future does not necessitate dismantling the entire assembly. One day less required for each overhaul.

Scope of supply

- Non-contact measured data transmitter (YOM 2011) IP 65
- Temperature sensor PT100
- Gluing roller shell base
- Belt pulley
- Torque reaction bar

Contact

Sven.Lasner@KHS.com



Suitability

INNOKET 360



Description

This optimized sensor enables machine operators to store cutting mark settings. This procedure eliminates the necessity of re-reading cutting marks for product changeover.

Benefit

Time savings and minimization of faults during product changeover

Scope of supply

- Latest sensor version
- Fastening materials
- New wiring diagram
- Software modification

Contact

Volker.Roembke@KHS.com



Suitability

INNOKET KL 2000
up to machine number 1061



Description

The tapered shape and special rubber coating of the aluminum segment achieve a tight-fitting segment shaft bearing.

Benefit

- Less changeover time required for format changing
- Fast and easy installation
- Any installation site
- No play
- Increased service life

Scope of supply

- 1 x set of plug-on shafts
- 1 x set of couplings

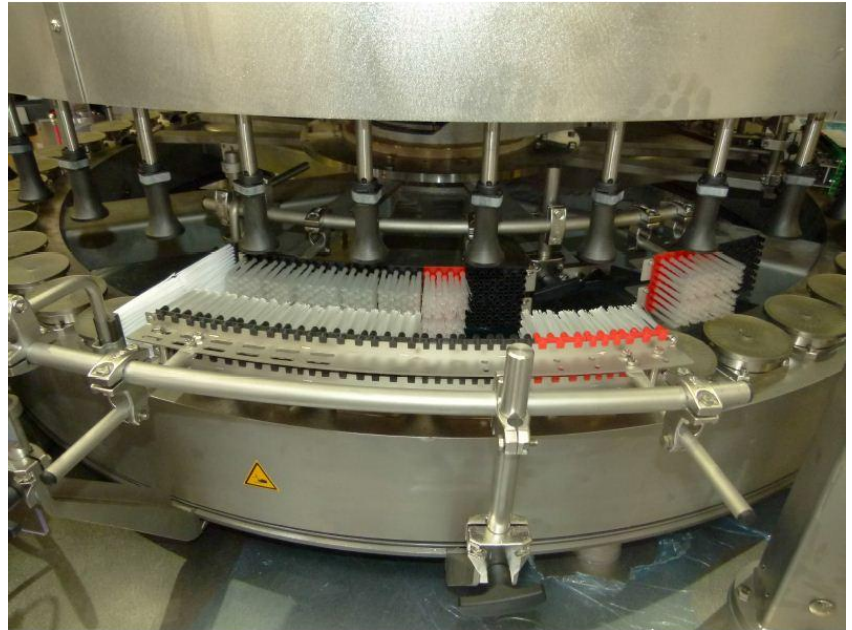
Contact

Reinhard.Krzewski@KHS.com



Suitability

INNOKET KL
INNOKET SE



Description

The latest generation of the KHS label brush-on unit enables you to effortlessly apply even the most modern of labeling materials exactly and reliably to your packaging as well as glass and plastic containers. This comes into play, however, only if the labels are applied to containers exactly and optimally. In the future, the brushes can be replaced individually in no time. They are simply pushed onto a support bar. This eliminates the need for tools and rivets for brush replacement. If the new label dressings have the same application height and identical container diameters, this version makes it possible to combine the existing dressing with a new dressing. Because of this combination option provided by the new brush generation, you will not need new brush-on applicators as often for future label dressings. The benefits for you are cost savings and optimized stock keeping.

Benefit

- Reduced future investments / cost savings
- Increased flexibility
- Less time required for brush replacement

Scope of supply

Depending on the dressing:

- Inside brush-on unit
- Outside brush-on unit
- Mounts

Contact

Andre.Verhoeven@KHS.com



Suitability

INNOKET 360



Description

Optimized measured value transmitter for maximum functional reliability. New, improved double scraper ensures more economical and more uniform glue application and provides better protection against soiling. Modified glue return provides better protection against soiling and prevents overflowing remnants of glue. The closed system offers maximum accident protection against skin burns and inhalation of vapors.

Benefit

- **Production reliability**
Optimized measured value transmitter for even more exact transmission of values and a longer life cycle. Greater protection against soiling to avoid machine downtime.
- **Reduced risk of accidents**
Maximum accident protection against skin burns and inhalation of vapors through closed system.
- **Economy**
Double scraper for more economical and more uniform glue application.

Scope of supply

- Complete gluing unit
- Gluing unit housing
- Fastening materials
- Electrical materials

Contact

Volker.Roembke@KHS.com



Suitability

INNOKET KL
INNOKET SE
INNOKET 360
INNOKET RF
INNOKET Roland (Anker)



Description

Energy-saving LET lighting for optimum illumination of work areas. Suitable in particular for the area of the labeling station and at the bottle infeed and discharge for format changeover and adjustment and cleaning work.

Benefit

- Energy savings
Significant energy savings versus the halogen spotlights installed to date
- Reduced risk of accidents
Optimum illumination of work areas

Scope of supply

- LED lighting
- Fastening materials
- Wires and electrical materials

Contact

Sven.Lasner@KHS.com



Suitability

Innoket 360



Description

This optimized sensor makes it possible to detect cutting characteristics without cutting marks. The new cutting mark detector is able to detect both images and logos that are stored as cutting characteristics. This provides marketing with greater flexibility. This improvement reduces the overlap and the total length of the label can be up to 10 mm shorter as it is no longer necessary to cover up cutting marks.

Note: With shorter labels and existing formats you need to have a new vacuum drum.

Benefit

Time savings and minimization of faults during product changeover and great cost savings by shortening the overlap and thus label lengths.

Scope of supply

- Latest sensor version with cutting mark measurement
- Fastening materials
- New wiring diagram
- Software modification

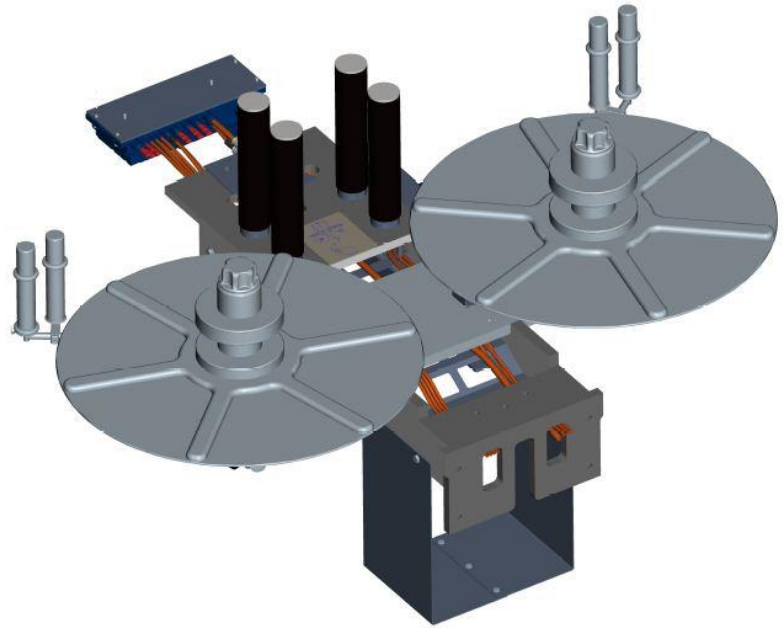
Contact

Volker.Roemke@KHS.com



Suitability

INNOKET 360



Description

Servo motor-driven reel stand for maximum production reliability. Even critical grades of film can be processed. Additional capabilities for processing of narrower film labels of up to 30 mm. Noticeably less film stretching.

Benefit

Flexibility:

- Expansion of the processing range for critical grades of film
- Processing of narrower film label widths of up to 30 mm
- Less stretching of film labels for increased production reliability

Scope of supply

- Motor-driven, double reel stand
- Air supply
- Retaining plate
- Cable cover
- Label feed sign
- Fastening materials

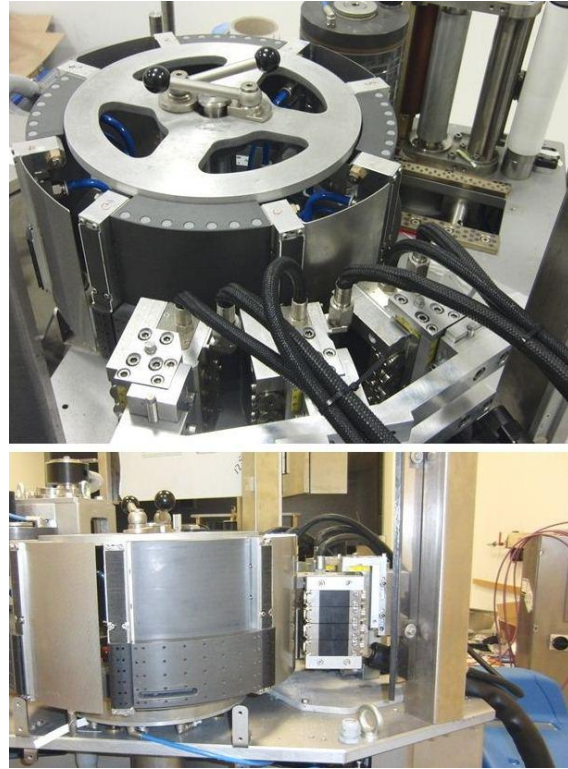
Contact

Volker.Roembke@KHS.com



Suitability

KHS Innoket RF / 360



Description

KHS relies on technologically innovative and top-quality systems and solutions for the sustainable, economic success of its customers. To this end, we have developed a special upgrade for you together with our partner Nordson.

Conversion of the existing labeling station to a spray gluing system

Your old glue tank will be replaced by a non-stick-coated tank with three access points. This facilitates filling and gives you clean operation. The one-way filter does not need any routine filter rinsing and at the same time prevents residue and soiling in the glue reaching your products. Operation has been made safer by the introduction of a patented, automatic pressure relief valve. Residual pressure is safely fed back to the melt tank in a matter of seconds. Other benefits include the very fast application heads which reliably and accurately apply the dots of adhesive in a cycle time of < 2 ms.

Scope of supply

Scope of delivery

- ProBlue system
- LogiComm order control
- eDot with the corresponding application head
- Connector hoses
- Fastening materials

Benefit

Time savings for product changeover

When changing formats the gluing roller shell and wiper no longer have to be adjusted. The new format can be started by simply selecting another program.

Lower glue consumption

The adjustable, program-controlled application of glue using nozzles significantly reduces glue consumption.

Time savings for cleaning

The fully enclosed, non-circulatory system greatly simplifies the cleaning process. This eliminates problems such as soiled bottle carrier areas.

The one-way filter further optimizes the cleaning effort and results in less wear on the system.

Contact

Sven.Lasner@KHS.com



Suitability

INNOKET KL
 INNOKET SE
 INNOKET 360
 INNOKET RF
 INNOKET Roland (Anker)



Description

High-quality products require high-quality labels. Self-adhesive labeling technology enables you to effortlessly apply even the most modern of labeling materials exactly and reliably to your packaging, glass, and plastic containers. You can of course also use self-adhesive labeling stations to apply high-quality transparent labels. Because of their compact design, self-adhesive labeling stations can be additionally installed in most labeling machines. This makes it possible to apply additional labels such as promotion stickers or tax revenue stamps or even label brand new products entirely using self-adhesive technology. It is also possible to retrofit a further self-adhesive station. Mounted on moveable carriages, the self-adhesive labeling stations provide excellent access to the labeling carousel.

Benefit

- Reduced future investments - When launching a new type of container to be dressed with self-adhesive labels there is no need for a new labeling machine.
- Cost savings - Modern, thin, and easily processible labeling materials minimize your use of materials. No glue needed.
- Increased flexibility - Extremely versatile for brilliant labels, promotional stickers, and tax revenue stamps. Wet-glue, roll-fed, and self-adhesive labels can be combined as required.

- Less time required for cleaning - With self-adhesive labeling, there is no glue residue to be cleaned from the labeling machine.

Scope of supply

- Self-adhesive labeling station with its own drive and height adjustment
- Moveable carriage
- Stand
- Connecting components for the machine table
- Dispensing edge
- Label applicator pad mount
- Label applicator pad
- Electrical components

Contact

Frank.Maevus@KHS.com



Suitability

INNOKET RF 33

INNOKET RF 44



Description

This conversion involves fixing both ends of the diverter roller to achieve stable roller support.

Benefit

- Prevents bending
- Improves label control
- Prevents label mismatch

Scope of supply

- 1 x New roller for the cutter
- 1 x Required shaft
- 1 x set of Bearing bed, bearing, and pivot bearing
- 1 x Turning knob with dial scale
- 1 x set of suitable compression springs

Contact

Sven.Lasner@KHS.com



Suitability

INNOKET RF 25
INNOKET RF 33
INNOKET RF 44

Optional diamond friction lining for
PET or wet conditions for:

INNOKET RF 15
INNOKET RF 22
INNOKET RF 35
INNOKET RF 50
Innoket 360



Description

Replacement of existing bottle plates with new magnetic, stainless-steel versions.
After conversion, changing bottle formats only requires replacement of the centering rings.

Benefit

- Fast and easy handling minimizes the time required for changing formats
- Reduced cost when introducing other bottle formats

Scope of supply

Requested number of magnetic bottle plates with matching centering rings.
Additionally requested number of centering rings for each additional bottle format

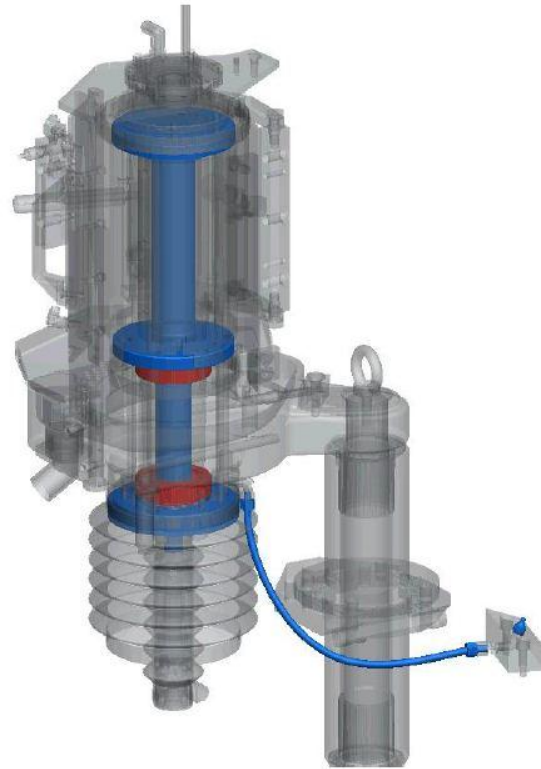
Contact

Sven.Lasner@KHS.com



Suitability

INNOKET RF 15
INNOKET RF 25
INNOKET RF 35
INNOKET RF 50
INNOKET RFL (linear)



Description

The improved combination of sealing rings and functional counter-rotating surfaces improves lubrication of bearings located in high-temperature areas and thereby achieves higher machine availability. The package is completed by high-temperature grease suitable for use at temperatures of up to 250°C. This grease offers high operational reliability even during frequent heat-up and cool-down phases.

Benefit

- Extended maintenance intervals increase the availability of the labeling machine
- Reliable operation even when running in single shifts

Scope of supply

- 1 x Cover
- 1 x Bearing housing cover
- 1 x Shaft
- 1 x Grease (spezial for high temperature)
- 1 x set of radial shaft sealing ring
- 1 x set of tapered roller bearing
- 1 m hose
- 1 x shaft sealing ring assembly tool
- 1 x hand lever grease gun

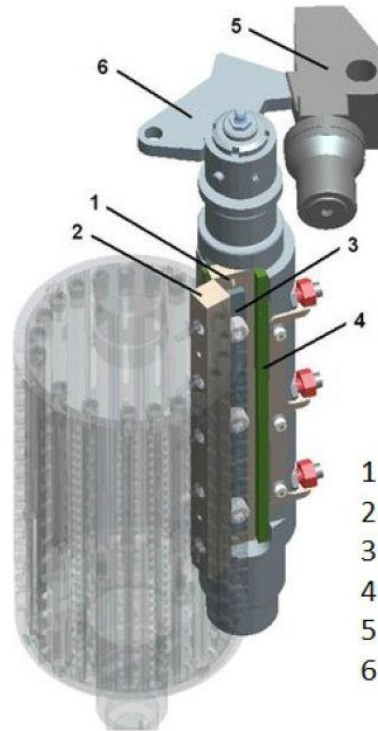
Contact

Sven.Lasner@KHS.com



Suitability

INNOKET RF 15
 INNOKET RF 25
 INNOKET RF 33
 INNOKET RF 35
 INNOKET RF 44
 INNOKET RF 50
 INNOKET RFL (linear)



- 1 stationary cutter
- 2 rotating cutter
- 3 pressure plate
- 4 cutter adapter
- 5 adjustment
- 6 cutter shaft adjuster

Description

By equipping both cutters with pairs of hard and soft cutting edges, the cutters sharpen themselves over their entire length during operation. It is no longer necessary to return stationary cutters for sharpening.

Benefit

- Cutters sharpen themselves during operation
- Cost savings through longer service life
- Both cutters have four cutting edges that can be used
- User-friendly setting

Scope of supply

- Stationary cutter
- Rotating cutter
- Pressure plate
- Cutter adapter
- Adjustment
- Cutter shaft adjuster

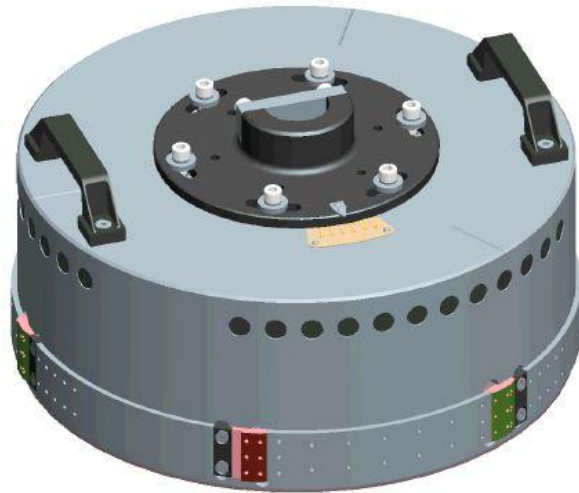
Contact

Sven.Lasner@KHS.com



Suitability

INNOKET RF 25
INNOKET RF 33
INNOKET RF 44



Description

The clamped replaceable pads can be changed on site. It is no longer necessary to return the drum for pad replacement.

Benefit

- Easy pad replacement
- Optimum production availability
- Ease of maintenance

Scope of supply

- 1 x Vacuum drum
- 1 set of spare replaceable pads

Contact

Sven.Lasner@KHS.com



Suitability

INNOKET Roland 10 HS
 INNOKET Roland 15 HS
 INNOKET Roland 20/20 HS
 INNOKET Roland 24 HS
 INNOKET Roland 30 HS
 INNOKET Roland 32 HS

Option: diamond friction lining for PET or wet conditions for:

INNOKET Roland 10 HS
 INNOKET Roland 15 HS
 INNOKET Roland 20/20 HS
 INNOKET Roland 24 HS
 INNOKET Roland 30 HS
 INNOKET Roland 32 HS



Description

In the future, only the centering rings need to be changed and not the complete bottle plates when changing bottle formats.

Benefit

- **Time savings for product changeover**
 New changeover time: approx. 10 minutes without tools
 Previous changeover time: approx. 60 minutes using tools and specialist Knowledge
- **Protection against operating errors**
 The centering rings can now be replaced without tools. Special machine operator skills are no longer required.
- **Increased flexibility**
 Thanks to the very short changeover time, the production plan can also include smaller batch sizes and apply labels more economically.
- **Reduced future investments**
 About 2,000 € lower cost for each new bottle format.

Scope of supply

Quantities needed for each labeling station:

- 10 to 32 base bottle plates
- 10 to 32 centering rings for each bottle format

Contact

Frank.Maevus@KHS.com



Suitability

INNOKET Roland 10 HS
INNOKET Roland 15 HS
INNOKET Roland 20/20 HS
INNOKET Roland 24 HS
INNOKET Roland 30 HS
INNOKET Roland 32 HS



Description

In cooperation with our partner Robatech, we offer complete hot melt spray application systems for wrap-around labeling of bottles and other types of container. The system is comprised of a melting unit, a loop spray head for label position fixing (initial gluing), and a labeling head for gluing label ends. The conversion is optionally comprised of initial and final gluing or final gluing only.

Benefit

- Time savings for product changeover
Shorter changeover times by eliminating the gluing roller shell and scraper. Product changeover using a handwheel and scale.
New: approx. 5 minutes; Previously: approx. 25 minutes
- Lower glue consumption
The exactly controlled application of glue using nozzles reduces the glue consumption significantly. The adhesive is contained in an enclosed system to protect it against contamination and exposure to ambient air.
- Time savings for cleaning
Eliminates problems such as soiled bottle plate areas and stuck-together label stacks. Less cleaning effort. Both application heads are equipped with glue filters.
- Reduced future investments
About €2,200 lower cost for each new bottle format by eliminating the need for new gluing roller shells and scrapers.

Scope of supply

- Glue tank (on request including touch screen with Info-Plus for counting the number of switching actions)
- Hot melt hoses
- Circulating loop spray head (initial gluing)
- Spray head mount
- Compressed air tank
- FRL unit for spray heads
- Final gluing head including adjustment
- Mechanical conversion parts and connecting components for existing label hoppers
- Sensors and electrical components
- Including 1 day of on-site training by Robatech

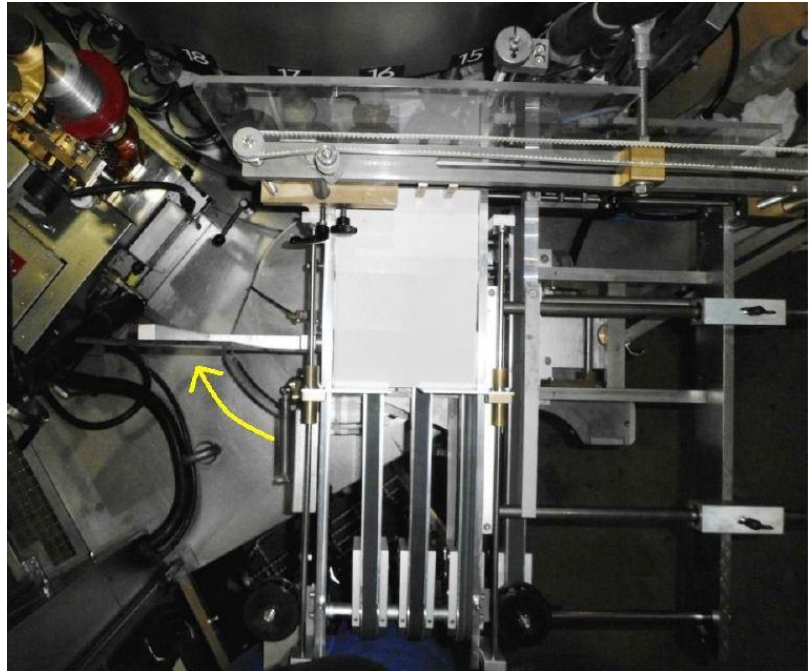
Contact

Frank.Maevus@KHS.com



Suitability

INNOKET Roland 10 HS
 INNOKET Roland 15 HS
 INNOKET Roland 20/20 HS
 INNOKET Roland 24 HS
 INNOKET Roland 30 HS
 INNOKET Roland 32 HS



Description

The extremely complex label box can be swung out to greatly facilitate setup, maintenance, and cleaning of the labeling machine.

Benefit

- Time saved**
 for changing products, cleaning, and maintenance.
 New: approx. 10 minutes
 Previously: approx. 60 minutes
- Reduced risk of accidents**
 The label box can be set up outside the labeling machine. Intervention within the machine is no longer necessary. This reduces the risk of accidents.
- Increased machine availability**
 The optimized label box can be adjusted within a minimum amount of time to avoid labeling faults.

Scope of supply

All of the mechanical components needed for adjusting and swinging out the label box

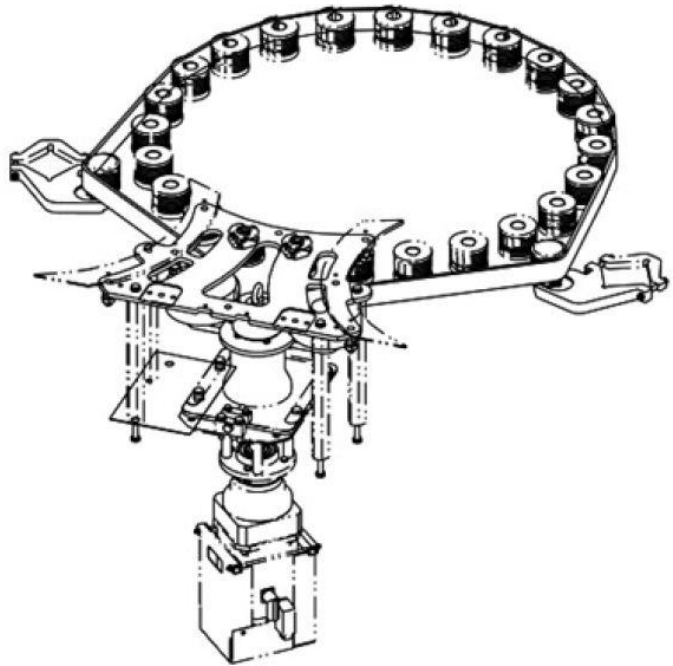
Contact

Frank.Maevus@KHS.com



Suitability

INNOKET 360



Description

The new belt control ensures greater functional reliability by preventing belt slippage particularly in wet surroundings.

Benefit

The optimized version ensures greater functional reliability and thus higher machine availability.

Scope of supply

- Optimized idler rollers
- Latest belt version
- Required modification template
- Fastening materials

Contact

Volker.Roemke@KHS.com



Suitability

KHS Anker
Innoket Variant 1



Description

By converting the conveyor belt it is possible to process containers up to 160 mm in diameter instead of the 120 mm possible to date.

Benefit

Reduced future investments

Introducing a new container type with a larger diameter does not require installation of a new labeling machine.

Increased flexibility

Especially for large containers with long labels. Combinable with conversion of the label magazine for label lengths of up to 495 mm instead of the 325-mm label length possible to date and combinable with the conversion of gluing heights of up to 350 mm instead of the 200 mm previously possible.

Scope of supply

- Support rail
- Outer bearing
- Spacer sheets
- Spacers
- Bolts
- Chain wheel
- Chain support
- Flat-top chain

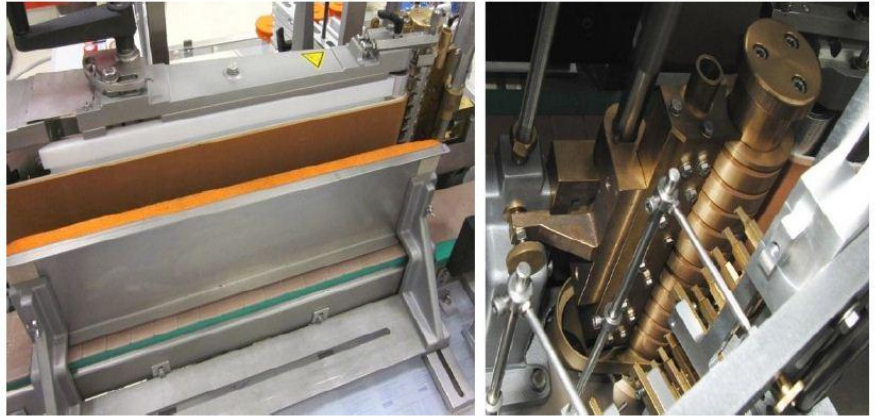
Contact

Frank.Maevus@KHS.com



Suitability

KHS Anker
Innoket Variant 1



Description

By converting the gluing unit, the re-pressing belt, and the re-pressing plate it is possible to process labels up to 350 mm high instead of the 200 mm possible to date.

Benefit

Reduced future investments

Introducing a new container type with a high label does not require installation of a new labeling machine.

Increased flexibility

Especially for large containers with high labels. Combinable with conversion of the conveyor belt for containers up to 160 mm in diameter instead of the 120 mm diameter possible to date and combinable with conversion of the label magazine for label lengths of up to 495 mm instead of the 325 mm previously possible.

Scope of supply

- Re-pressing belt rollers
- Re-pressing belt pads
- Spacers
- Re-pressing belt
- Re-pressing pad
- Gluing roller shell
- Label scraper, complete
- Glue scraper
- Glue scraper mount
- Gluing roller shell drive

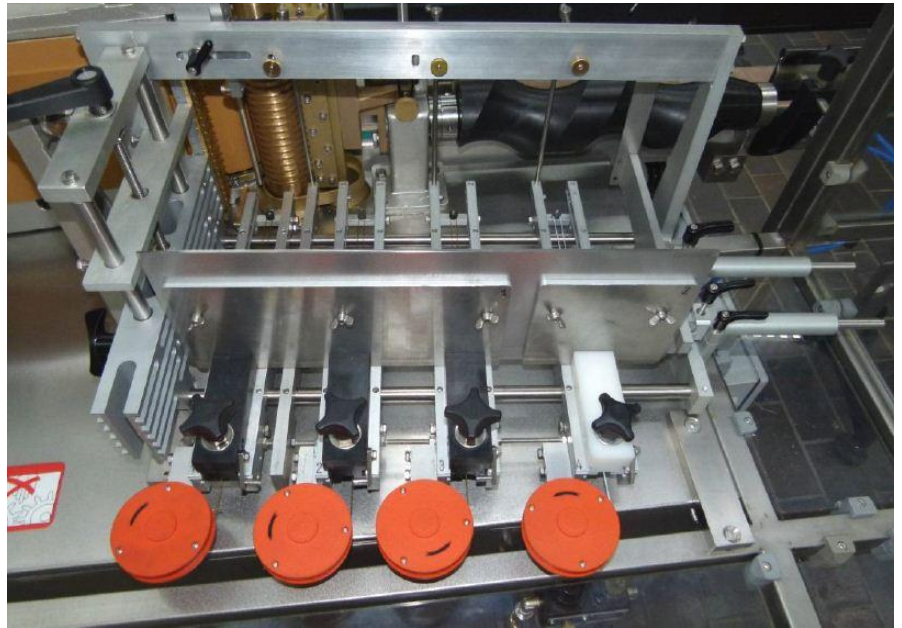
Contact

Frank.Maevus@KHS.com



Suitability

KHS Anker
Innoket Variant 1



Description

By converting the label magazine it is possible to process labels up to 495 mm in length instead of the 325 mm possible to date.

In some instances, it may be necessary to install an additional synchronizing device ahead of the feed screw.

Benefit

Reduced future investments

Introducing a new container type with long labels does not require installation of a new labeling machine.

Increased flexibility

Especially for large containers with long labels. Combinable with conversion of the conveyor for containers up to 160 mm in diameter instead of the 120-mm diameter possible to date and combinable with the conversion of gluing

Scope of supply

- Label pusher with spring roller
- Extended shafts
- Extended aluminum braces
- Additional retainer rod
- Label box base plate
- Label plate for pusher

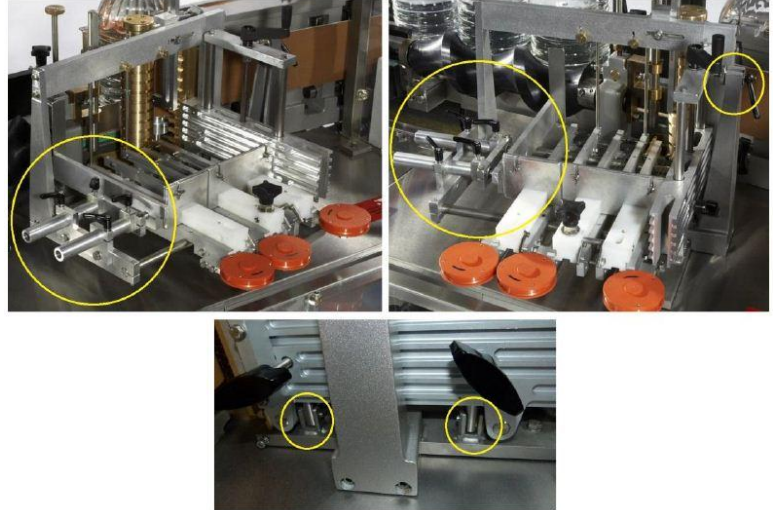
Contact

Frank.Maevus@KHS.com



Suitability

KHS Anker
Innoket Variant 1



Description

Optimized adjustable stop rail for faster adjustment of the label width on the label magazine. This results in considerable time savings for format changeover. Thanks to the new, toolless adjustable stop bar, additionally installed label pushers with spring rollers can remain in place in the magazine when changing over to formats with shorter labels. A label and overlap correction unit mounted on the label magazine ensures even greater labeling quality and perfectly seated labels allowing corrections to be made in no time.

Benefit

Noticeably shorter changeover times. Time savings for product changeover

Conversion time now: Approx. 1 minute without tools

Conversion time previously: Approx. 10 minutes with tools

A further increase in labeling quality

thanks to the new, toolless adjustable label and overlap correction.

Increased flexibility

The very short changeover time makes it possible to also to include smaller batch sizes in production planning and apply labels more economically.

Scope of supply

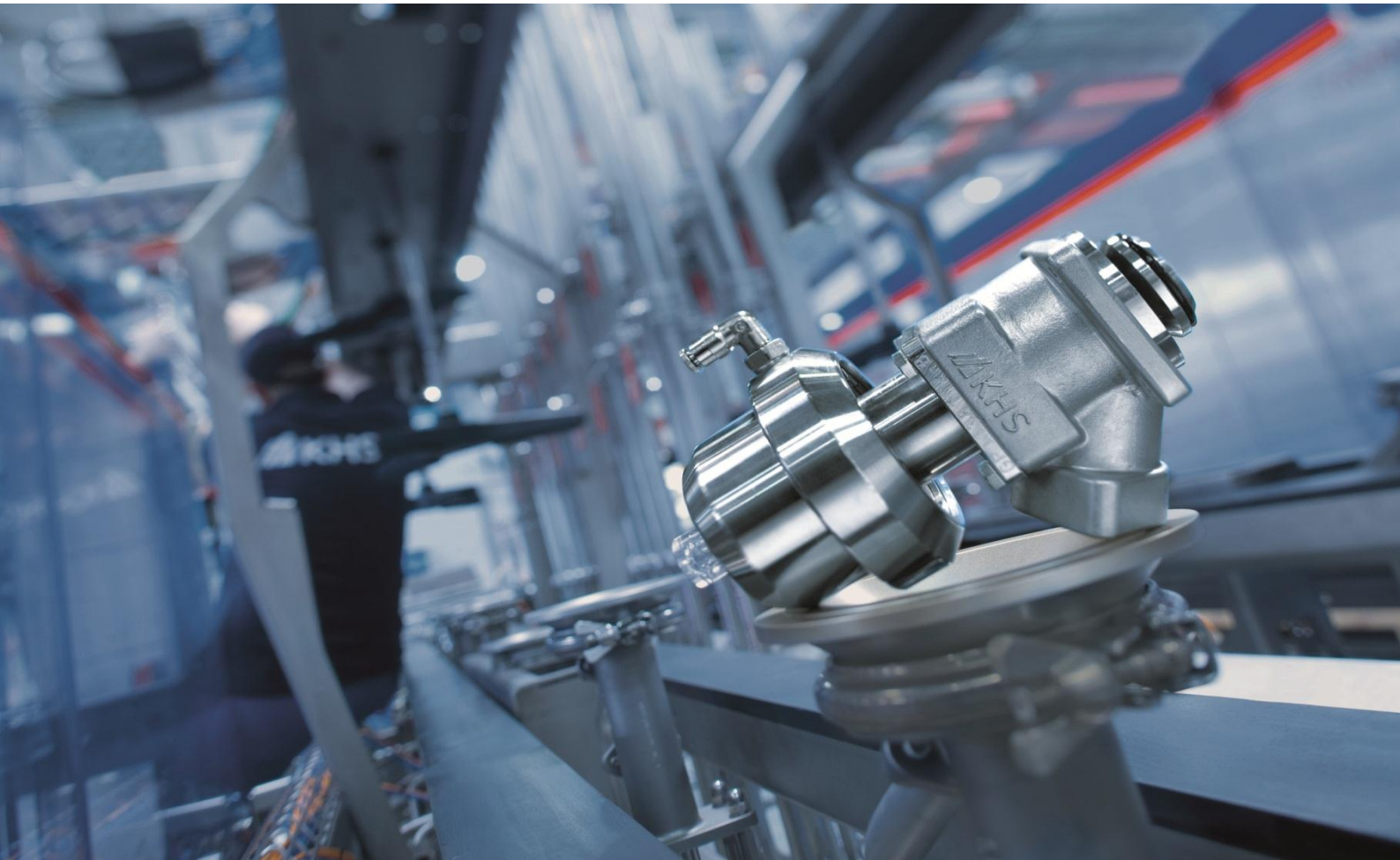
- Label magazine base plate
- Shaft height adjustment
- Bolts and joints
- Anodized aluminum braces
- Side stop bar
- Front stop bar
- Stop bar shafts
- Stop bar bearing
- Bushings
- Clamping lever
- Fastening materials

Contact

Frank.Maevus@KHS.com

KHS Conversion Catalogue

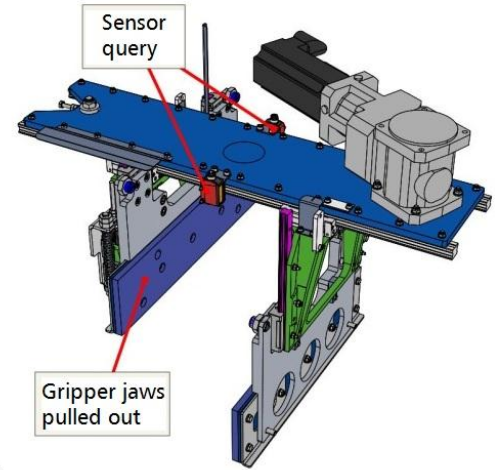
KHS InnoLine





Suitability

For distribution robots



Description

Using robot heads equipped with safety shutdown ensures a continuous process flow by enabling resolution of occurring sources of error (offset, twisted, or fallen over packs) within a short amount of time. The pull-out gripper jaws are attached to guide blocks which are monitored by sensors. The robot is shutdown immediately by the software as soon as the prespecified amount of vertical force acts on the gripper jaws thereby lifting them up and out.

Conversions time / Delivery time

Delivery time: 8 - 10 weeks
Conversion time: approx. 3-4 days

Benefit

- Improved process reliability
- Minimizes consequential damage to the robot head, robot arm, and the conveyor at the table.
- Less time lost during production, as offset or fallen packs do not become jammed between the robot and the packs.
- The spring suspension reduces gripper jaw wear (without shutting down the robot)

Contact

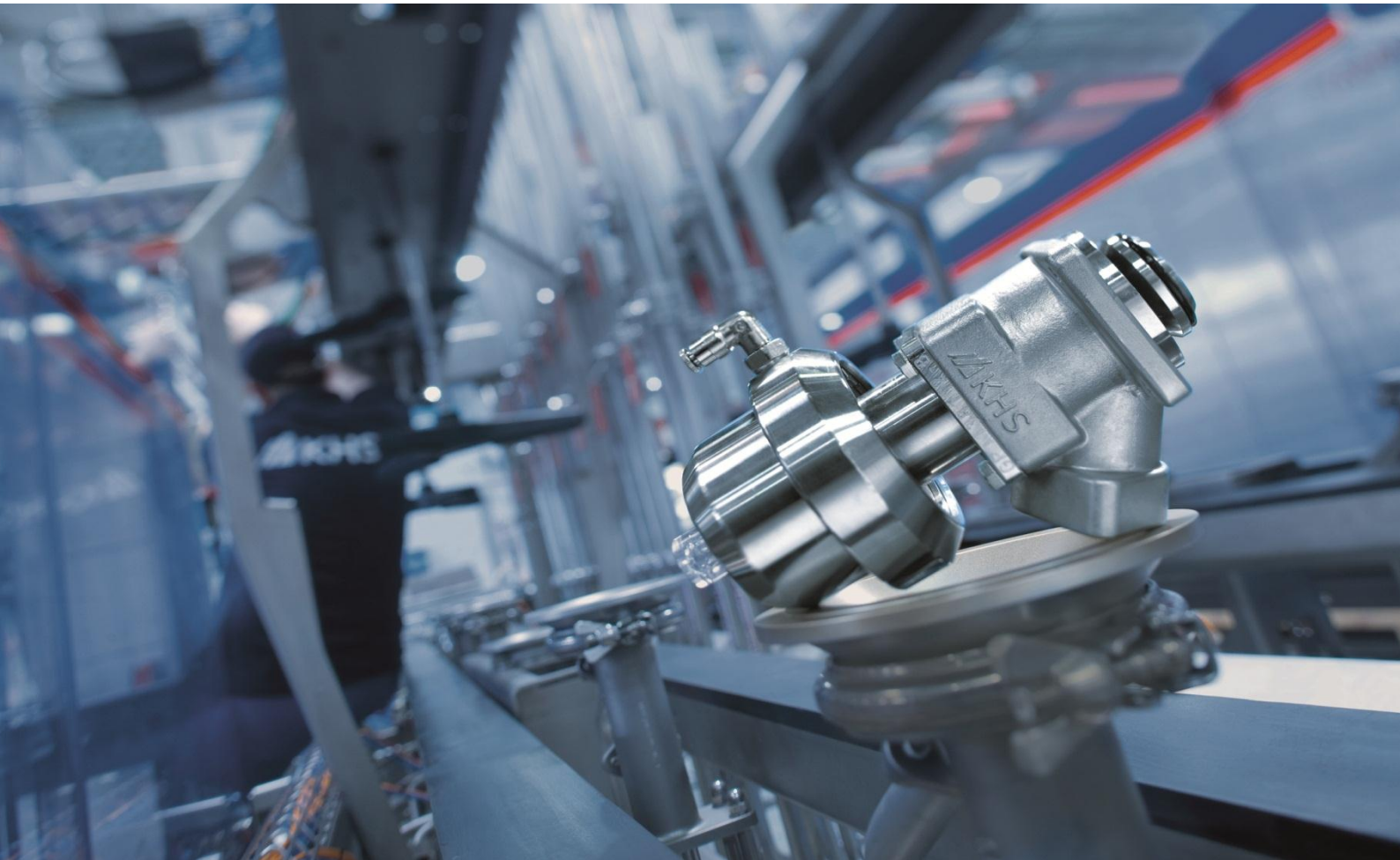
frank.kiefer@khs.com

Scope of supply

Completely pre-assembled robot heads with all necessary mounting materials, electrical installation materials, and software.

KHS Conversion Catalogue

KHS Innopack





Suitability

For machines equipped with adjustable conveying chains



Description

The guide rails of the grouping unit or of the infeed leak are mounted on adjusting units (combination of both is possible). These units can be adjusted proportionally or not proportionally by means of spindles with locking elements. Digital positioning indicators guarantee the reproducibility of each format setting.

Note: We recommend this product in conjunction with adjustable MCC mat-top chains.

Benefit

- Fast format part changing
- Permanently reproducible adjustments
- Elimination of format part sets

Scope of supply

- Adjusting unit for guide rails or infeed leak
- Digital indicator

Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For all machine types



Description

Hexagon MK sections acting as adjustment aid are fastened above the guide rails by means of format labels and bolts. The pre-defined, format-dependent positions of the guides are reproducible at all times.

Benefit

- Faster format part changing
- Reproducibility of format settings
- Especially recommendable for multi format machines

Scope of supply

- 2 MK sections with clamping levers
- Mounting bracket
- Stop bolts
- Format labels

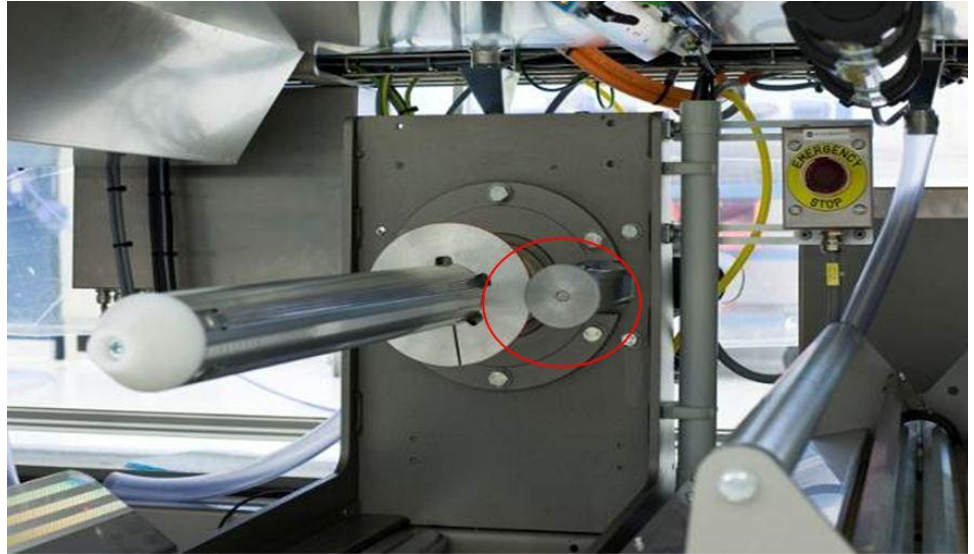
Contact

Uwe.Bartholemy@khs.com
Werner.Ageling@khs.com



Suitability

Retrofitting for every packaging machine with foil handling of the Advanced series



Description

When formats are changed over, the film reel stop automatically moves to the correct position for the new format. The stop does not have to be manually adjusted.

Benefit

- Film reel stop format settings no longer have to be made on the film mandrel
- Time for format changeovers reduced by approximately x minutes
- Errors are prevented when positioning the reel stop

Scope of supply

Pre-assembled pneumatic cylinder with mounting and pneumatic materials as well as the hardware and software.

Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For all film-processing packing machines of the Modular and Advanced series YOM 2000 and later



Description

Mechanism for automatic splicing of transparent or printed shrink film in the packing machine.

Benefit

- Automatic splicing of shrink film at the end of a reel
- As machine operators do not have to replace spent reels within a certain amount of time, they have more time for other tasks
- Avoids splicing errors

Scope of supply

Completely pre-assembled module for automatic film splicing plus installation materials

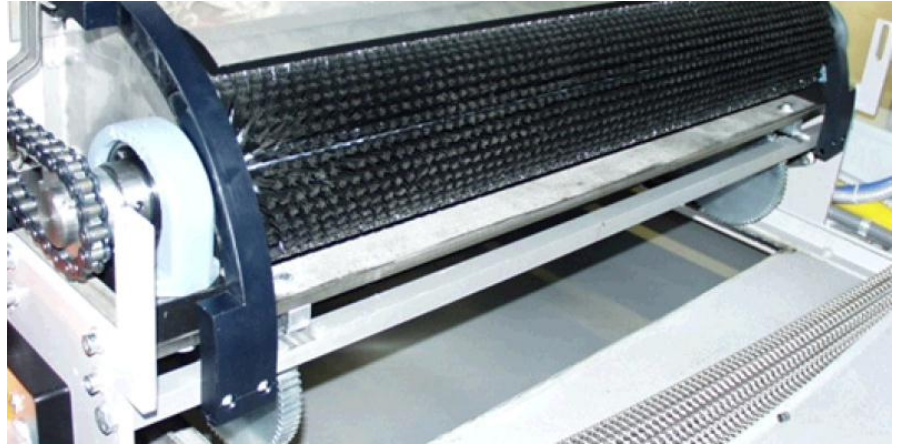
Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For shrink tunnels equipped with woven wire mesh belts



Description

The tunnel chain is cleaned by a stainless-steel cleaning brush driven in the opposite direction.

Benefit

- Reduced wear
- Removal of film residues from the tunnel chain
- Easy to maintain

Scope of supply

- Brush and drive
- Electrical activation including software

Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For machines equipped with a servo-chain grouping unit



Description

Only the four support parts need to be replaced when changing formats.

Benefit

Shorter format changing times

Scope of supply

Complete new grouping chains with clamp pieces for the admission of the grouping rods

Note: The quantity of the grouping rods and make of the grouping units depends on the formats and are not part of this offer.

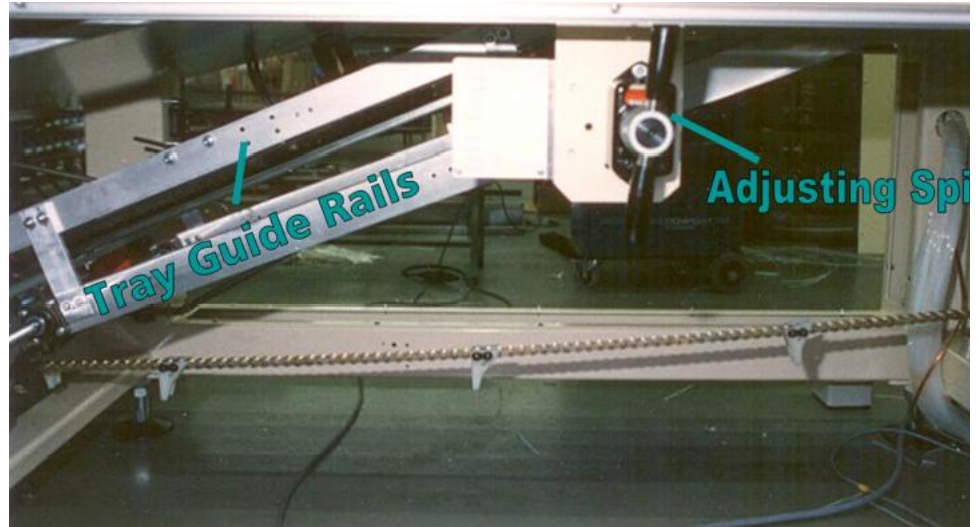
Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For series
97/50 - 97/100 and
197/60 - 197/100 machines



Description

The dimensions of the tray blanks can be quickly and exactly set using an adjusting unit with a visual indicator.

Note: Crosswise tray guide rail adjustment is suitable for various formats or varying side tray edge heights.

Benefit

- Ease of operation
- No more impractical climbing into the machine
- 15 - 25 minutes less time required for format changing
- Digital position indicators at the hand wheels for easy and exact reproducibility of format settings

Scope of supply

- Tray guide angle
- Adjusting unit with indicator

Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For all packaging machines, container and pack conveyors equipped with suitable locking devices.



Description

The purpose of eccentric clamping levers is to simplify adjustment of the guide rails without tools. Application: on the infeed belt, inside the machine, on the conveyors between the machines

Benefit

- Significantly simplified adjustment of all types of guide rail:
- Releasing/locking by simply raising and lowering
 - Considerably less time required for format changeover
 - Prevents Injuries when adjusting closely spaced guides

Scope of supply

- Clamping levers
- Depending on requirements

Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For all types film-processing
packing machines



Description

Electric motor-driven film reel lifting cart for easy removal of vertically or horizontally positioned film reels from pallets and horizontal loading in the packing machine.

Benefit

- Electric motor drives for lifting, swinging, and clamping film reels.
- Film reels are picked up from the pallet regardless of their positions
- Convenient mounting of film reels on the film mandrel
- Easy and safe operation without excessive effort
- For film reels weighing up to 130 kg, 900 mm wide and 550 mm in diameter
- Commercially available 12-V rechargeable batteries with a capacity of up to 60 loading operations

Scope of supply

Complete ready-for-use film reel lifting cart with electrical drives, rechargeable battery, and loading function

Contact

Uwe.Bartholemy@KHS.com
Werner.Ageling@KHS.com



Suitability

For series St, STA und STC - year of construction off 2000.

Existing gas connection in production is advantageous



Description

New gas heating cartridges are installed in the existing combustion chambers.

Benefit

- Energy cost savings of over 50%
- Approx. 60% reduction in CO₂
- Only customer-provided gas supply necessary

Scope of supply

Preassembled gas heating cartridge(s) including software

Contact

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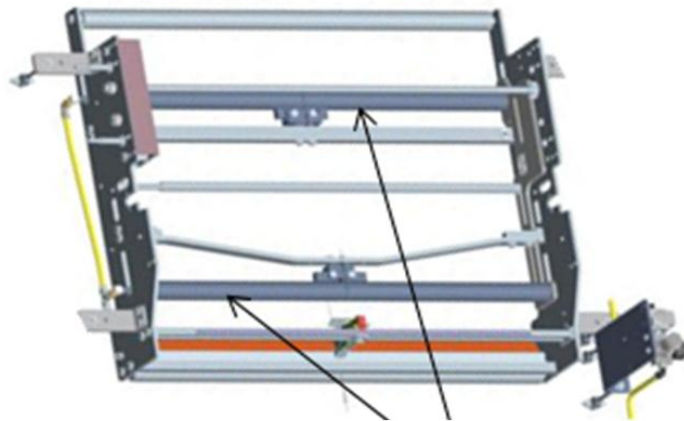
Economic efficiency calculation

Sample pay-off method:
Potential cost savings of approx. 24,000 € per year for a 6-meter long, type ST1000E tunnel equipped with 2 gas burners operating 6,000 hours / year.



Suitability

Upgrade for all multiple-lane, film-processing packing machines of the Modular and Advanced series



Microporous vent



Description

The newly developed reversing pipes with microporous air outlets reduce the air consumption by about 90% versus the reversing devices previously used in the film spreader.

Scope of supply

Completely pre-assembled functional unit as well as all components required for installation

Benefit

- No wrinkling between pipes in single-lane operation
- Reduces compressed air consumption by about 90%.
- Example: approx. 24 (Nm³/hr) for 1.5-liter bottles in 3 x 2 formation Excellent friction and spreading properties thanks to an extensive air cushion over the entire width of the film

Contact

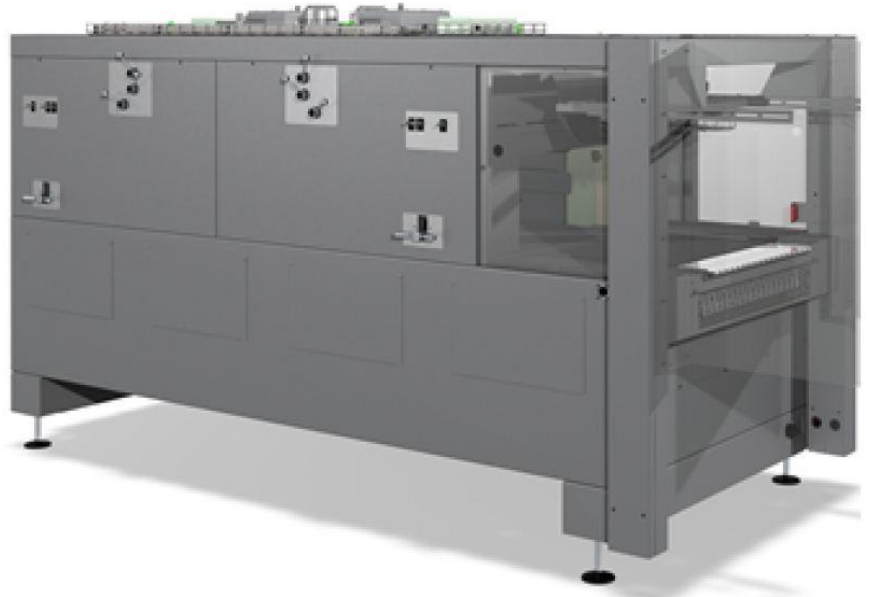
Uwe.Bartholemy@KHS.com
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Suitability

Retrofit package for film-processing packaging machines with shrink tunnel as of YOM 2000.

Older machines on request.



Description

By activating the energy-saving function at the control panel (optional: by external signal), the heating is lowered by about 50°C, the chain and pack cooling is shut off and the conveyor chain is regulated at creeping speed.

Benefit

- Considerable reduction (up to 75%) in energy consumption in stand-by-mode, where machine and shrink tunnel wait for production
- Accompanied by a reduction in CO₂ emissions
- Reduction in wear on the components shut down in stand-by-mode
- Optionally, the curtains at the infeed and discharge that are often heavily slit or stripped off completely can be replaced or assisted by electrically closeable roller shutters

Scope of supply

Integration of activation for stand-by-mode into the control panel and adaptation of machine software

Contact

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Suitability

For all blank-processing KHS Kisters packaging machines with a nominal width of at least 1,000 mm and equipped with rotating blank suction pickup



Description

An angled blank dispenser with a capacity of up to 1,200 cardboard blanks improves loading of blanks - also for double-lane machines.

Benefit

- Improved access for loading cardboard blanks Increase in the blank capacity from about 700 to up to 1,200 blanks (depending on the thickness of the blanks)
- Possible increase in the capacity to up to 2,000 blanks

Scope of supply

- 1) Conversion set for machines of the Modular series YOM 2000 and later
- 2) A completely new, pre-assembled blank dispenser plus the necessary installation materials (for machine types 140, 197, 198, etc.)

Contact

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Werner.Ageling@KHS.com



Suitability

For modular constructed blank magazines and single large blank acces.



Description

Extending the length of the blank magazine to an overall length of up to 5,000 mm provides a larger area with a correspondingly larger capacity for a greater number of trays. The magazine of the ergonomic version is set at a 10° angle, thereby providing exceptionally user-friendly access.

Benefit

- Increased storage capacity about 500 pieces / length extension
- (B-flute - 3mm)
- Improved handleability saves time

Ergonomic design: exceptionally user-friendly access

Scope of supply

- Standard extension: extension module including improved limit stops and monitoring at the discharge of the blank magazine
- Additionally requested extension modules

Contact

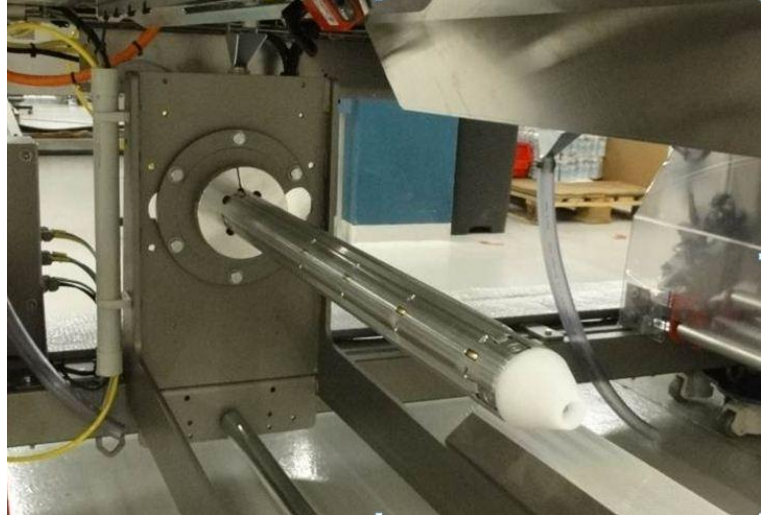
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Suitability

Upgrade generally available for all film-processing packing machines.

YOM 1988 and before on request



Description

Integrated rollers in the body of the film mandrel facilitate loading and removing often heavy film reels greatly a capacity of up to 1,200 cardboard blanks improves loading of blanks - also for double-lane machines

Benefit

- Less effort required for loading and removing film reels
- Less time required for changing reels

Scope of supply

Completely pre-assembled film mandrel and installation materials

Contact

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Werner.Ageling@KHS.com



Suitability

For all film-processing packing machines of the Modular and Advanced series



Description

The film is needle-punched or partially slit at one or more positions by perforating knives rotating in the direction of the film for the purpose of creating tear-open aids.

Benefit

- Easy-open aids are created within the packing machine for film packs
- Single and multiple-lane operation with adjustable perforating roller positions
- High precision mode of operation

Scope of supply

A pre-assembled module with perforating rollers for single or multiple-lane operation according to requirements

Contact

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Suitability

Upgrade for all film-processing packing machines of the Advanced series YOM 2008 and later. Older machines on request



Description

The film reel ejector pushes the film reel so far off the film mandrel so that the reel can be removed more easily by an existing auxiliary device or by hand.

Benefit

- Facilitates removal of hardly used and heavy film reels
- Ergonomic handling of film reels

Scope of supply

Pre-assembled pneumatic cylinder with mounting and pneumatic materials as well as the hardware and software

Contact

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Suitability

For film-processing packing machines of the Advanced series YOM 2008 and later.
Older machines on request



Description

Continuously running folding system for producing fully enclosed film packs without bull's eyes on the side. The basic format for film-wrapped loose containers or film-wrapped on pads must be present or additionally upgraded.

Scope of supply

Completely pre-assembled folding system with integrated servo drives, control, and film fixing

Benefit

- Reduction of packaging costs by about 0.05 euros/pack by eliminating cardboard pads and about 0.08 euros/pack by eliminating trays
- Elimination of logistics and the costs associated with handling corrugated cardboard
- Very stable film-wrapped packaging that can even be carried by a handle additionally attached to the side
- Eco-friendly, resource-conserving packaging

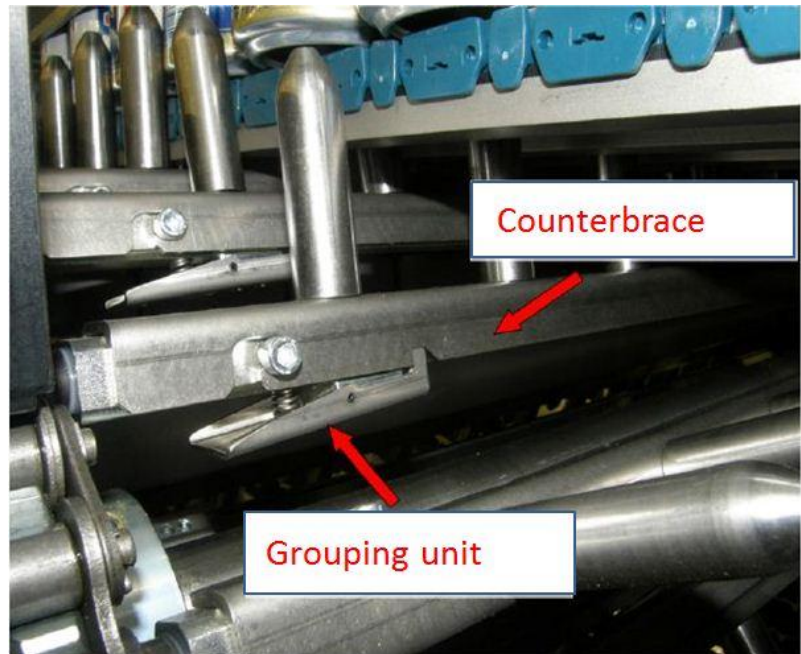
Contact

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Suitability

For machines equipped with CB6 clutches for the release of the grouping units



Description

Product-specific changes to individual support parts do not change the grouping segments for other products. The grouping segments are premounted on support parts for each format.

Benefit

- Shorter changeover
- No more changing of individual grouping segments

Scope of supply

- Grouping chain with support parts
- Grouping rods and grouping segment

Contact

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Suitability

Upgrade for all cardboard-processing packing machines equipped inline blank dispensers - wrap-around packers in particular



Description

The individually adjustable loading height of the front table makes ergonomic blank loading possible. At the push of a button, the stack of blanks is fed to the dispenser and automatically conveyed to the end of the stack in the inline dispenser.

Benefit

- Ergonomic loading of blank stacks
- Improved access for loading cardboard blanks
- Larger supply of blanks

Scope of supply

Completely pre-assembled loading unit and conversion set for corner turntables including the associated hardware and software

Contact

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Suitability

Innopack Kisters packaging machines with discontinued control systems of type AEG-DPW, PC09, PC020-PC040 and Siemens S5 (up to YOM 2000)



Description

Conversion of the discontinued Kisters controls to standard control systems from Siemens or Rockwell. Machines which also have discontinued servotechnology will be converted to current servodrive technology.

Benefit

- Operational reliability assured by completely new control systems and (where appropriate) drive technology
- Important functions are upgraded to the present state of the art
- New operator panel with selectable languages, help texts, graphic machine display and much more
- Management of 70 formats and more
- Film cutter driven by servomotor instead of a coupling
- Operation of film system independent of machine operation

Scope of supply

New control system including an operator panel from Siemens or Rockwell, preferably with pre-mounted and tested switchboard, in individual cases also without a switchboard. New drive technology for machines with discontinued servotechnology

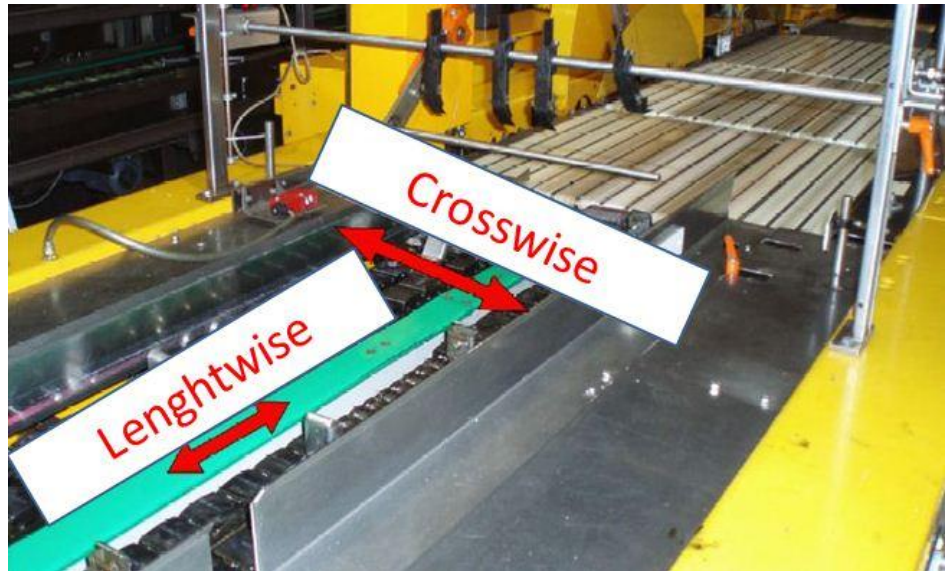
Contact

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Suitability

For series
97 and 197 machines



Description

The existing folding station is replaced. Crosswise and lengthwise adjustment of the new folding chains, application rails, hot melt heads, and the folding segments by means of hand wheels.

Benefit

- Depending on the type of machine, 1 - 2 hours less time required for format changing
- Very short format changeover from about 5 - 10 minutes
- Flexible product range
- No tools required for format part changing
- Digital position indicators at the hand wheels for easy and exact reproducibility of format settings

Scope of supply

Complete, new folding station

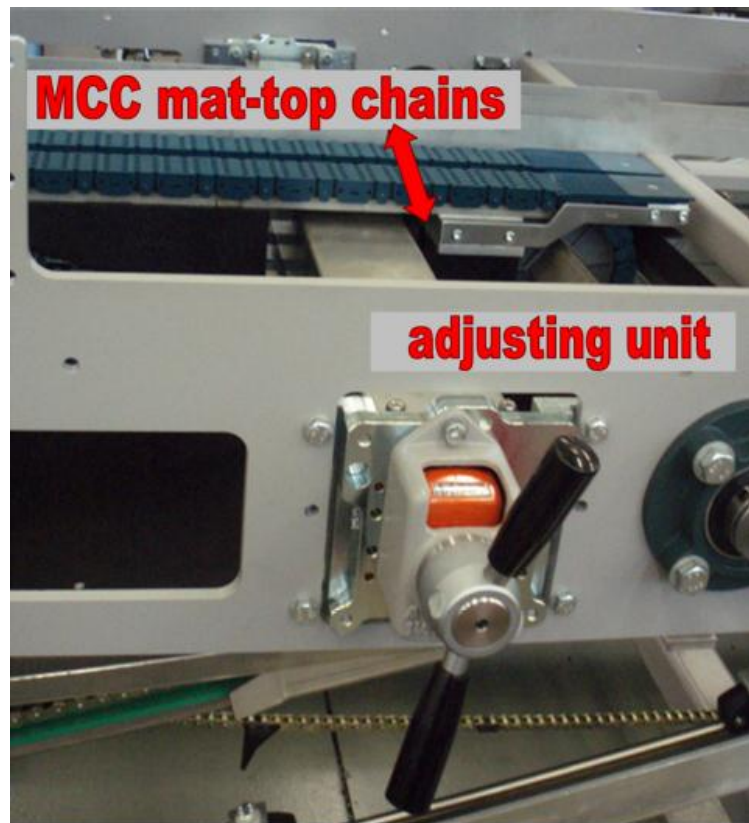
Contact

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Suitability

For packing machines of older generations with more than 1.000 mm width.



Description

Adjusting unit to set up the transport chains to the specific product. Improved product flow by eliminating the need to shift the product.

Benefit

- Full utilization of the chain width
- Shorter format changing times
- Larger contact surfaces of grouping segments
- Reduced number of format part sets
- Improved transition points from transport chains to the transition plate for greater product variety

Scope of supply

- Guide of the transport chains
- Guide rails between the transport chains
- Transition plate

Contact

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Suitability

Upgrade for all film-processing packing machines with capacities of up to 80 cycles/minute. The installation situation must be reviewed on a case-by-case basis



Description

A continuous printing system for printing codes, data, bar codes, graphics, and complete ingredient lists on the shrink film including background field for optimum readability

Benefit

- Greater protection against manipulation by printing the information and background on the inside of the film
- Flexible and accurate positioning at the desired location on the packaging
- Long ribbon service life of up to 22,000 prints at a print size of 30 x 53 mm
- Approx. 25% lower costs versus label printing

Scope of supply

Completely pre-assembled printing system with two thermal transfer printers including adjustment facilities for single-laneoperation

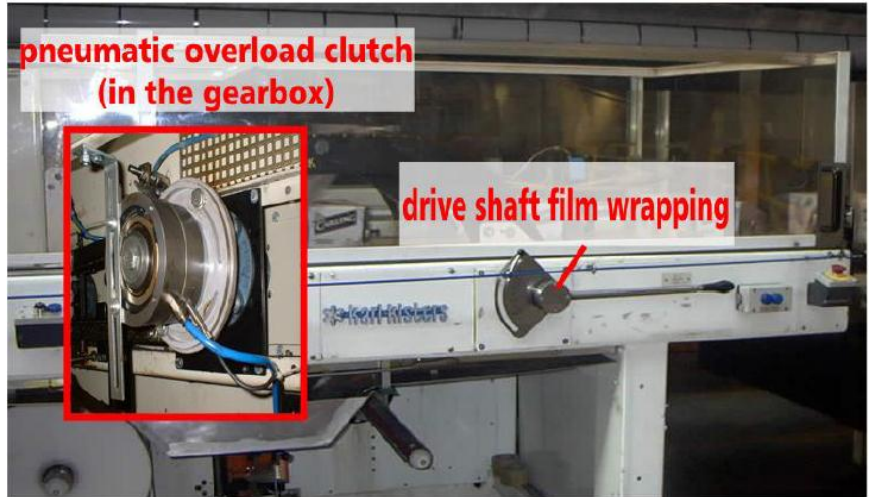
Contact

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Suitability

For machines equipped with a multibar wrapping system with PC 020, PC 030, PC 040



Description

This conversion to flat bars improves accessibility by removing the pot switches. The built-in overload clutch is pneumatically controlled. Engaging levers are installed for easy engaging.

Benefit

- No more bent rods
- Rods no longer fall out and disappear in the tunnel
- No more damage to belts
- Fast restart after malfunctions

Scope of supply

- Pneumatic overload clutch
- Engaging levers
- Film wrapping chain with rods
- Various pneumatic parts
- Software

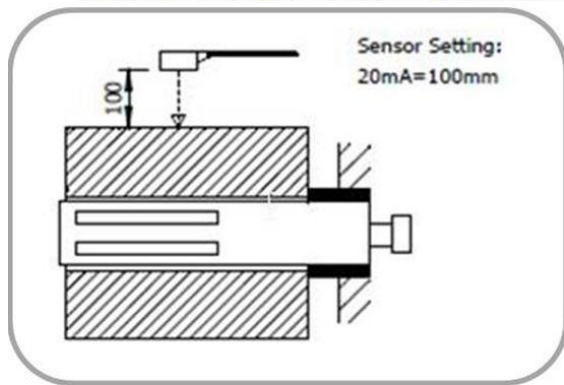
Contact

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Suitability

Retrofit for all film-processing packing machines equipped with Siemens or Allen Bradley



Description

The new and exact film reel end detector saves film materials and prolongs the machine up-time. The new sensor reliably detects the diameter of each film reel and the machine stops exactly with a minimum amount of film on the reel.

Benefit

- The average of 0.8 kg of usually remaining film on each discarded film reel during production is reduced to a minimum.
- In two-shift operations, the new sensing technology can save up to 12 tons of film each year (depending on the film specifications)
- Optimum film utilization/processing lengthens the machine up-time

Scope of supply

Optical sensor including mounting materials as well as the software upgrade for integrating the new function

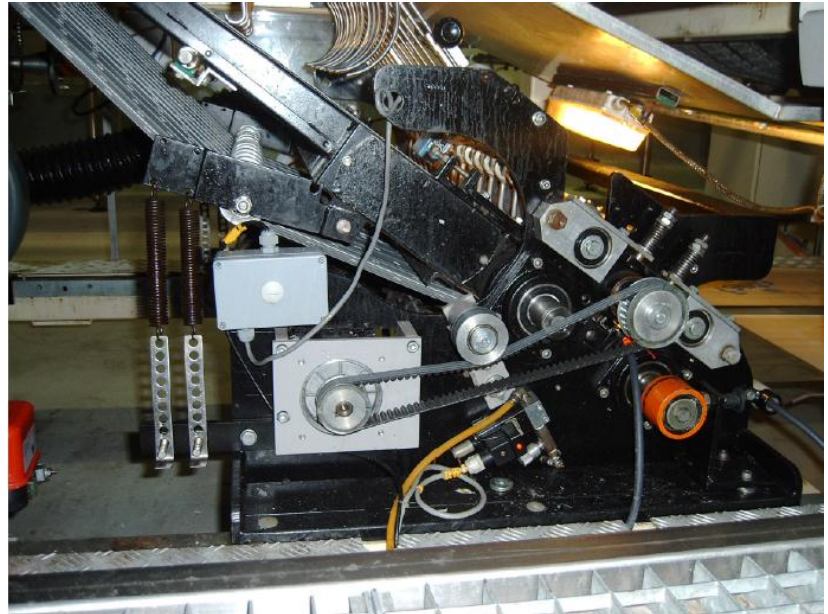
Contact

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Suitability

For all film-processing machines



Description

Replacement of the old CB 6 - coupler to a servo drive. Depending on the existing controls, we will use a stand-alone-solution or retrofit the old control.

Benefit

- Very exact cutter positioning at varying machine speeds
- Cutter speed higher than with a CB6 coupling results in more reliable film cutting
- Low-noise operation
- Long service life
- Maintenance free

Scope of supply

Servo drive including control

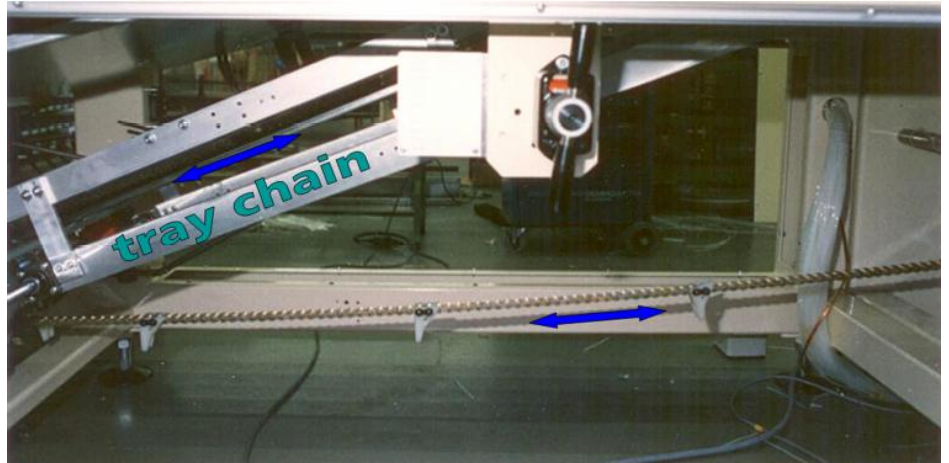
Contact

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Werner.Ageling@khs.com



Suitability

For 97/30 - 97/100 and 197/40 - 197/100 series machines



Description

The dimensions of the tray blanks can be quickly and exactly set using an adjusting spindle with a visual indicator.

Note: Lengthwise tray guide rail adjustment is suitable for varying rear tray edge heights.

Benefit

- Ease of operation
- No more impractical climbing into the machine
- Approx. 10 minutes less time required for each format change
- Digital position indicators at the hand wheels for easy and exact reproducibility of format settings

Scope of supply

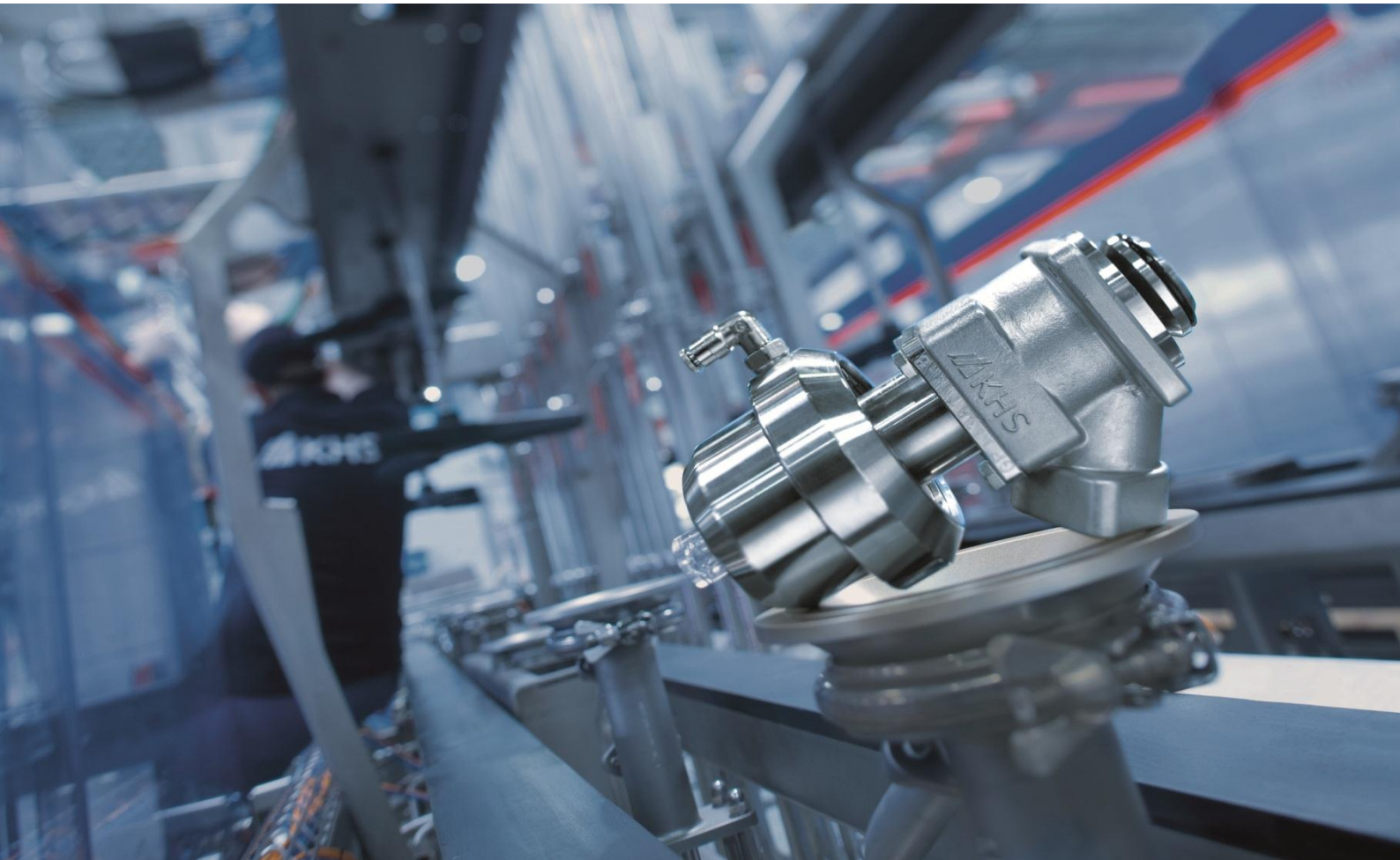
- Tray conveyor drive shaft
- Adjusting unit with indicator
- Return pulley folding station

Contact

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KHS Conversion Catalogue

KHS Innopal





Suitability

Innopal PB
Innopal RS 3
Innopal RK
for non-returnable pallets



Description

After retrofitting the automatic, two-sided, motor-driven layer centering, format changeover of the feed table is completed automatically at the push of a button.

Benefit

- Reduction of the changeover time by 10 minutes per changeover
- High reproducibility (accuracy: +/- 0.5 mm)
- Higher machine availability

Scope of supply

- Two-sided, motor-driven layer centering
- Software

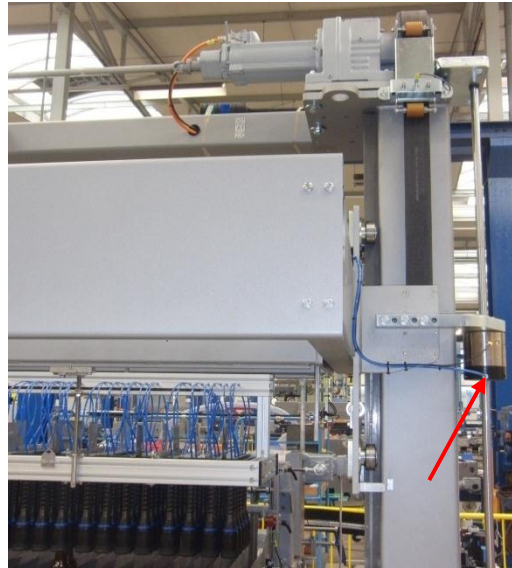
Contact

Frank.Kiefer@KHS.com



Suitability

For packers/unpackers, column-type robots, and palletizing systems with vertically running lifting units.



Description

The electrically monitored and pneumatically controlled fall guard prevents uncontrolled crashes of vertically running lifting units.

The fall guard is activated by

- pressing the E-stop switch
- triggering the 'personnel safety' function (safety light barriers or door switches)
- faulty supply line to the fall guard

Conversions time / Delivery time

Conversion time: Approx. 2-3 days
Delivery time: Approx. 14 – 16 weeks

Benefit

- Avoids serious accidents involving machine operators, maintenance staff, and other personnel
- State-of-the-art safety equipment

Contact

frank.kiefer@khs.com

Scope of supply

- Electro-pneumatic fall guard, mounting materials, sensory equipment, installation materials, and software



Suitability

For Innopal PB series of palletizers for non-returnable containers



Description

After retrofitting motor-driven layer centering, format changeover in the discharge area of the machine is completed at the push of a button.

Benefit

- Reduction of changeover times by 15 minutes per changeover
- High reproducibility (accuracy: +/- 0.5 mm)
- Higher machine availability

Scope of supply

- Three-sided, motor-driven layer centering.
- Software

Contact

Frank.Kiefer@KHS.com



Suitability

Innopal PB
Innopal RS 3
Innopal RK
for non-returnable pallets



Description

Forklifts can supply pallet liners to the system with a time delay by integrating a pallet liner magazine and lift table in conjunction with one buffer space each for empty and pallet liner pallets.

Benefit

- Automatic pallet liner magazine feed and discharge without a forklift
- Time-delayed feed and discharge of the system (not dependent on forklift availability)
- Higher machine availability through just-in-time delivery to the machine

Scope of supply

- Pallet liner magazine with lift table
- Pallet conveyor (one pallet parking space each for empty and full pallets)
- Additional safeguards
- Software

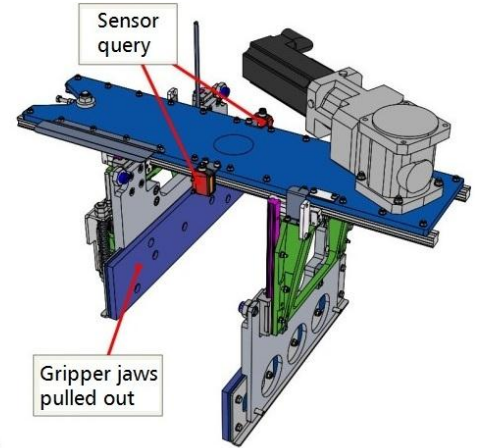
Contact

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Suitability

For palletizers with robot grouping



Description

Using robot heads equipped with safety shutdown ensures a continuous process flow by enabling resolution of occurring sources of error (offset, twisted, or fallen over packs) within a short amount of time. The pull-out gripper jaws are attached to guide blocks which are monitored by sensors. The robot is shutdown immediately by the software as soon as the prespecified amount of vertical force acts on the gripper jaws thereby lifting them up and out.

Conversions time / Delivery time

Delivery time: 8 - 10 weeks
Conversion time: approx. 3-4 days

Benefit

- Improved process reliability
- Minimizes consequential damage to the robot head, robot arm, and the conveyor of the grouping station.
- Less time lost during production, as offset or fallen packs do not become jammed between the robot and the packs.
- The spring suspension reduces gripper jaw wear (without shutting down the robot)

Contact

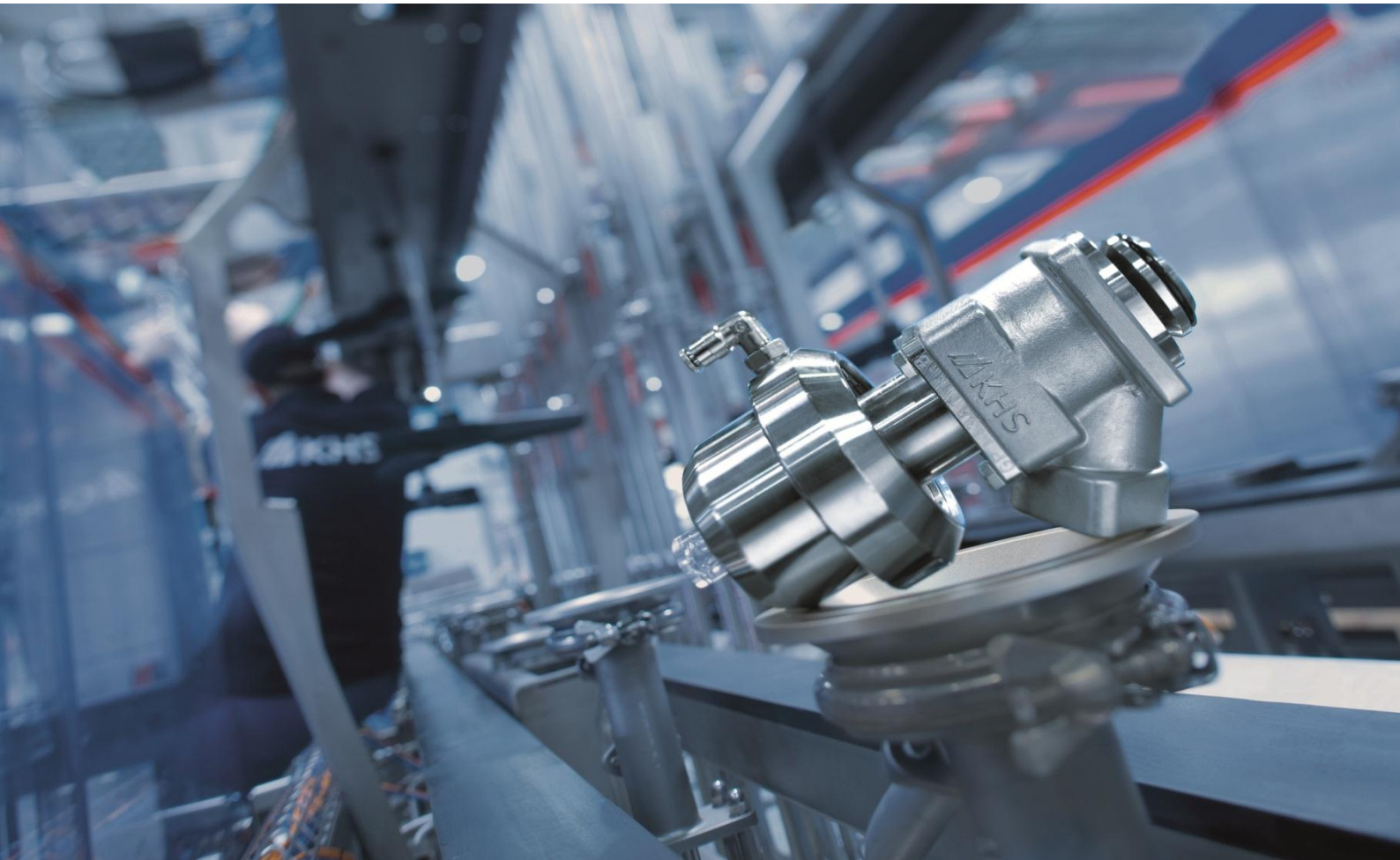
frank.kiefer@khs.com

Scope of supply

Completely pre-assembled robot heads with all necessary mounting materials, electrical installation materials, and software.

KHS Conversion Catalogue

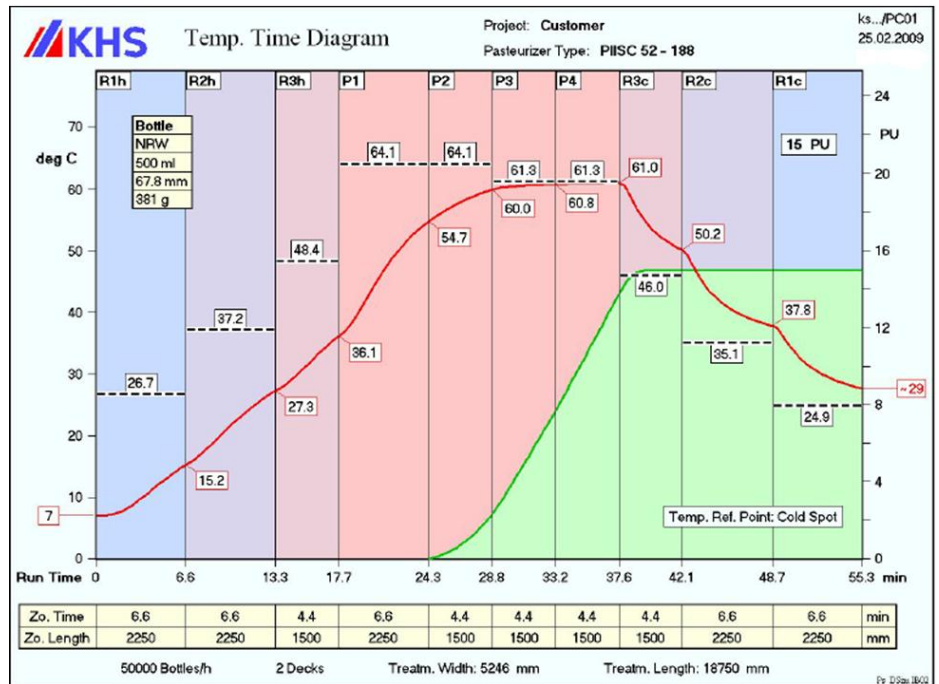
KHS Innopas





Suitability

All KHS pasteurizers, coolers, warmers and predecessors



Description

Productspecific temperature/time specifications are created based on pasteurization units (PUs), heat retention parameters, or special specifications. The specifications could be either adjusted manually or via type selection at PLC machines.

Benefit

- Specification of optimum operating parameters
- Assurance of maximum product quality coupled with optimum energy efficiency
- Specifications relate to new types (combination of new containers capacities and product-specific changes)

Scope of supply

Depending on machine configuration:

- Temperature/time graph with manual parameter settings

Or

- Temperature/time graph with software and visualization modifications

Contact

Helmut.Doering@KHS.com





Suitability

All pasteurizers equipped with bottle carrier container conveyors



Bottle Carrier System

New Stainless Steel Belt

Description

Conversion of the conveying system from a bottle carrier system to plastic or stainless steel belts. Complex drive technique will be replaced by a compact planetary drive. Converting to belts and thereby achieving smaller bending radii at the infeed and discharge also shortens the transfer plate area.

Benefit

- Less maintenance
- Lower cost of spare parts
- Improved stability of containers of all diameters
- Improved speed adjustment

Scope of supply

- Stainless steel or plastic belt
- Drive shaft
- Return shaft
- Belt underframe for the tight and return spans
- Parts for modifying the tunnel
- Drive and gear
- Transfer parts for connecting the infeed and discharge conveyors
- Electrical parts installed in switch cabinet
- Documentation

Contact

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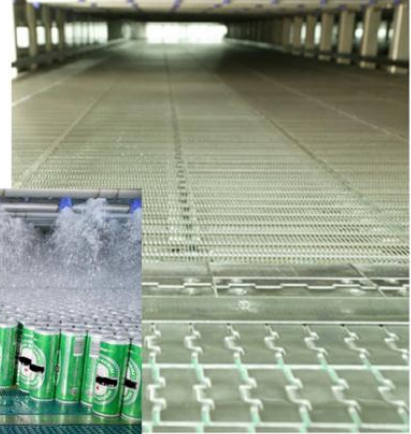


Suitability

All pasteurizers equipped with belt systems



Plastic Belt



Stainless Steel Belt

Description

Machine conversion from plastic to stainless steel belts or vice versa. This conversion is ideal when changing over from can to glass bottle processing for example. Stainless steel belts, for example, are able to convey heavier loads.

Benefit

- Optimization of product handling

Scope of supply

- Belt
- Drive shaft
- Return shaft
- Belt underframe for the tight and return spans
- Transfer parts for connecting the infeed and discharge conveyors
- Documentation
- If necessary: Drive and gear

Contact

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Suitability

KHS pasteurizers comprised of recuperation and pasteurization zones.



Description

Dynamic adaptation of temperature setpoints in the PLC based on the temperature/ time history of each container in the pasteurizer. The dynamic PU control (pasteurization unit control) calculates and regulates the temperatures in the pasteurizer so that there is only a slight amount of over-pasteurization when, for example, the pasteurizer is at a standstill.

Benefit

- Increased product quality
- Thermal influences reduced to a necessary microbiological minimum
- Optimized energy and water utilization through dynamic PU calculation

Scope of supply

Depending on the machine configuration.

New software or when necessary or requested:

- New zone divisions with additional spray tubes and pumps
- Several control circuits (heat exchanger, steam trap, control valves, software controller)
- Completely new PLC controller and visualization

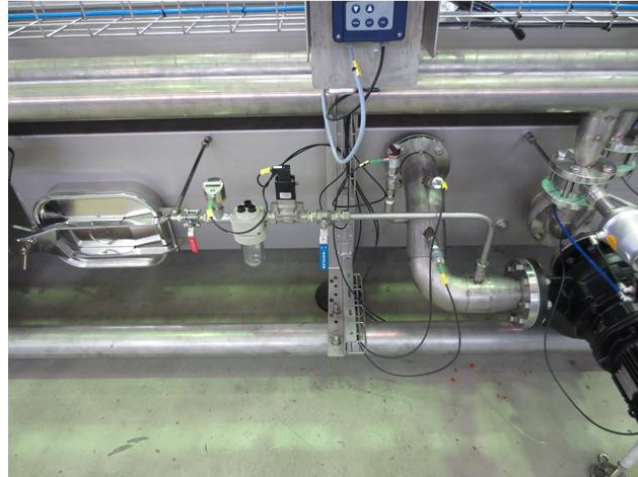
Contact

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Suitability

All KHS Innopas pasteurizers,
coolers and warmers



Description

The pH of the process water is measured and caustic is added to the process according to the value measured. The measurement points and metering pump are designed as compact units and mounted in the immediate vicinity of the pasteurizer. The measurement points are easy to maintain, calibrate, and clean.

Benefit

Maintaining a constant pH (target value pH 7 to pH 8) prevents the build-up of corrosive deposits in particular on exterior surfaces not exposed to circulating process water

Scope of supply

- Two measurement units, each equipped with a transducer complete with mount
- One metering unit equipped with a pump, flow meter, and two solenoid valves
- Connection to the pasteurizer: electrically, mechanically, piping, software
- Commissioning
- Training
- Documentation

Contact

Helmut.Doering@KHS.com



Suitability

KHS pasteurizers, recoolers, and warmers equipped with S5 controllers



Description

Conventional SIEMENS S5 components can be easily replaced with SIEMENS S7 components. For older model systems, this ensures the supply of spare parts. In addition, the KHS touch panel considerably increases operating convenience.

Benefit

- Ensured availability of spare parts
- Link to AIS (advanced production data acquisition system)
- Profibus DP connection for additional line components
- Prerequisite for the latest PU control
- Optional: Remote diagnostic service "ReDiS"

Scope of supply

- Replacement of the automation and visualization system
- Hardware and software modifications
- Possible conversion of hardware controllers to software controllers

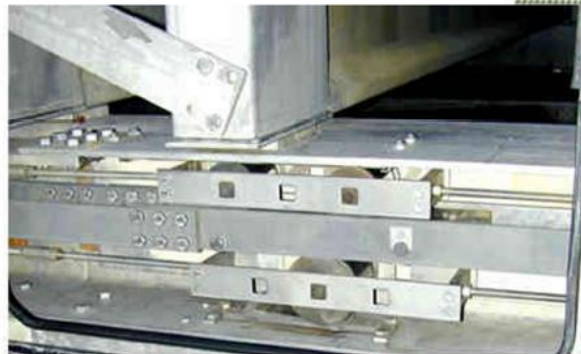
Contact

Helmut.Doering@KHS.com



Suitability

KHS walking beam pasteurizers



New Stainless Steel Belt

Walking Beam System

Description

Conversion of the conveying system from walking beam to plastic or stainless steel belts.
This conversion eliminates discontinuous container movement thereby leading to smoother and improved container conveying. The hydraulic drive gets replaced by an electrical drive with compact planetary gear.

Benefit

- Less maintenance
- Lower cost of spare parts
- Reduced electrical power consumption
- Improved stability of containers of all diameters
- Improved speed adjustment (continuous container conveying)

Scope of supply

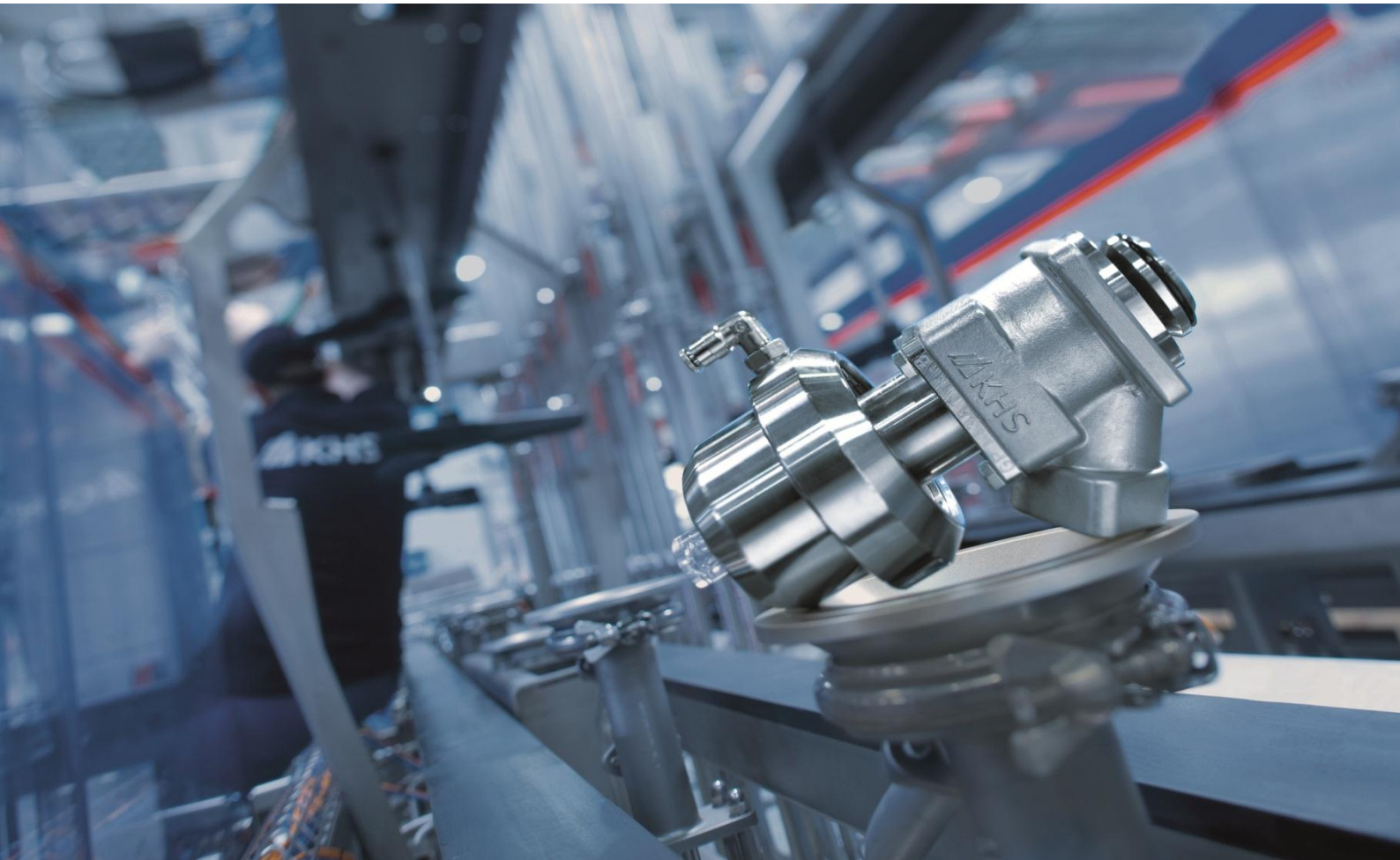
- Stainless steel or plastic belt
- Drive shaft
- Return shaft
- Belt underframe for the tight and return spans
- Parts for modifying the tunnel
- Drive and gear
- Transfer parts for connecting the infeed and discharge conveyors
- Electrical parts installed in switch cabinet
- Documentation

Contact

Helmut.Doering@KHS.com

KHS Conversion Catalogue

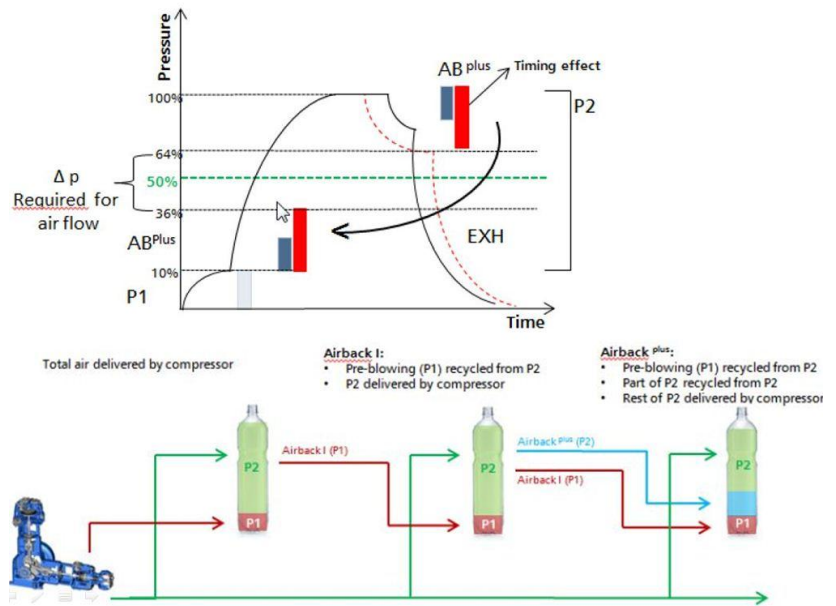
KHS InnoPET





Suitability

KHS InnoPET Blomax:
Series IIIC and series IV
machines
(available first quarter 2013)



Description

The patented "Airback Plus" system reduces the required amount of blowing air (m³/h high pressure air P2) sustainably. Thanks to a targeted air return system (at end of P2), savings of expensive, oil-free high-pressure air up to 35% can be achieved when running a 1.5 l bottle.

The air volume stored in the bottle will not exhaust to the environment, as is usually the case, but is fed through a separate Airback ring pipe (air accumulator) back into the process (start of P2). Thus the energy costs can be effectively reduced for production of the blowing air.

Benefit

- Cost savings thanks to energy savings
- Securing competitive position
- Indirect and CO² reduction by active energy management

Scope of supply

- Upgrade of machine software with "Airback Plus" function
- Adaptation of station valve blocks for Airback Plus
- Air quantity air flow measuring device
- Individual adaptation of design
- Documentation

Contact

Blomax.Aftersales@KHS.com





Suitability

KHS InnoPET Blomax
- Series II and series IIIC
machines



Description

The "PreStart" function makes it possible to start the stretch blow molder (SBM) earlier by sending a signal from a "master" piece of equipment (e.g. filler or air conveyor system) to the slave (SBM). In this way it is possible to adapt to short conveyor sections (air conveying). The "PreStart" will increase line efficiency and performance in addition to increasing the effectiveness.

Scope of supply

- Upgrade of machine software with "PreStart" program module
- Preparation of signal exchange between master und slave
- Individual adaptation of design
- Documentation

Benefit

- Increase in productivity
- Increase in line efficiency

Contact

Blomax.Aftersales@KHS.com



Suitability

Plastic bottles for production on KHS Blomax machines and others:
 Standard processes, Hotfill, Relax, Preferential heating, Hotfill +, Refillable



Description

KHS Corpoplast develops and designs your packaging starting from a concept to the fully tested plastic bottle. When developing the bottle, experienced experts take into account all important parameters of a modern, lightweight plastic bottle. Important factors such as tilt angle, axial stiffness (top load), side load (handling stability) and filling behaviour as well as the choice of a suitable preform are taken into account in order to ensure the best bottle characteristics and optimum manufacturing costs in the overall production process. KHS process engineers advise and assist in rolling out the process on the appropriate production machine.

Benefit

- One package developed and designed by PET professionals
- Guaranteed production suitability
- Highest possible consumer convenience
- Cost optimization (preform, material, process, logistics)

Scope of supply

- Technical bottle drawing (PDF file)
- Three-dimensional visualization
- Preform advice
- 50 sample bottles, laboratory report

Optional:

- Design development
- Plastic design prototype
- Preform development
- Recipe rollout on Blomax machine

Contact

bottles&shapes@KHS.com

Conversions time / Delivery time

Delivery time: Approx. 6 weeks upon receipt of order confirmation



Suitability

All bottle designs



Description

When developing new packages, it is often difficult to detach oneself from existing concepts or specific technical approaches. We support your product development and market success with design ideas and by visualizing your individual product message. In the first step, a packaging designer visualizes the individual packaging idea for the new innovative packaging concept with simple sketches. Close collaboration between design and engineering in the development of high-quality packaging solutions guarantees that today's expectations are realized in the product and on the market.

Benefit

- Fresh new design ideas for your packaging
- Creative, innovative packaging concepts and not just familiar shapes
- Fast visualization of design ideas
- Help in deciding on the introduction of a new packaging concept

Scope of supply

- Five design proposals (sketches)
- Technical bottle drawing

Optional:

- Plastic design prototype
- Five design proposals for label (sketches)

Contact

bottles&shapes@KHS.com

Conversions time / Delivery time

Approx. 3 weeks upon receipt of order confirmation (depending on complexity)



Suitability

KHS InnoPET Blomax machines



Description

Expertise on the road.

Process engineers on site look for and recognize potential for improvement. Ambient conditions, material and machine characteristics can change in the course of time. These changes sometimes have a negative effect on operating costs. Considerable savings can often be made by checking and correcting individual process parameters.

Example:

- Reduction in blowing pressure
- Optimization of heating profile
- Recommending the use of new technologies

Benefit

- Immediate recognition and use of savings potential
- Cost reduction thanks to energy savings
- Benefit of KHS' many years of experience in the cost-effective production of PET bottles

Scope of supply

- A process engineer on site for one day
- Initial analysis and direct recommendation / implementation
- Optimized production recipes

Contact

bottles&shapes@KHS.com

Conversions time / Delivery time

Depending on the number of products



Suitability

All modifiable bottles



Description

We combine packaging design with light weight. Your product is successful and is established with the customer. But there is also cost pressure and environmental aspects to be taken into account for these products. Every gram saved in the PET package ensures economic success and conserves resources in the long term.

For example, bottle weight can be saved by:

- Technical design that satisfies the requirements
- New neck design / new base design
- Perfect matching of bottle and preforms
- Ideal material distribution thanks to innovative processes and technologies

Acknowledged experts give advice from the analysis and the choice or design of a suitable preform to the completed lightweight bottle.

Benefit

- Significant cost reduction thanks to material saving
- Improved competitiveness
- Energy savings thanks to optimized process
- Easy on resources

Scope of supply

- Evaluation of existing bottle and preform with regard to savings potential
 - Development of proposed solutions
 - Development of a weight-optimized bottle incl. 2D drawing with technical specifications
 - Preform advice
 - Up to 50 sample bottles for testing
 - Laboratory analysis including report
- Optional:
- Preform development
 - Recipe rollout on Blomax machine

Contact

bottles&shapes@KHS.com



Suitability

All modifiable bottles



Economic efficiency calculation

Example calculation for weight reduction by changing screw thread

Assumptions:

- Blomax 16 series III with 24,000 bph
- Annual production = 5,000 h => 120m bottles per year
- Preform with PCO 1881 instead of PCO 1810 for example => 1.3 g lighter
- 1 g reduction in preform weight by bottle optimization
- 1t of PET material = € 1,400.-

-> 120m bottles * 2.3 g = 276t of PET savings per year

-> 276t * € /t 1,400.- = € 386,400.- cost savings per year

Conversions time / Delivery time

Depending on the number of products



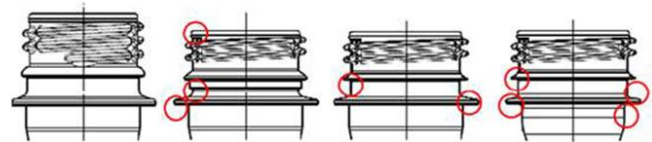
Suitability

All bottle designs



Neckfinish	PCO 1810	PCO 1881	PCO 1881 Light	PCO 1881 Extra light
Weight	5,03g	3,7 g	3,3 g	2,3* g
Winding	PCO 1810	PCO 1881	PCO 1881	PCO 1881

*Includes EVERY reduction in weight



Description

Your product is successful and the packaging design is established. But there is also cost pressure and environmental aspects to be taken into account for these products. Every gram of PET saved in the packaging ensures economic success and conserves resources.

For example, weight can be saved by:

- Optimized neck design
- Design of ideal preforms
- Ideal material distribution thanks to innovative processes and technologies when using lighter-weight preforms
- Change of base design if necessary

Acknowledged experts give advice from the analysis to the choice or design of a suitable preform.

Benefit

- Reduction in costs thanks to material saving
- Securing competitive position
- Easy on resources

Scope of supply

- Evaluation of existing bottle and preform
- Development of improvement suggestions
- Preform advice
- Modification of the 2D bottle drawing with technical specifications
- Up to 50 sample bottles for testing
- Laboratory analysis including report

Optional:

- Preform development
- Checking / modification of the base design
- Recipe rollout on Blomax machine

Contact

bottles&shapes@KHS.com



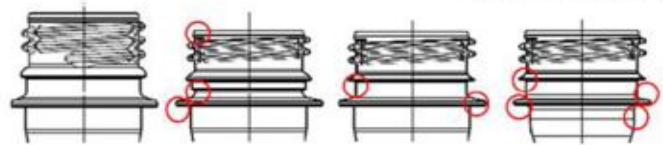
Suitability

All bottle designs



Neckfinish	PCO 1810	PCO 1881	PCO 1881 Light	PCO 1881 Extra light
Weight	5.03g	3.7 g	3.3 g	2.3* g
Winding	PCO 1810	PCO 1881	PCO 1881	PCO 1881

*Includes EVERY reduction in weight



Economic efficiency calculation

Example calculation for weight reduction by changing screw thread

Assumptions:
 Blomax 16 series III with 24,000 bph
 Annual production = 5,000 h => 120m bottles per year
 Preform with PCO 1881 instead of PCO 1810 for example => 1.3 g lighter
 1t of PET material = € 1,400.-

-> 120m bottles * 1.3 g = 156t of PET savings per year
 -> 156t * €/t 1,400.- = € 218,400.- cost savings per year

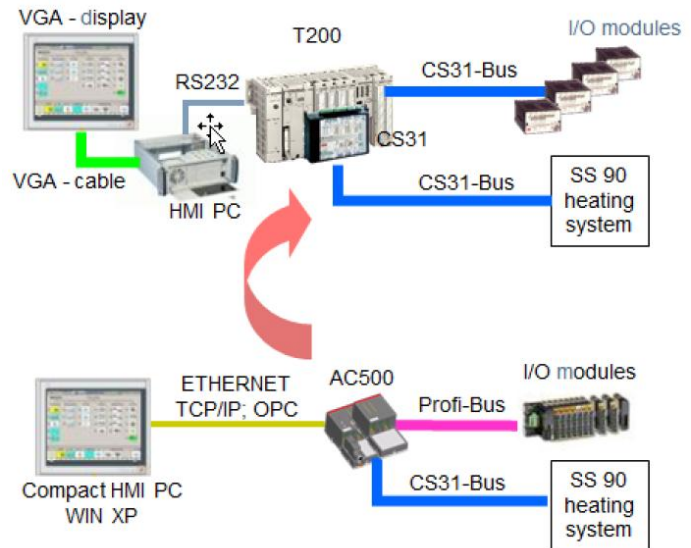
Conversions time / Delivery time

Approx. 2 weeks upon receipt of order confirmation



Suitability

KHS InnoPET Blomax Series II with ABB T 200 / CS 31 PLC system



Description

The controllers (PLC systems) ABB T200 and CS31 are no longer being manufactured by ABB. In case of failure or breakdown, longer downtimes may be incurred, as to repair the existing unit will take a lot of time or might not be possible.

For this reason, KHS offers an upgrade for these PLC systems for the ABB PLC systems which are no longer available.

The new, modern ABB AC500 PLC system also features network connection possibilities (e.g. TCP/IP or Profibus for integration into production planning / maintenance systems).

Benefit

- Reduction of failure / downtime risk
- Increase in production reliability
- Securing productivity and profit
- IT network integration via TCP/IP or Profibus
- Prevention of business loss

Scope of supply

- Individual adaptation of design
- Main PLC ABB AC 500 inc. I/O modules
- Blowing wheel PLC ABB AC 500
- HMI touch screen
- Documentation
- Installation on site

Contact

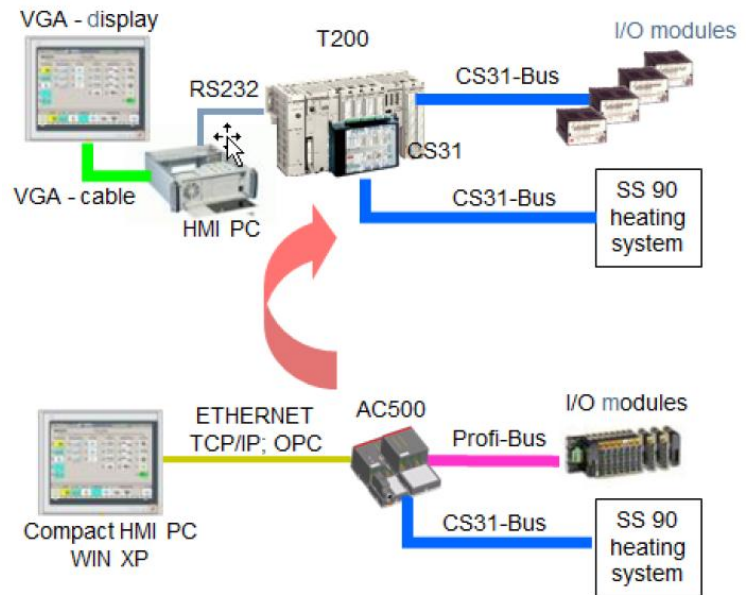
bottles&shapes@KHS.com

* Subject to technical modifications and price changes. On request, we will be glad to provide you with a binding offer. Version 1 Date 31.03.2014



Suitability

KHS InnoPET Blomax Series II with ABB T 200 / CS 31 PLC system



Economic efficiency calculation

Sample calculation:

Assumptions:

Blomax 16 series II with 21,000 bph
Annual production = 5,000 h => 105m bottles per year
Profit per bottle = € 0.5 ct
Profit loss in the event of PLC breakdown

1% downtime = 50 h (approx. 2 days) => 5,250 €
10% downtime = 500 h (approx. 20 days) => 52,500 €

Additional economic risks for the business:

Contractual penalties due to delivery delays!
Ongoing production fixed costs through personnel!

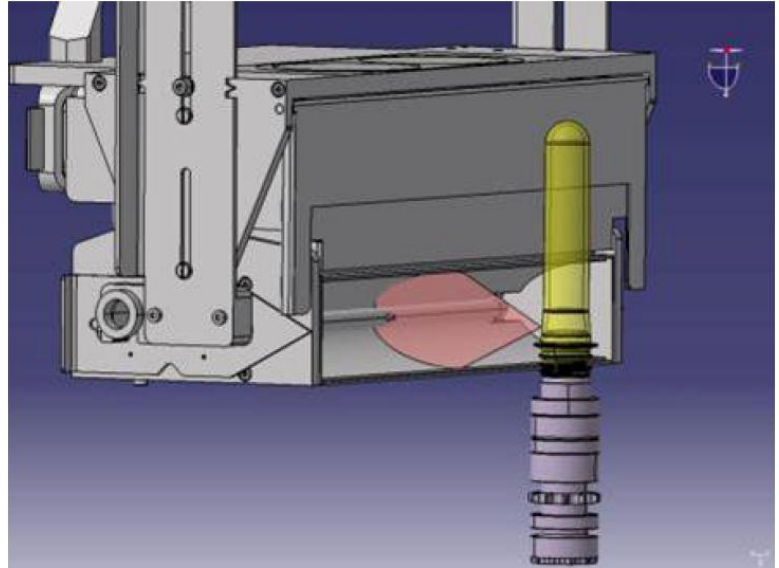
Conversions time / Delivery time

- Delivery time: 8 - 10 weeks after order confirmation
- Installation time: 12 – 14 working days by two KHS service engineers (software engineer and electrician)



Suitability

KHS InnoPET Blomax
- Series IIIC and series IV
machines



Description

The NIR lamp energy is pinpointed by the patented profiler box with a focus point of 1-1.5 mm to the critical extraction or taper areas on the preform. The focused energy of the radiant heat makes highly accurate material distribution possible while blowing a bottle. Thus difficult bottles and preforms (in particular lightweight preforms and preforms with a short "taper") can be reproducibly blown with optimum material distribution. In addition to exceptional bottle quality, because of the consistently good material distribution, it is also possible in certain cases to reduce the preform weight.

Benefit

- Stabilization of the process at bottles with complex shapes
- Possibility of weight reduction

Scope of supply

- Profiler heater box
- Documentation

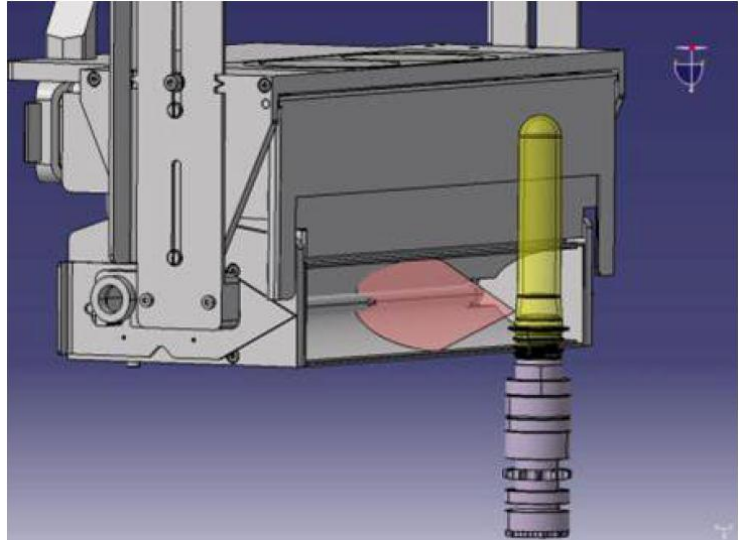
Contact

Blomax.Aftersales@KHS.com



Suitability

KHS InnoPET Blomax
- Series IIIC and serie IV
machines



Economic efficiency calculation

Sample calculation:

Assumptions:

- Blomax 16 series IV with 35,200 bph
- Annual production = 5,000 h => 176m bottles per year
- Preform weight reduction 0.5 g
- 1t PET material = € 1,400

-> 0.5 g / bottle * 176m bottles / year = 88 t PET material savings per year

-> 88 t * € 1,400/t = € 123,200 cost savings per year

Conversions time / Delivery time

- Conversion time: 1-2 working days for one KHS process engineer
- Delivery time: 2-4 weeks after order confirmation



Suitability

KHS InnoPET Blomax
- Series III C machines



A) With nose



B) Without nose

Description

With the new adhesive free, maintenance friendly conveying mandrel, format changes (replacement of the mandrel head) can be realized in a quick and time saving manner.

Furthermore, the replacement of bearings and sliding parts (deflectors) can be performed with ease and quickly during maintenance of the mandrel. The mandrel head can simply be loosened and remounted with an assembly tool, because it is secured by a disk spring.

The time-consuming loosening of the glued part is eliminated, which reduces the maintenance time (by up to 75%) and the risk of damage due to assembly difficulties.

The mandrels with "nose" are particularly well suited to lightweight preforms and bottles, as the mouth area is ideally fixed on the mandrel.

Benefit

- Up to 75% time saving during mandrel maintenance §Reduced workload
- Increase in productivity
- Higher reliability of operation due to robust system and less installation effort
- Reduction in risk of damage
- Longer maintenance intervals

Scope of supply

- Quick assembly conveying mandrel with adhesive free head secured by disk spring
- Adaptation of documentation

Contact

Blomax.Aftersales@KHS.com

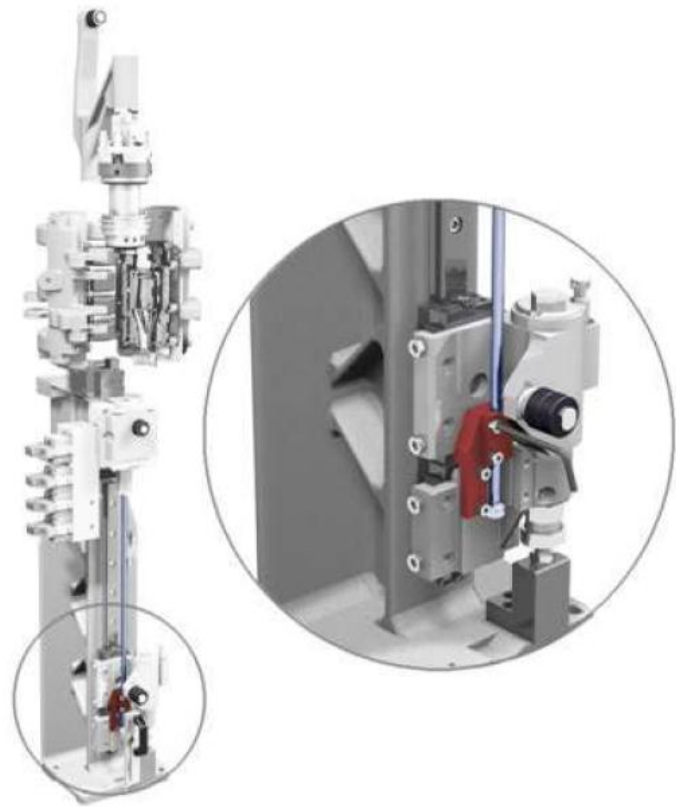
Conversions time / Delivery time

- Conversions time for 250 mandrels: Approx. 1 hour for a trained maintenance engineer to install the new mandrel (depending on machine size)
- Delivery time: 4-6 weeks after order confirmation



Suitability

KHS InnoPET Blomax -
Series III machines



Description

A horizontal adjustable stretch rod system for different bottle formats will be installed on each station. The proven system allows format changes within the shortest possible time without exchanging the individual stretch rod. The time saving is up to 75%.

Also, we recommend the rapid mounting system for outer shells and the multi-coupling.

Benefit

- Up to 75% time saving during mold change
- Reduced workload
- Increase in productivity
- Higher reliability of operation thanks to less installation and adjustment effort
- Reduction of product dependent parts
- Reduction in risk of damage

Contact

Blomax.Aftersales@KHS.com

Scope of supply

- Individual adaptation of design
- One adjustable stretch system per station
- Installation / adjustment tool
- If station is not equipt with coupling station: Multi-coupling system incl. adapter parts for electrical connection
- Documentation

Conversions time / Delivery time

Installation time:

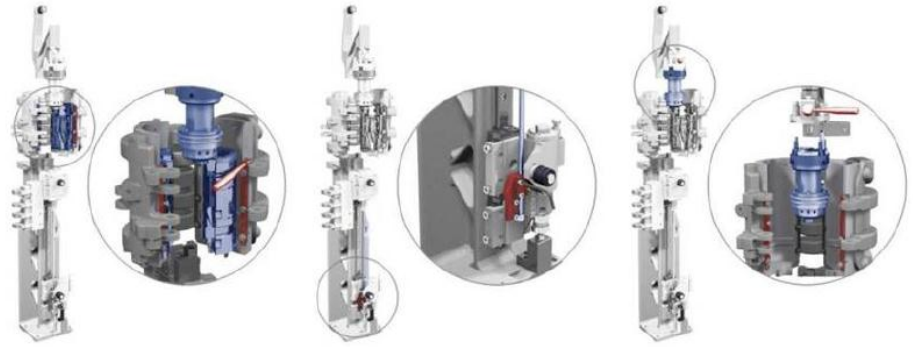
- Station already equipped with coupling system: Approx. 1 hour
- Station not equipped with coupling System: Approx. 2 hours

Delivery time: 6-8 weeks after order confirmation



Suitability

KHS InnoPET Blomax



Description

"Speed -Loc" is the established and long proven rapid changeover system for molds and format parts for InnoPET Blomax machines. These include:

- Quick change of mold halves
- Adjustable stretch rod
- Quick change multi coupling base mold

The system allows time saving and convenient changeover of the machines to a new product by simply inserting and locking the components.

In addition, "Speed -Loc" brings considerable working relief for the operating staff. It also protects the components by eliminating complex screwing and adjustment work.

Contact

Blomax.Aftersales@KHS.com

Economic efficiency calculation

Sample calculation for a component:

Assumptions:

- Blomax 16 series III with 24,000 bph
 - Annual production = 5,000 h => 120m bottles per year
 - Profit per bottle = € 0.5ct
 - product / format changeovers per week = ~100 format changeovers per year
 - 3 minutes time saving per station and changeover
- > 100 format changeovers * 16 stations * 3 min/station = 4,800 minutes => 80 hours
Increase of efficiency through "Speed-Loc" rapid changeover system
· 80 h = 1.6% efficiency improvement
=> € 9,600



Suitability

KHS InnoPET Blomax



Description

"The existing mounting system for the outer shells (mounted by screws) will be replaced by a rapid changeover system called "Speed -Loc". with a convenient hand lever.

Through the proven "Speed-Loc" system, the blow mold inner shells can be changed within the shortest time possible with gentle handling.

The time saving is up to 75%.

In addition, we recommend the adjustable stretch rod and the multi-coupling system.

Benefit

- Up to 75% time saving during mold change
- Reduced workload
- Increase in productivity
- Higher reliability of operation thanks to easy installation
- Reduction in risk of damage

Scope of supply

- Locking system for outer shell halves
- Locking lever (tool)
- Documentation

Contact

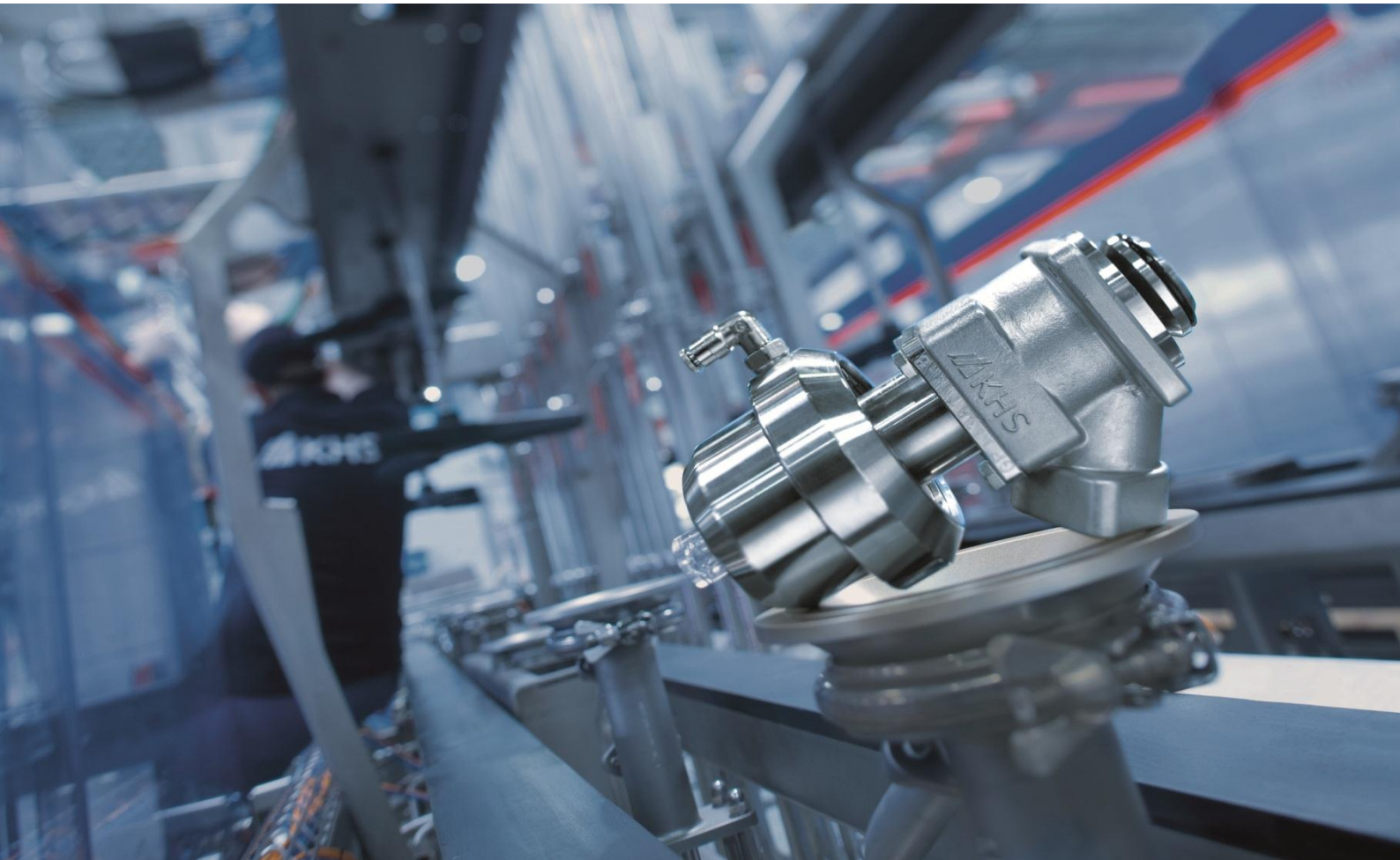
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Conversions time / Delivery time

- Conversions time: Approx. 1 hour per station for one KHS service engineer (mechanic)
- Delivery time: 8-10 weeks after order confirmation

KHS Conversion Catalogue

KHS Innopro





Suitability

For manual and semi-automatic flash pasteurizers



Description

The process control of manual or semi-automatic flash pasteurizers is converted to enable fully automatic flash pasteurizer operation by installing additional automated equipment, such as automated valves, additional hardware and software modifications, as well as easy-to-operate, KHS touch panel controls.

Benefit

- Maximum product and operational reliability; assured product quality
- Minimized operating effort
- Ensured continuous and sustained production operation
- Minimized downtime by regulating the capacity to between 30% and 100%
- Registration and storage of pertinent product parameters

Scope of supply

- Upgrade of flash pasteurizer areas: buffer tank, temperature and flow controls, and measurement sensors
- Measurement sensors and recorders to document pertinent parameters
- Installation of all parts and components necessary for fully automatic operation
- Modification of the automation system required for operation, including software and Visualization

Contact

Fred.Burkat@KHS.com



Suitability

For candle filters made by a wide variety of manufacturers, including Enzinger, SEN, H&K and KHS



Description

The conversion not only optimizes candle filters produced by various manufacturers, such as Enzinger, SEN, H&K, and KHS, with regard to filtration performance, product quality, rinse water consumption, and kieselguhr consumption and utilization but also upgrades them to state of the art. This avoids possible delivery problems that may develop when procuring spare parts for old filter systems.

Benefit

- Reduction in kieselguhr and energy consumption by an average of 30%
- An up to 30% increase in filter service life
- An up to 30% increase in filtration performance
- Increased product safety and quality
- Easy, endoscopic in situ inspection of filter candles
- Candle mounting by a single operator thanks to patented KHS bayonet lock
- Improved accessibility
- Easy, manual power-wash cleaning of filter candles in situ
- Modernization of existing filters
- Ensured supply of spare parts

Scope of supply

- GETRA ECO filter candle with ring film generator
- GETRA ECO intermediate plate with venting facility
- GETRA ECO jet spray ring for cleaning the inside vessel walls

The filter can be optionally retrofitted with the following equipment:

- GETRA ECO frame extension
- Conversion to fully automatic filter operation
- Kieselguhr dosing pump
- Filter temperature and pressure monitoring
- Monitoring of the filtration results

The exact required scope of delivery can be determined based only on the specific machine.

Contact

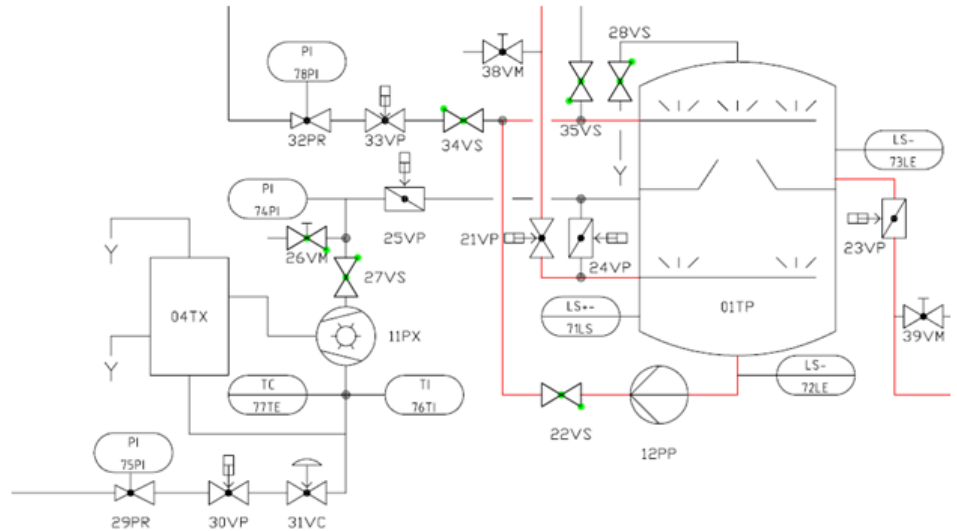
Fred.Burkat@KHS.com





Suitability

For all Innopro Paramix CMX and DCX machines that are suitable for conversion from "wet-running" to "quasi dry-running" vacuum pumps from Gardner Denver/Elmo Rietschle.



Description

The standard wet-running vacuum pump used to generate the necessary negative pressure (vacuum) for water deaeration is replaced by a quasi dry-running vacuum pump. This almost completely eliminates the continuous supply of sealing water required to date. In addition, the still remaining requirement of manually changing the water of dry-running pumps at regular intervals (every 4–8 weeks) can be fully automated.

Benefit

- Tremendous sealing water savings
- Elimination of the necessity of providing a continuous supply of sealing water
- Less burden on the wastewater system

Economic efficiency calculation

Example of a conversion: Existing Paramix system: Capacity: 43,000 l/hr
Product: CSDs

Continuous water consumption to date: approx. 450 l/hr @ 1,665 m3/year
(230 days of production per year x 16 hrs/day = approx. 3,700 hrs)

Cyclic water consumption after conversion: approx. 150 liters per water change
@ 1.8 m3/year

Water savings: 1,663 m3/year

Scope of supply

- Vacuum pump and modification of the vacuum piping
- Stainless steel frame
- Wiring/piping materials
- Modification of the automation, software and visualization systems required for operation
- Modification of the machine documentation
- Pneumatically actuated valves
- Software module
- Reminder function

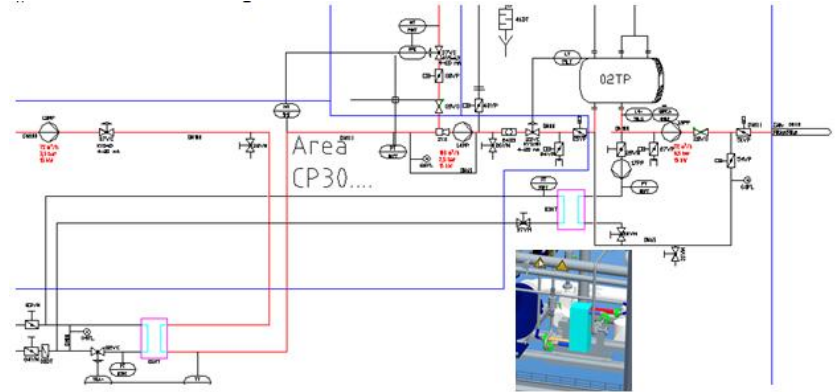
Contact

fred.burkat@khs.com



Suitability

For Innopro Paramix/Innopro CX-type blending and carbonating systems equipped with beverage cooling by means of a heat exchanger and quality measurement equipment with product circulation at the buffer tank.



Description

Especially those customers located in hot/tropical regions or with systems installed in un-air-conditioned bottling shops can experience a significant heat-up of previously cooled products contained in insulated finished beverage tanks resulting from prolonged filler downtime. This heat-up leads to increased pressure in the buffer tank and higher CO₂ consumption can be expected due to the necessity of increasing the pressure of the CO₂ cushion in the buffer tank. This unwanted increase in temperature in the finished beverage tank can be effectively prevented by cooling the finished beverage in the buffer tank by means of an additional small heat exchanger in the existing circulation circuit of existing quality measurement equipment. This effectively prevents the thus otherwise resulting problem of excessively foaming product at the filler when the line is restarted.

Benefit

- Avoids temperature-related increases in product foaming after prolonged filler downtime
- Avoids quality problems – the beverage temperature is kept at a constant level
- CO₂ savings – no additional pressurization of the buffer tank necessary
- Reduced CO₂ emission to the atmosphere – conservation of resources

Scope of supply

- Plate heat exchanger
- Circulation line and fittings
- Installation of all conversion-related components
- Wiring/piping materials
- Modification of the automation, software and visualization systems required for operation
- Modification of the machine documentation
- Because of different system configurations, the exact scope of delivery can be specified only after review of the current machine configuration.

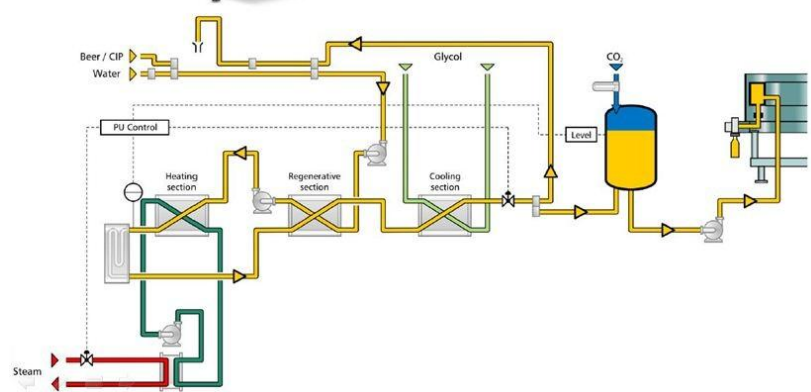
Contact

fred.burkat@khs.com



Suitability

For semi-automatic and fully automatic flash pasteurizers equipped with a cooling section or prepared for retrofit of a cooling section



Description

The water is forced out with sterilized and deaerated brewing water when a certain fill level is reached in the flash pasteurizer buffer tank and when there is an impending flash pasteurizer standstill. After the product has been forced out into the buffer tank, water is circulated through the system to stabilize the production conditions. Leak-proof valve equipment keeps the media (beer and water) reliably separated upstream and downstream of the plate heat exchanger. Previously integrated inductive flow meters quantitatively separate the media when the product is forced out. The water is forced out with inflowing beer when the system is switched to production mode. The system is ready at all times without delay. Prerequisite is that the plate heat exchanger of the flash pasteurizer is equipped with a cooling section or can be retrofitted with a cooling section if necessary. The deaerated brewing water supply should be provided by the customer; a quote in this regard can be provided on request.

Scope of supply

Upgrade of flash pasteurizer product infeed area and circulation switching with leak-proof valve equipment
Separation of media by means of an existing, customer-provided inductive flow meter
Installation of all components and equipment relevant to system operation
Modification of the automation system required for operation, including software and visualization

Benefit

- Deaerated brewing water savings (system filled with water only once per discharge)
- No product loss
- No time lost thanks to heating up the system when switching to production mode; 3 to 5 minutes less time per discharge.
- Increased product safety and product quality
- No discarding of over-pasteurized beer
- Isolation of the system from the BBT cellar

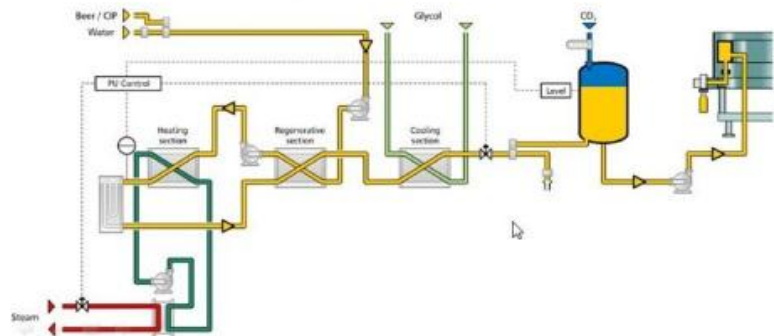
Contact

Fred.Burkat@KHS.com



Suitability

For semi-automatic and fully automatic flash pasteurizers



Description

The water is forced out with sterilized and deaerated brewing water beginning at a certain fill level in the FP buffer tank and impending flash pasteurizer standstill. Leak-proof valve equipment keeps the media (beer and water) reliably separated.

The sterile and deaerated brewing water can be selected as required.

Benefit

- Increased product safety and quality
- Minimized product loss
- Isolation from BBT cellar
- No discarding of over-pasteurized beer

Scope of supply

- Upgrade of the flash pasteurizer product infeed area with media separation using leak-proof valve equipment by controlling the volume of the existing customer-provided inductive flowmeter of the flash pasteurizer
- Installation of all components and equipment relevant to pasteurizer operation
- Modification of the automation system required for operation, including software and Visualization

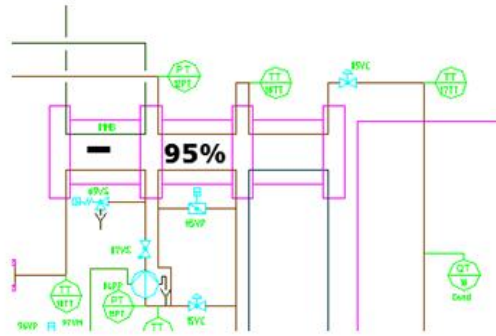
Contact

Fred.Burkat@KHS.com



Suitability

For all semi-automatic and fully automatic flash pasteurizers with and without an active cooling stage



Description

The discharge temperature of a product depends largely on the temperature of the product fed to the plate heat exchanger. In order to nevertheless maintain a constant discharge temperature, the system is equipped with a control that regulates the discharge temperature by means of a control valve and temperature sensor that reduces the heat recovery of the plate heat exchanger via a control running in the PLC so that a constant product discharge temperature is maintained at the product discharge of the system. A discharge temperature of 12–14°C can be achieved at a feed temperature of 2–8°C. The desired discharge temperature can be set to within these limits in the recipe management of the system visualization

Benefit

- Adjustment of the product discharge temperature without an additional product heater
- Avoids condensation on bottles
- Avoids loose labels

Scope of supply

- Control valve/temperature sensor for the bypass control
- Installation of all conversion-related components
- Wiring/piping materials required to implement the function in the system
- Modification of the automation, software and visualization systems required for operation
- Modification of the machine documentation

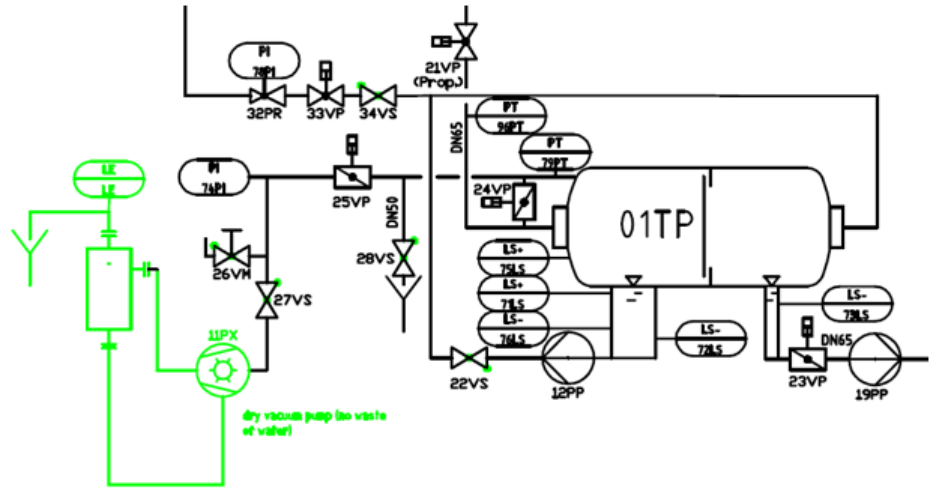
Contact

fred.burkat@khs.com



Suitability

For all Paramix C and DCX C models with dry-running pumps from Gardner Denver/Elmo Rietschle.



Description

It is imperative that the water of the quasi dry-running vacuum pumps used to generate negative pressure (vacuum) for water deaeration be changed at regular intervals depending on the quality of the water and the hours of operation. This required water change can be upgraded to a fully automatic process

Benefit

- Fully automatic changing of the sealing water – almost no operator intervention necessary.
- Controlled water changing based on recipe/hours of operation
- Reduced work load for operating/maintenance personnel
- Water changing at regular intervals to extend pump life
- Avoids the increased concentration of aggressive CO2 in the circulating water of the vacuum pump
- Exact, automatic filling of the sealing water tank

Scope of supply

- Pneumatically controlled valves
- Software module
- Reminder function
- Wiring/piping materials
- Modification of the automation, software and visualization systems required for operation
- Modification of the machine documentation

Contact

fred.burkat@khs.com



Suitability

For all flash pasteurizers



Description

The heat recovery of the regenerative sections of standard plate heat exchangers is approx. 90%. Heat recovery can be increased up to 94% by replacing or modifying regenerative sections. This modification not only minimizes the use of heating and cooling energy; it can additionally eliminate the cooling section completely.

Benefit

- 68% less energy required for heating and cooling
- 60% less heating steam
- Lower CO2 emission into the atmosphere
- Resource conservation

Scope of supply

- Expansion or restructuring of the regenerative section of the flash pasteurizer plate heat exchanger
- Installation of all components relevant to operation of the system
- Modification of the automation system required for operation, including software and visualization

Contact

Fred.Burkat@KHS.com



Suitability

For semi-automatic and fully automatic flash pasteurizers



Description

The PU control is a dynamic system that makes continuous production possible by optimizing the pasteurization process depending on the fill level of the product buffer tank by regulating the volume flow / temperature. Exact adherence to prespecified thermal treatment can be ensured.

Benefit

- Increased product safety and quality
- Constant and continuous production
- Minimized production interruptions by regulating the system capacity to between 30% and 100%
- Recording and storage of product-relevant operating parameters

Scope of supply

- Upgrade of FP areas: buffer tank, volume flow / temperature control
- Measurement sensors and recorders to document pertinent parameters
- Installation of all parts and components necessary for PU control
- Modification of the automation system required for operation, including related software and visualization
- Optional interface to a higher-level system

Contact

Fred.Burkat@KHS.com



Suitability

For standard process components with Siemens S5



Description

For standard process components, the SIEMENS S5 automation system can be replaced by the SIEMENS S7 system. For older model systems, this ensures the supply of spare parts.
In addition, the KHS touch panel considerably increases operating convenience.

Benefit

- Ensured availability of spare parts
- Link to AIS (advanced production data acquisition system)
- Profibus DP connection for additional line components
- Prerequisite for advanced process engineering
- Optional equipment: remote diagnostics/maintenance

Scope of supply

- Replacement of the automation and visualization system
- Hardware and software modifications

Contact

Fred.Burkat@KHS.com



Suitability

For all process engineering systems, filter lines, filling lines, and connections to BBT cellars, etc.



Description

The pressure shocks created by transporting liquids and control processes regulating, opening and closing valves in beverage production systems can be considerable. Because of their pulsating characteristics, they can subject devices, membranes, plate coolers, piping, and similar to unacceptable strain. The purpose of the snubber, which can be integrated into an existing production line as a standalone unit, is to reduce or eliminate these damaging pressure peaks. The snubber is comprised of two vertical interconnecting pipes in which the product is blanketed with a cushion of CO₂ or similar gas. The absorbing gas cushion is compressed by inflowing product when a pressure shock occurs. Pressure peaks are thus effectively minimized to a tolerable extent or even completely eliminated. In addition, the stored volume is able to act as a buffer for a brief period when restarting systems after production interruptions until an upstream product pump is able to create the required working pressure. The system is equipped with, among other things, a CIP-able gas pressure control manufactured according to Hygienic Design guidelines.

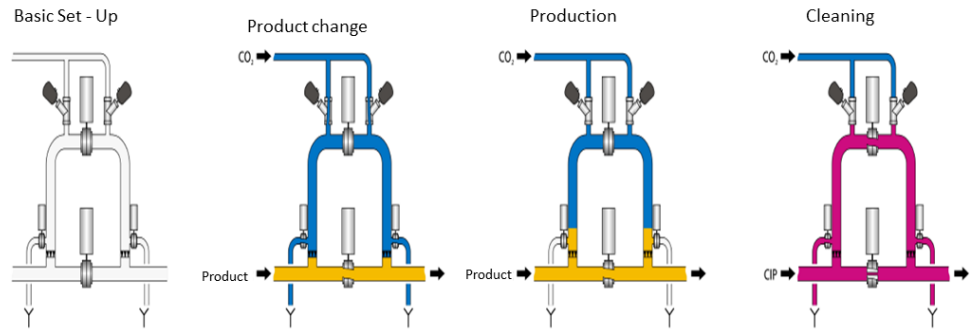
Benefit

- Eliminates pressure shocks in product lines, systems, and equipment
- Prevents line ruptures, hair-line cracks, etc.
- Protects filtration systems, thereby extending the filter service life
- Protects plate heat exchangers against, hair-line cracks and leaks
- Prevents damage to valves, valve seats, and membranes
- Protects measurement instruments, such as flow meters, pressure sensors, and other measuring instruments in piping systems
- Separators in the supply lines protect against pressure shocks and extend the maintenance intervals
- Reduces noise and vibrations in the system, thereby preventing loosening of threaded joints and pipe mounts



Suitability

For all process engineering systems, filter lines, filling lines, and connections to BBT cellars, etc.



Scope of supply

- The complete unit including the required piping made of 1.4301 stainless steel (optionally 1.4401 stainless steel for piping exposed to product) mounted on a base frame
- All components relevant to operating the system, including equipment such as valves, filling level probes, and flanges
- Switch cabinet made of 1.4301 stainless steel to accommodate all components required for automated operation, including the PLC hardware and necessary software

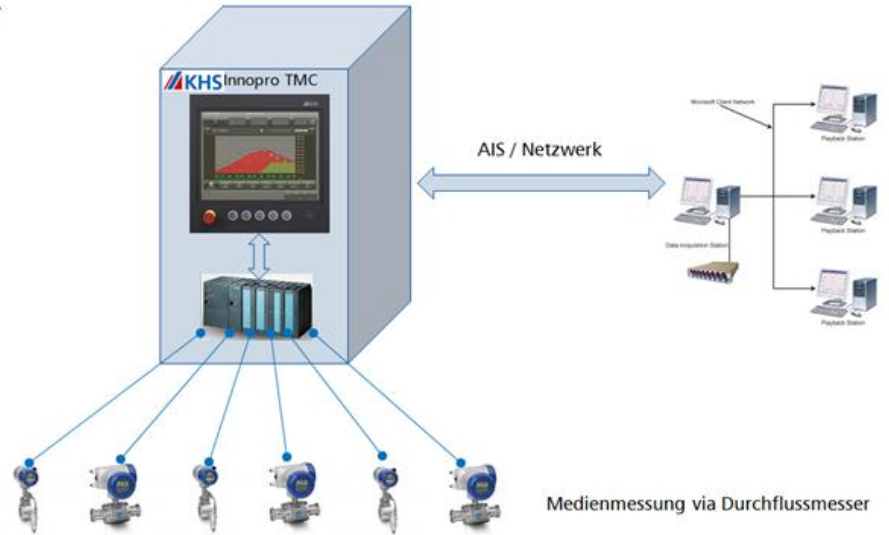
Contact

Fred.Burkat@KHS.com



Suitability

Suitable for recording the media consumption of groups of individual machines as well as complete lines.



Description

The Innopro TCM media consumption measurement system is designed to record the consumption of media such as liquids, gases and steam of several machines as well as entire lines. The heart of the TCM system is comprised of a central base unit equipped with a stainless steel control cabinet containing a Siemens S7 PLC and a ClearLine touch panel for visualizing current and cumulated consumption figures. The Siemens S7 control system records and evaluates the signals issued by sensors, such as temperature sensors, inductive flow meters and/or mass flow meters. This information can also be optionally read for further processing by a production data acquisition interface (PDA) according to the Weihenstephan standard.

Benefit

- Capture of current media consumption and identification of peak consumption figures
- Cumulated consumption figures improve cost controlling for the media used
- Recording cumulated consumption figures provides a basis for estimating future consumption, resulting in greater planning security
- Connection of existing measuring equipment possible

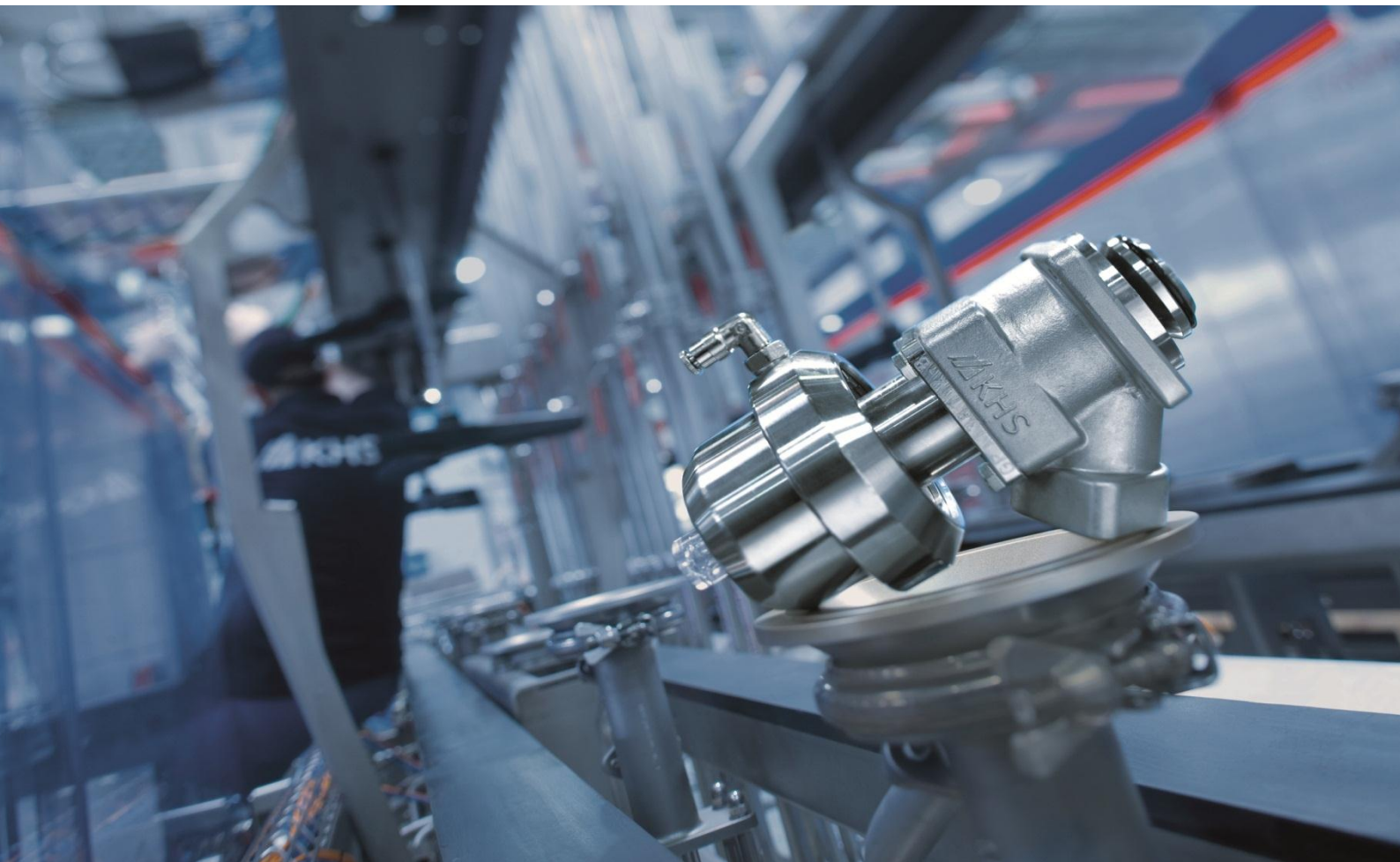
Scope of supply

- Base system including control cabinet and a Siemens S7 PLC
- Various sensors for capturing individual consumption figures
- PDA interface for connection to an existing production data acquisition system or one to be quoted
- Because of different system configurations, the exact scope of delivery can be specified only after review of the current configuration.

Contact

fred.burkat@khs.com

KHS Conversion Catalogue
Ortmann + Herbst





Suitability

CONTINA Bottle Cleaning
Machine

Description

The S5 control components will be replaced by Siemens S7 components to ensure the long-term spare parts supply. The software is created by using the Siemens S7 default library. The switch cabinet and other electrical parts can be maintained if feasible and required.

In the course of the modernization process flows will be optimized, shortened and adapted to new standards. In an editable procedure, the customer-specific products will be stored in the form of recipes.

Optionally, recorded data can be transferred to, evaluated by and archived in a planned monitoring system (PMS). The latter is not part of the scope of supply.

Benefit

- Availability of spare parts ensures production reliability
- Optionally: Connection to PMS (planned monitoring system)

Scope of supply

- Siemens Siemens S7 components
- Update of visualization components (if already available)
- Hardware and software adaption
- KHS Service O+H circuit diagram update to include new components
- New visualization instructions in German, English or further national language on request

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 5 days and more.



Suitability

HANSA filling machine
INTERMIX mixer



Description

Based on a thorough process analysis, our O+H process specialists will engineer all necessary process components and steps in order to identify the optimum product mixing and cleaning processes prior to production start of new products or to optimize existing production and cleaning processes.

Benefit

- Optimum production result through production and cleaning process flow optimization
- Reduction of production and cleaning costs thanks to optimum use of required media and energies
- Benefit from the many years of experience of the O+H process specialists

Scope of supply

- Parameter and software adaptation of control programs to match process optimization
- Evaluation and production support through O+H process specialists on site

Contact

Siegfried.Buchholz@KHS.com



Suitability

HANSA filling machines
 CONTINA bottle cleaning machine
 INTERMIX mixer



Description

Customer training encompasses product-related training at the customer's site or at KHS premises:

- Training for operators (for operators without previous knowledge): Design and basic functions of the machine, production flows as well as the most essential operating functions.
- Advanced training for operators (for operators with professional experience regarding the machine): Start-up and shut-down of machine, change-over of products /formats as well as the most essential settings.
- Training for maintenance staff (for maintenance staff with technical education, depending on machine type for mechanics or electricians): Error / problem analysis and remedy as well as preventive service / maintenance works.
- Training can be held either in English or German, or in line with customer specifications (on request).

Benefit

- Production reliability through optimal machine operation
- Reduction of production costs through timely error detection and remedy
- Reduction of production costs through independent implementation of the most essential maintenance works

Scope of supply

- Presentation of all important training contents by experienced O+H specialists
- Training documents for all participants (operating/maintenance instructions)
- Optionally: Production support from O+H specialists with operators on site

Contact

Vesela.Kazandzhieva@KHS.com

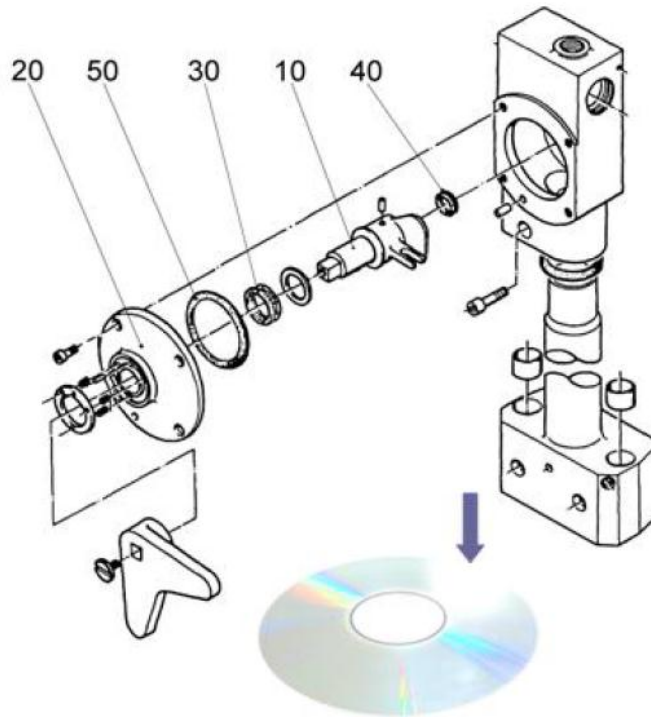
* Subject to technical modifications and price changes. On request, we will be glad to provide you with a binding offer. Version 1 Date 31.04.2014





Suitability

HANSA filling machines
CONTINA bottle cleaning machine
INTERMIX mixer



Description

The instructions, spare parts list and circuit plan of the client's machine documented by KHS Service O+H at the stage of delivery will be available as PDF and provided on CD. Third party modifications are herefrom excluded.

Benefit

- Quick access to machine data thanks to comprehensive search functions
- Virtually unlimited access to saved information through storage in the client's computer network possible
- Electronic information can be almost indestructibly saved and archived

Scope of supply

1 original data carrier (CD), available in German, English or further language versions on request.

Contact

Siegfried.Buchholz@KHS.com



Suitability

HANSA A filling machine



Description

The S5 control components will be replaced by Simatic S7 components to ensure the long-term spare parts supply. The software is created by using the Simatic S7 default library. In addition, all frequency converters of type VLT 3000 will be replaced by a new-generation frequency converters FC 300. The switch cabinet and other electrical parts can be maintained if feasible and required. In the course of the modernization process flows will be optimized, shortened and adapted to new standards. In an editable procedure, the customer-specific products will be stored in the form of recipes.

Optionally, recorded data can be transferred to, evaluated by and archived in a planned monitoring system (PMS). The latter is not part of the scope of supply.

Benefit

- Availability of spare parts ensures production reliability
- Significantly enhanced production reliability and ease of use through the new Siemens user interface (15" touch panel)
- Optionally: Connection to PMS (planned monitoring system)

Scope of supply

- Siemens Simatic S7 components
- Hardware and software adaption
- KHS Service O+H circuit diagram update
- Operator language: German, English or further national language on request
- New visualization instructions in German, English or further language on request

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 3 days or more



Suitability

HANSA A filling machine



Description

The filling level inside the ring tank is monitored by a floating unit and is kept constant by pressure control (venting and counterpressure unit). The set point is adjusted manually with the central slide rod of the counterpressure valve so that the liquid level inside the ring tank can be specifically adjusted to a given product.

Benefit

- Production reliability and reduction of production costs by preventing ring tank flooding
- Uniform product quality through improved filling level precision
- Mechanical control unit without additionally required electric components

Scope of supply

- Floating unit
- Counterpressure valve
- Membrane valve
- Documentation

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 2 days or more



Suitability

HANSA A and HANSA B
filling machines



Description

The level inside the ring tank is monitored by an electronic filling level probe and kept constant by the product in-flow valve control.

The set point is adjusted with the filling level measuring device on the operator panel so that the liquid level and the pressure inside the ring tank can be easily and quickly adjusted to the specific product.

Benefit

- Increase of production reliability and ease of use through automatic level control of product in ring tank to electronically specified set point
- Production reliability and uniform product quality through consistent, product-optimized ring tank levels and minimum fluctuation in filling levels
- Reduction of production costs through largely maintenance-free electronic component
- Optimum cleaning results through even surfaces of components used in ring tank
- Devision of pressure and filling level control

Scope of supply

- Air, CO2 and electric rotary distributor (if required)
- Air and CO2 flushing feeder and corresponding flushing lines [1] (if required)
- Filling level probe [3], filling level control [2]
- Product in-flow valve, pressure sensor
- Pipelines, grommets and accessory parts
- Circuit diagram/ documentation / manual

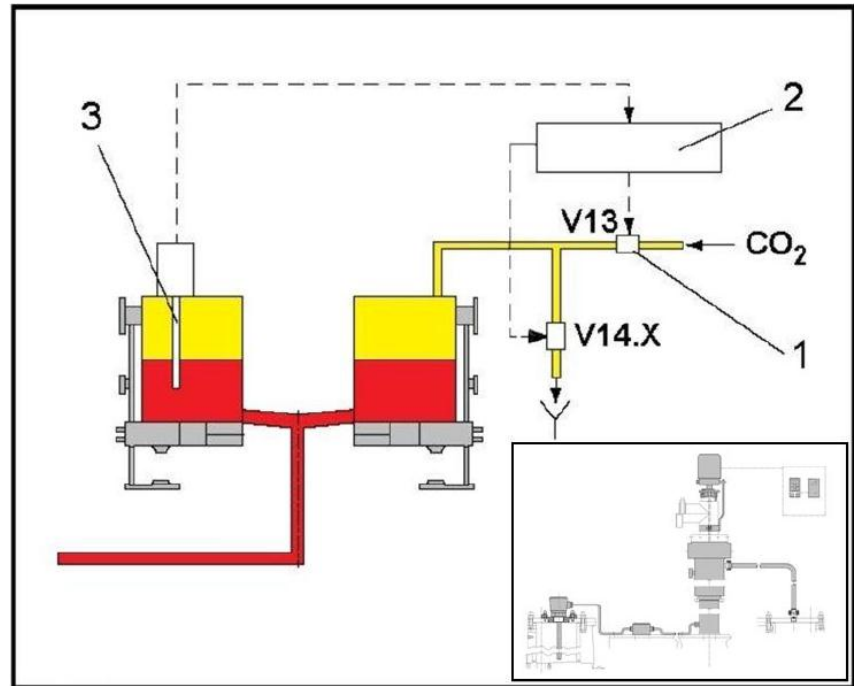
Contact

Siegfried.Buchholz@KHS.com



Suitability

HANSA A and HANSA B
filling machines



Description

The filling level inside the ring tank is monitored by an electronic filling level probe and kept constant by level control (venting and counterpressure unit). The set point is adjusted with the filling level measuring device on the operator panel so that the liquid level inside the ring tank can be easily and quickly adjusted to the specific product.

Benefit

- Increase of production reliability and ease of use through automatic level control of product in ring tank to electronically specified set point
- Uniform product quality through consistent, product-optimized ring tank levels
- Reduction of production costs through maintenance-free electronic components
- Optimum cleaning results through even surfaces of components used in ring tank

Scope of supply

- Air, CO2 and electric rotary distributor (if required)
- Air and CO2 flushing feeder and corresponding flushing lines [1] (if required)
- Filling level control [2] and filling level probe [3]
- Pipelines, grommets and accessory parts
- Documentation / circuit diagram

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 4 days and more



Suitability

HANSA A filling machines



Description

For technical reasons the filling of carbonated beverages could lead to bottle bursts. This upgrade allows for the monitoring of bottle flow and, in the event of a bottle burst, for the activation of the external rinsing devices. Optionally, during the subsequent filling rounds only predetermined bottles can be low-filled. Upon completion of the filling process, a diverting unit will trigger the discharge of these bottles (bottle discarding unit not included in the scope of delivery).

Benefit

- Production reliability in the event of bottle bursts
- Avoidance of customer complaints
- Productivity - no speed reduction during the rinsing process required

Scope of supply

- All required securing elements, circuit breaker, electrical and installation components
- Control unit with control panel /software
- Update of the existing KHS Service O&H circuit diagram to include new components

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 2-3 days



Suitability

HANSA A filling machines



Description

When light-weight PET bottles are processed, conventional pressing via the bottle plate often results in bottle deformation. With the present method of bottle pressing, which includes an additional neck support, the pressing force is transmitted directly to the point of highest stability - the bottle neck, thereby avoiding pressure-induced deformation.

As a result of the guided lifting of bottle centring, the mechanically actuated advance air rider is replaced by a pneumatically powered electronic bottle detector.

Benefit

- Potential material and cost saving through reduced wall thickness and PCO 1881 upgrade (short neck)
- Production reliability when processing light-weight and potentially unstable one-way PET bottles

Scope of supply

- Rod, neck section, clamping part
- Pneumatically operated advance air rider
- Electronic bottle detector
- All required securing elements and additional electrical components
- Circuit diagram / documentation

Contact

Siegfried.Buchholz@KHS.com

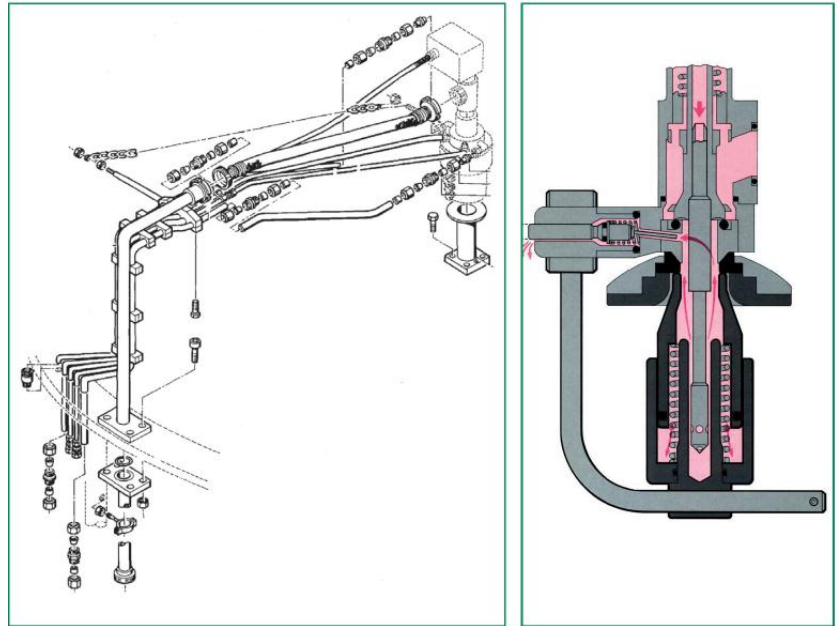
Conversions time / Delivery time

Duration of on-site installation and commissioning: approx. 3 days (for mechanical and electrical works)



Suitability

HANSA A filling machine
(manufactured until 1980)



Description

The CIP cleaning system installed in the machine series HANSA A (manufactured until 1980), is a system with lost cleaning media. This means that used cleaning media are not returned after they have passed through the cleaning system. The present retrofit will allow the cleaning media to circulate through a closed cleaning system. Consequently, almost 100% of the media employed in this new closed cleaning system can be returned to the CIP installation (CIP installation is not included in the supply). As a result the media can be used for numerous cleaning cycles.

Benefit

- Reduction of production costs as the used cleaning media circulate in the closed system and can be reused several times
- Enhanced cleaning result using the same amount of media through constant media temperatures (reduced loss of heat) and longer exposure and rinsing times
- Production reliability through reproducible cleaning results

Scope of supply

- Air and CO2 flushing distributor
- Air and CO2 flushing feeder and corresponding flushing lines (if required)
- CIP cup for filler valves
- Documentation

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 5 days and more (for mechanical and electrical works respectively)



Suitability

HANSA A filling machine
(up to A 100)



Description

The cylindrical tube and flanged bush of the standard steel/bronze design will be replaced by corrosion-resistant parts (material 1.4301). To minimize friction losses, plastic guides will be applied to the piston and the sliding rail. Moreover, maintenance costs can be minimized since only the employed plastic parts have to be exchanged in the event of wear.

Benefit

- Reduction of service costs through extension of service life of lift cylinders
- High resistance to aggressive cleaning media

Scope of supply

- Cylindrical tube and flanged bush in a corrosion-resistant design
- Piston with guiding belts and piston sealing ring
- Sliding rail with plastic guide and roller bolts
- Connecting and securing parts
- Documentation

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 4 days or more



Suitability

HANSA filling machines



Description

In order to determine the filling behaviour of new products prior to production start or to optimize existing filling processes, filling trials can be carried out for all common filling procedures at the O+H in-house test facilities in Hamburg. The test results will be recorded in detail and appropriately documented.

Benefit

- Optimum filling behaviour through identification and optimization of all interactive filling parameters
- Reduction of production costs through maximum filling capacity thanks to minimal use of required media and energies
- Fast and professional evaluation of trial results thanks to the many years of experience of the O+H filling specialists

Scope of supply

- Consultation / design of filling trials and optimization of all necessary filling parameters through O+H filling specialists
- Implementation / ogging of trials
- Optionally: Evaluation and production support on site

Contact

Siegfried.Buchholz@KHS.com



Suitability

HANSA A filling machine
(manufactured until 1984)



Description

Aggressive cleaning agents and cleaning processes with CIP reverse can attack the standard steel control lever shaft incorporated in the machine series HANSA of type A, manufactured by 1984.

The incorporation of a shaft in a corrosion-resistant design with a correspondingly adapted seal reduces corrosion to an absolute minimum.

Benefit

Production reliability and reduction of production costs when using aggressive cleaning agents through corrosion-resistant control lever shaft of filling valve

Scope of supply

- Switching case cover
- Shaft and control lever complete
- Sealing rings four lips
- Small parts

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 3 days and more



Suitability

HANSA A filling machine (manufactured by 1986)



Description

The conventional AC drive motor of the HANSA A type filling machine (manufactured until 1986) will be replaced by a frequency-controlled drive motor with a digital speed display.

Benefit

- **Flexibility increase** through precise speed control / adaptation to the line performance and exact breaking power
- **Efficiency increase** as no manual coupling adjustment is longer required

Scope of supply

- Frequency-controlled drive motor (depending on design for 4.5 / 7.5 / 11 / 15 KW power input)
- Frequency converter according to motor power
- Tachometer device for digital speed display
- All required securing elements and additional electrical components
- Additional switch cabinet field (if space in existing fields is no sufficient)
- Documentation / circuit diagrams

Contact

Siegfried.Buchholz@KHS.com

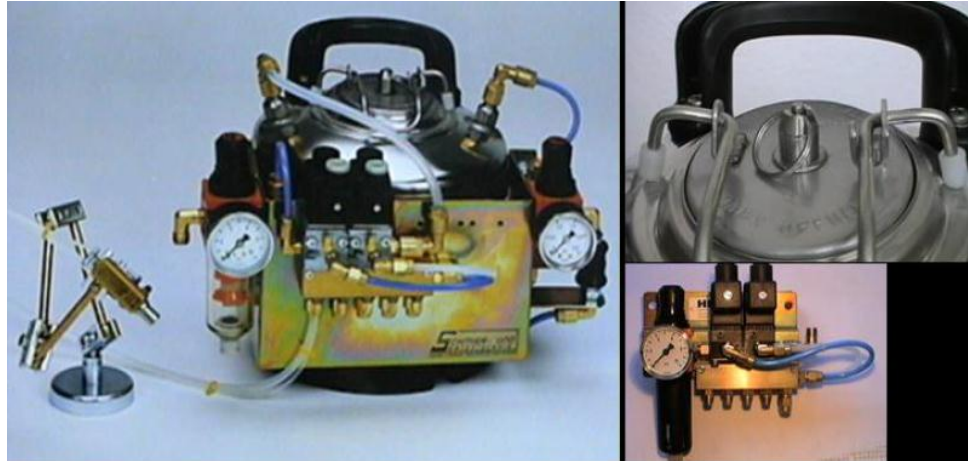
Conversions time / Delivery time

Duration of on-site installation and commissioning: 3 days and more (for mechanical and electrical works respectively).



Suitability

HANSA filling machines



Description

The now discontinued oil sprayer, used in the past for cyclic application of oil mist on the pressing cylinder, has been replaced by an oil spraying device with a pressure vessel and 2 spraying nozzles. This new version ensures the continued supply of spare parts for old installations.

In countries with special statutory demands regarding oil spraying facilities, this new spraying device ensures that current environmental requirements are fulfilled.

Benefit

- Production reliability as a precise, targeted and reproducible oil film is applied to the surface of the pressing cylinder
- Reduction of production costs through optimum lubrication and minimum use of required compressed air for drive of lifting elements
- Ensuring availability of spare parts
- New equipment to comply with current environmental specifications

Scope of supply

- Spraying device, pressure vessel [6 ltr.], safety valve
- Switch cabinet, non-corrosive design, for valve assembly [24V DC] and pressure reducer
- Storage tank fluid level monitoring system
- All required securing elements and additional electrical components
- Documentation / circuit diagram

Contact

Siegfried.Buchholz@KHS.com

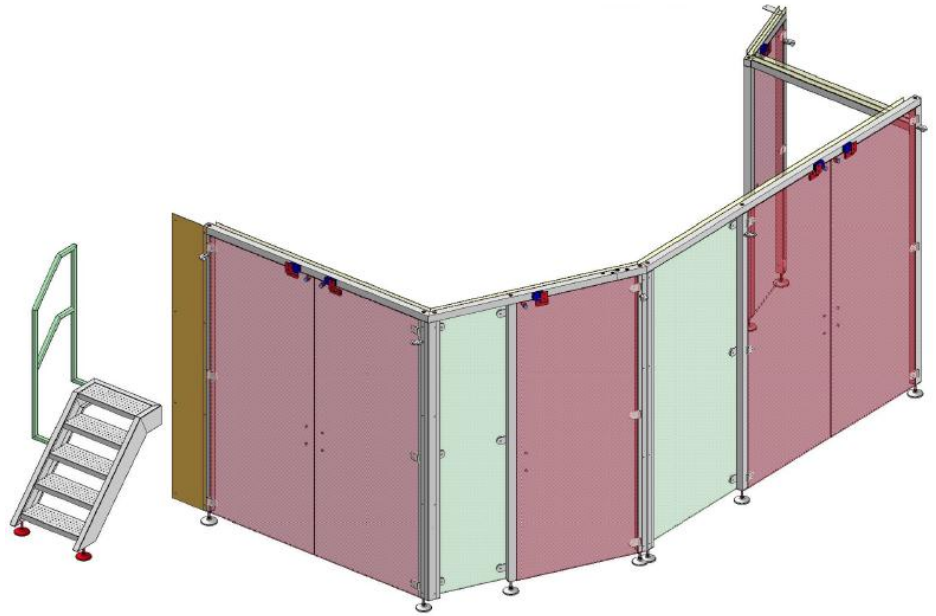
Conversions time / Delivery time

Duration of on-site installation and commissioning: approx. 2 days



Suitability

HANSA filling machines



Description

The doors at the back of the protective housing are fitted with contacts which sense the present door positions. The filler is instantly stopped (emergency stop) when a back door is opened during operation, thereby preventing access to the machine while it is running. Production can be resumed by corresponding initiation at the operator panel after an emergency filler stop caused by door opening.

Benefit

Production reliability and accident prevention through additional rear-side protection against unauthorized machine access

Scope of supply

- Frame construction in a corrosion-resistant design
- Doors and firm panes made of glass for optimal hygiene conditions
- All necessary electrical components
- KHS Service O+H circuit diagram update to include new components
- Optionally: Stairway in a corrosion-resistant design
- Documentation

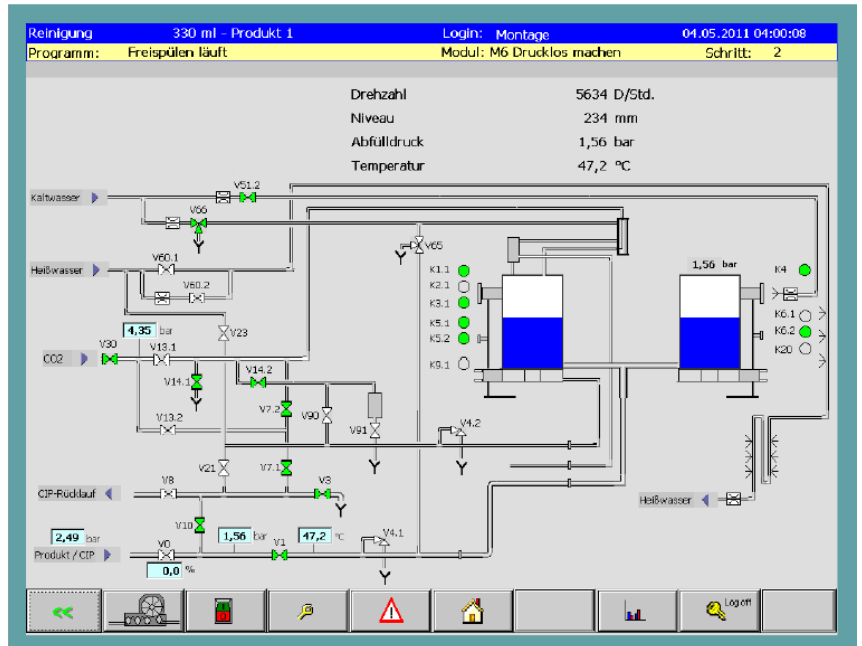
Contact

Siegfried.Buchholz@KHS.com



Suitability

HANSA B, HANSA M,
HANSACAN filling machines



Description

The Simatic S5 components will be replaced by S7 components, which ensures the long-term supply of spare parts. The software will be adapted to the S7 standard library.

In addition, all frequency converters of type VLT 3000 will be replaced by a new-generation frequency converters FC 300. Where possible and requested, switch cabinets and other electrical parts will remain unchanged.

In the course of the modernization, process flows will be optimized, potentially shortened and adapted to new standards. The customer-specific products will be stored in editable recipes, and every modification in the existing production and operating parameters – on data carriers.

Optionally, the recorded data can be transferred to, evaluated and archived in a planned monitoring system (PMS). The latter is not part of the scope of supply.

Benefit

- Availability of spare parts ensures production reliability
- Significantly enhanced production reliability and ease of use through the new Siemens user interface (15" touch panel)
- Optionally: Connection to PMS (planned monitoring system)

Scope of supply

- Siemens Simatic S7 and visualization components
- Hardware and software adaption KHS Service O&H circuit diagram update
- Operator language: German, English or further national language on request
- New visualization instructions in German, English or further language on request

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration of on-site installation and commissioning: 4-6 days





Suitability

INTERMIX C Mixer
Requirement: SPS Siemens S7



Description

CO2 pressure control („V25"): The set points are transferred directly from the product-related SPC buffer to the control valve, eliminating the need for operator settings. CO2 dosing („V26"): Enables continuously variable adjustment of the CO2 dosing's throttle position. The logged product-related parameters are transferred directly from SPC to the valve "at a push of a button".

Benefit

- Reduction of product loss
- Uniform product quality through stable process flows during production and CIP cleaning
- Enhanced ease of use and uniform product quality since optimized product parameters are logged in the control system and accessible at any time
- Availability of spare parts ensures production reliability

Scope of supply

- Control valves including required adapters and sensors
- Software extension
- KHS Service O&H circuit diagram updated to include new components

Contact

Siegfried.Buchholz@KHS.com

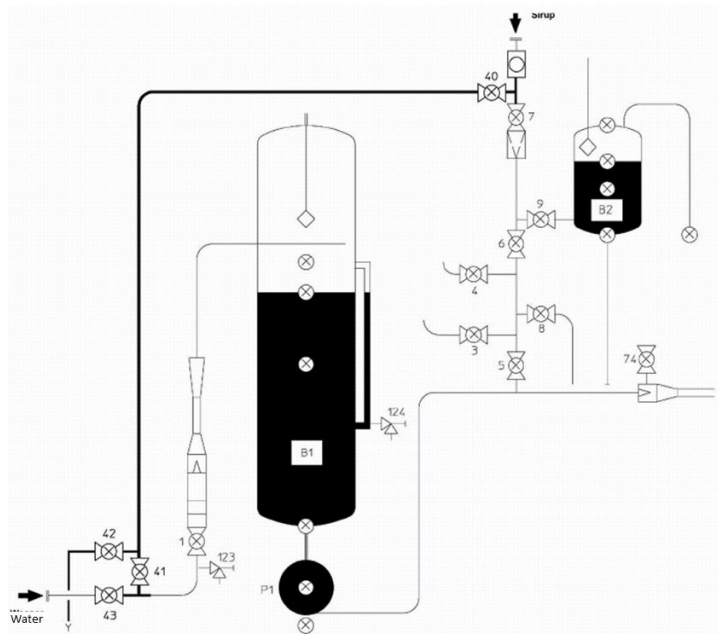
Conversions time / Delivery time

Duration for on-site installation and commissioning: 2-3 days



Suitability

INTERMIX C Mixer



Description

The water inlet can be optimally rinsed when the CIP media are fed in through the syrup inlet during CIP cleaning. In addition, when drawing out the syrup, the water in the lines can be conducted straight into the drain and does not have to be passed through the tanks. The process of drawing out the syrup and the last fresh-water rinse of the mixing tank can be conducted in parallel.

Benefit

- Production reliability through optimized CIP routes
- Reduction of production costs thanks to parallel process steps

Scope of supply

- All the necessary valves, fittings, pipelines, electrical and installation material
- Software extension
- KHS Service O+H circuit diagram update to include new components

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration for on-site installation and commissioning: 2 days and more



Suitability

INTERMIX C Mixer
Requirement: SPS Siemens



Description

The switching point probes for recording of defined tank levels are exchanged mainly against conductivity-independent, variably operating analog probes. This enables the optimum adaptation of the machine's work flow to the process flows on site.

The newly deployed single point switch probes in tanks and pipes are independent from the conductivity of the medium. This results in enhanced and more stable process flows.

Benefit

- **Production reliability** and reduction of production costs through optimized process adaptation
- **Uniform product quality** through stable process flows during production and CIP cleaning
- **Reduction of CIP operating time**, as safety times can be largely dispensed
- Availability of spare parts ensures production reliability

Scope of supply

- 4-5 analog level probes (with connection cable)
- 6-7 single point switch probes (with connection cable)
- Software extension
- KHS Service O+H circuit diagram update to include new components

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration for on-site installation and commissioning: 3 days and more



Suitability

INTERMIX EID Mixer
KASKADE Mixer



Description

The existing Taylor control will be replaced by electronic CO2 control unit of identical installation dimensions. The control unit will be pre-configured and to keep the commissioning time on site to a minimum. The clear presentation of process parameters results in a significantly enhanced ease of use. All settings can be logged in the PLC system as product-specific parameters to allow for an automatic transfer to the control, when selection is made.

Benefit

- Availability of spare parts ensures production reliability
- Uniform product quality, as product parameters logged in the control system and accessible at any time
- Increased ease of use, as necessary corrections are entered and immediately processed during production
- Optionally: Connection to PMS (plant monitoring system)

Scope of supply

- Siemens Simatic S7 components
- CO2 pressure control valve
- Measuring systems (pressure/temperature sensors)
- Software extension
- KHS Service O&H circuit diagram update

Contact

Siegfried.Buchholz@KHS.com

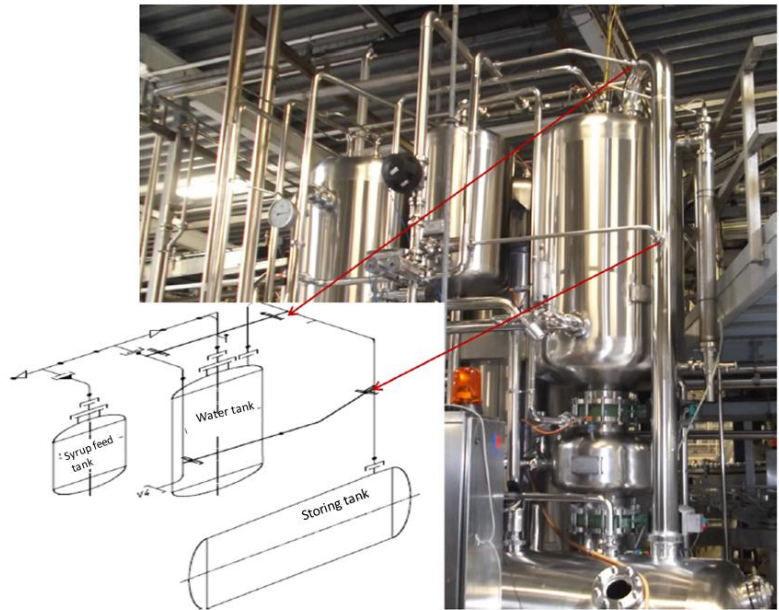
Conversions time / Delivery time

Duration for on-site installation and commissioning: 2-3 days



Suitability

INTERMIX C mixer
Basic requirement:
O+H PLC Upgrade Simatic S7



Description

At the beginning of a cleaning cycle, the water dosing tank (B3) is filled to the point of overflowing. Subsequently, the cleaning agent enters the pressure compensation pipe between the tank (B3) and the storing tank (B5). Through the inclusion of spray nozzles in the compensation pipe and an appropriate software modification, the time-consuming overflow of the tank B3 may be entirely omitted. In addition, the idle time needed for the tank's discharge decreases significantly. This upgrade facilitates a nearly continuous flow of the cleaning agent.

Benefit

- Increase in productivity due to the reduced cleaning cycle (up to 10% added production time)
- Reduction of consumption data

Scope of supply

- Injection grouting lance
- Spray nozzles
- Spray nozzle pipes
- Beverage pipe
- Threaded connection
- Fitting materia
- Software update

Contact

Siegfried.Buchholz@KHS.com

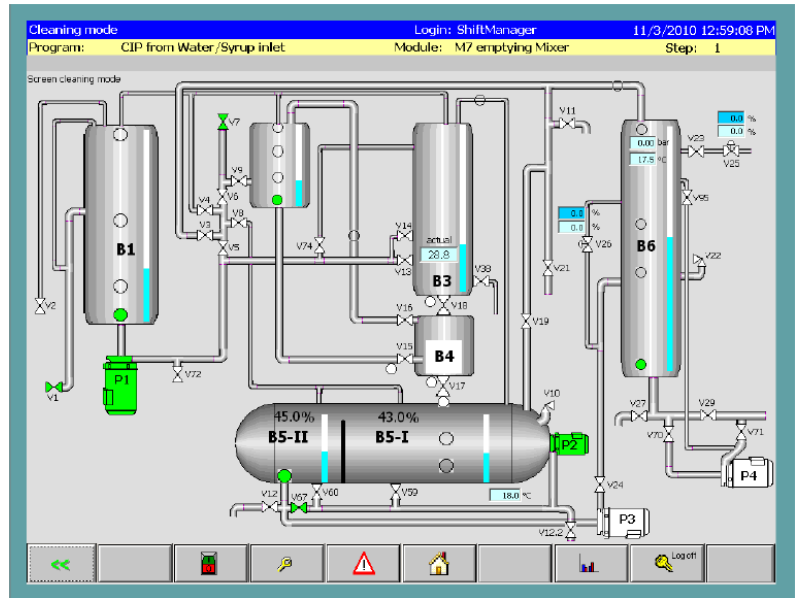
Conversions time / Delivery time

Duration for on-site installation and commissioning: 2-3 days



Suitability

INTERMIX C Mixer



Description

The S5 control components will be replaced by Simatic S7 components to ensure the long-term spare parts supply. The software is created by using the Simatic S7 default library. The switch cabinet and other electrical parts can be maintained if feasible and required.

In the course of the modernization process flows will be optimized, shortened and adapted to new standards. In an editable procedure, the customer-specific products will be stored in the form of recipes.

Optionally, recorded data can be transferred to, evaluated by and archived in a planned monitoring system (PMS). The latter is not part of the scope of supply.

Benefit

- Availability of spare parts ensures production reliability
- Significantly enhanced production reliability and ease of use through the new Siemens user interface (15" touch panel)
- Optionally: Connection to PMS (planned monitoring system)

Scope of supply

- Siemens Simatic S7 and visualization components
- Hardware and software adaption
- KHS Service O+H circuit diagram update to include new components
- Operator language: German, English or further national language on request
- New visualization instructions in German, English or further national language on request

Contact

Siegfried.Buchholz@KHS.com

Conversions time / Delivery time

Duration for on-site installation and commissioning: 4-6 days





Guards against all types of intrusion.

KHS preform sterilization in the InnoPET BloFill:
Optimum low-germ conditions from the preform to the filling valve.



Filling and Packaging – Worldwide



In operation for you 24/7.

KHS Innopro ECOSTAB C:
Perfect beer stabilization in continuous operation.



Filling and Packaging – Worldwide

Sehr geehrte Kundin, sehr geehrter Kunde,

traditionell stehen KHS Neuentwicklungen für innovative Technologien mit herausragender Effizienz. Damit auch ältere Maschinen mit größtmöglicher Produktivität und geringsten Energieverbräuchen arbeiten haben wir ein umfangreiches Umbauangebot für Sie entwickelt.

Diese Upgrades sind konsequent entlang der Anforderungen unserer Kunden entwickelt und bringen die älteren Maschinen in Ihrer Produktion auf den neusten Stand bei sehr interessanten ROI-Berechnungen.

Gerne stellen wir Ihnen die KHS Umbauten persönlich vor und melden uns in Kürze bei Ihnen für eine Terminabsprache.

Mit freundlichen Grüßen

Günter Unkrig

Head of After Sales & Service



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KHS Umbaukatalog

KHS Innobit

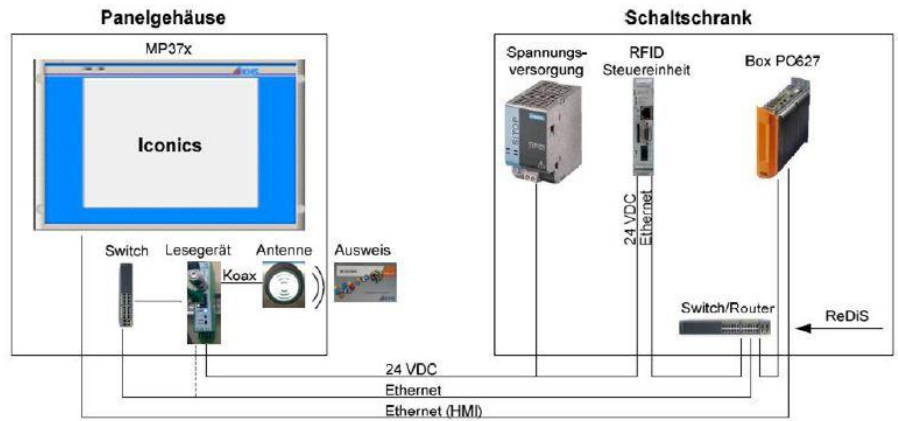




Eignung

KHS Maschinen mit:

- Simatic S7 SPS
- Iconics V7.x
Maschinenbedienung



Beschreibung

Ergänzung für ältere Maschinen, um eine gleichartige Anmeldung an der Visualisierung, wie auch bei neuen KHS Maschinen zu ermöglichen. Nachrüstung zur Nutzung eines RFID Ausweises. Benutzername und Passwort für das An- und Abmelden am Bediengerät der Maschine entfallen. Das An- und Abmelden erfolgt durch das Vorhalten des RFID Ausweises an der Antenne. Für den Nutzer wird eine Bedienerrolle auf seiner Karte hinterlegt.

Kundennutzen

- Effiziente und exakte Administration der Benutzerkonten für die Maschine
- Individuelle Rechte für die unterschiedlichen Benutzerrollen
- Vermeidung von Fehlbedienungen
- Vermeidung von Multi-User Konten
- automatisches Logon über Vorhalten des RFID Ausweises am Lesegerät
- automatisches Logoff über erneutes Vorhalten des RFID Ausweises oder über parametrierbaren Timeout

Lieferumfang

- RFID Lesegerät mit IP65 Antenne (Lochmaß 22,5 mm)
- KHS RFID Steuereinheit sowie vorparametrierte RFID Ausweise mit hinterlegten Benutzerrollen für die Maschine
- Treiber für Ankopplung an den Iconics Security Server
- Verkabelung für RFID Lesegerät

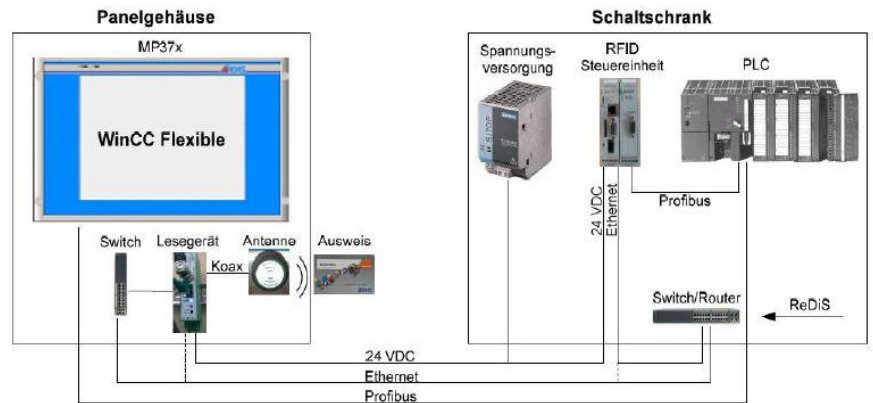
Kontakt

Karsten.Vollmer@KHS.com



Eignung

KHS Maschinen mit:
- Simatic S7 SPS
- WinCC Flexible als
Maschinenbedienung



Beschreibung

Ergänzung für ältere Maschinen, um eine gleichartige Anmeldung an der Visualisierung, wie auch bei neuen KHS Maschinen zu ermöglichen. Nachrüstung zur Nutzung einer rollenbasierten Anmeldung mit einem RFID Ausweis. Benutzername und Passwort für das An- und Abmelden am Bediengerät der Maschine entfallen. Das An- und Abmelden erfolgt durch das Vorhalten der RFID Ausweis an der Antenne. Für den Nutzer wird eine Bedienerrolle auf seiner Karte hinterlegt.

Kundennutzen

- Effiziente und exakte Administration der Benutzerkonten für die Maschine
- Individuelle Rechte für die unterschiedlichen Benutzerrollen
- Vermeidung von Fehlbedienungen und Multi-User Konten
- automatisches Logon über Vorhalten des RFID Ausweises am Lesegerät
- automatisches Logoff über erneutes Vorhalten des RFID Ausweises oder über parametrierbaren Timeout

Lieferumfang

- RFID Lesegerät mit IP65 Antenne (Lochmaß 22,5 mm)
- KHS RFID Steuereinheit sowie vorparametrierte RFID Ausweise mit hinterlegten Benutzerrollen für die Maschine
- Standardfunktionsbaustein für die Simatic S7
- Anpassung der WinCC Flexible Applikation zur Nutzung der RFID Ausweise für das Usermanagement
- Verkabelung für RFID Lesegerät

Kontakt

Karsten.Vollmer@KHS.com

KHS Umbaukatalog
KHS Innocheck





Eignung

Synchron I
Synchron IL
Synchron II



Beschreibung

Durch die Weiterentwicklung der Ausleithebel bezüglich Ihrem Design und dem Einsatz eines verbesserten Spezial Werkstoffs werden die verbesserten Eigenschaften - Bruchsicherheit und Geräuschreduktion - erreicht.

Kundennutzen

- Bruchsichere Hebel somit verringerte Ausfallzeiten
- Verringerung der Wartungszeit
- Erhöhung der Betriebssicherheit
- Hochgeschwindigkeitsausleitung
- Bis zu 4 db leiserer Betrieb
- Geringerer Verschleiß und somit längere Standzeit

Lieferumfang

- bruchsichere Hebel in neuen Führungskassetten
- benötigte, neue Lager

Kontakt

Helmut.Schmitt@KHS.com

Umbauzeit / Lieferzeit

Der Umbau dauert etwa 8 bis 10 Stunden.



Eignung

Innocheck Inspektionssysteme



Beschreibung

INNOCHECK CCI Deckelschiefsitzinspektion: Kompakte, leistungsfähige Deckelschiefsitzinspektion mit nur einer Kamera. Durch eine spezielle Optik wird eine sehr kontrastreiche, extrem scharfe und verzerrungsfreie Abbildung des Verschlusses erreicht.

Kundennutzen

Undichte Behälter aufgrund falsch sitzender Verschlusskappen werden möglichst früh erkannt und aussortiert. Die Verschlussinspektion Innocheck CCI prüft Verschlüsse auf Anwesenheit, Schiefsitz und Höhensitz. Bei PET-Flaschen können Flaschenhöhentoleranzen durch Referenzierung zum Neckring kompensiert werden. Einsetzbar für 28-mm- und 38-mm-Verschlüsse und für Sports caps.

Lieferumfang

- Edelstahlgehäuse in hygienischem Design
- Stativ mit Höhenverstellung, auch motorisch ausführbar
- Wartungsfreie infrarote Blitzbeleuchtung
- Hochauflösende s/w Kamera
- Telezentrische Optik
- Innovative KHS Bildverarbeitungssoftware
- Das Gerät ist nur in Kombination mit der CUB-Einheit funktionsfähig.

Kontakt

Helmut.Schmitt@KHS.com



Eignung

Innocheck Inspektionssysteme



Beschreibung

INNOCHECK Steuereinheit CUB: Basisanlage zur Auswertung, Analyse und Steuerung von Innocheck Inspektionssystemen.

Kundennutzen

Einsetzbar für alle Inspektionssysteme, auch im hohen Anlagenleistungsbereich. Flexible Erweiterungs- und Kombinationsmöglichkeit für zusätzliche Inspektionssysteme. Plug & Play Inbetriebnahmen. Datenzugriff auf den Flashspeicher des Echtzeit – Betriebssystems über freidefinierbare Pass-Wort Ebenen. Einfache, windows-basierte, intuitive Bedienung mit displaygeführten Hilfsfunktionen. Verwendung standardisierter, langlebiger Industriekomponenten. Anbindungsmöglichkeit und Vernetzung an externe Systeme über verschiedene Schnittstellen wie USB und Gig-Ethernet, vorbereitet für KHS-Redis Fernwartungssystem.

Lieferumfang

- Schaltschrank im IP 55 Edelstahl
- Schutzgehäuse mit integriertem Touchscreen.
- Farbdisplay sowie intelligentem Softwaresystem.

Kontakt

Helmut.Schmitt@KHS.com



Eignung

Innocheck Inspektionssysteme



Beschreibung

INNOCHECK Füllhöhenkontrolle Hochfrequenz: Zuverlässiges, kapazitives Messsystem zur Erkennung von unterfüllten und überfüllten Behältern. Geeignet für Glas- und PET-Behälter sowie für nicht oder nur gering aufschäumende Produkte. Nicht geeignet bei Verwendung metallisierter Materialien im Füllhöhenmessbereich (z. B. Etiketten oder Staniolfolie) oder für Produkte mit hohem Alkoholgehalt.

Kundennutzen

Prüfung auf Unterfüllung und Überfüllung mit nur einer Messbrücke möglich. Robustes, verschleißfreies System. Es sind keine speziellen Sicherheitsbestimmungen oder aufwändige Anmeldeverfahren zum Einsatz der Messbrücke zu erfüllen. Erhöhte Messgenauigkeit bei unterschiedlichen Behälterformen durch innovative, horizontale Anpassung des Abstandes zwischen Sender und Empfänger. Erhöht die Produktsicherheit in Bezug auf die gesetzliche Mindestfüllmenge.

Lieferumfang

- Edelstahlgehäuse in hygienischem Design.
- Stativ mit Höhenverstellung, auch motorisch ausführbar.
- Messbrücke mit Sender und Empfänger zur Erzeugung eines elektromagnetischen Felds.
- Das Gerät ist nur in Kombination mit der CUB-Einheit funktionsfähig.

Kontakt

Helmut.Schmitt@KHS.com



Eignung

KHS Innocheck
Inspektionssysteme



Beschreibung

KHS Innocheck Füllhöhenkontrolle Röntgen: Zuverlässiges, präzises Messsystem zur Erkennung von unterfüllten oder überfüllten Behältern.

Kundennutzen

Einsetzbar für alle marktrelevanten Behälterarten (z. B. Flaschen, Dosen etc.) und für alle abzufüllenden Produkte. Vielfältige Einsatzmöglichkeiten, z. B. nach dem Füllvorgang oder nach dem Etikettierer oder nach dem Pasteur. Erhöht die Produktsicherheit in Bezug auf die gesetzliche Mindestfüllmenge.

Lieferumfang

- Edelstahlgehäuse in hygienischem Design
- Stativ mit Höhenverstellung, auch motorisch ausführbar
- Sender (Strahlungsquelle mit manueller Ein /Ausschaltmöglichkeit) und Empfänger
- Signalleuchte zur Anzeige bei aktivierter Strahlungsquelle
- Das Gerät ist nur in Kombination mit der CUB-Einheit funktionsfähig

Kontakt

Helmut.Schmitt@KHS.com



Eignung

Innocheck Inspektionssysteme



Beschreibung

INNOCHECK GRS Ausleit-/Verteilssystem: Kompaktes, leistungsfähiges Ausleit-/Verteilssystem für Glas- und PET-Flaschen, Dosen, Glaskonserven und Kunststoffbehältern der Getränke-, Nahrungsmittel- und Non-Food Industrie. Das System ist mit Ausleithebeln ausgestattet, die geschwindigkeitssynchron zum Transportband geführt werden. Jeder Ausleithebel kann einzeln ausgelöst werden. Bei einem Ausleitvorgang wird eine der Behälterbreite entsprechende Hebelanzahl über eine sanfte Führungskurve ausgefahren und die Behälter somit annähernd stoßfrei in einer stehenden Position auf einen Ausleittisch ausgeleitet.

Kundennutzen

Sichere stehende Ausleitung aller Behälterarten auf einen Ausleittisch für maximalen, störungsfreien Inspektions-/Verteilprozess, auch im hohen Leistungsbereich. Ideal für Füller-/Verschleißer- Management-Systeme mit Sampling-Funktion. Wartungs- und verschleißarmes System durch Verwendung bruchfester Ausleithebel. Zusätzlich Minimierung der Betriebskosten durch pneumatikfreie Ausführung. GRS zur Ausleitung/Verteilung von einer auf zwei Bahnen. Einsetzbar für Leistungen bis 66.000 cph und Bandgeschwindigkeit bis 1,6 m/s.

Lieferumfang

- Edelstahlgehäuse in hygienischem Design
- Bruchfeste Ausleithebel für maximale Produktsicherheit
- Elektrischer Auslöser zum Ausfahren der Hebel
- In geschlossenen, robusten Edelstahlkassetten geführte Ausleitfinger
- Das Gerät ist nur im Kombination mit der CUB-Einheit funktionsfähig

Kontakt

Helmut.Schmitt@KHS.com



Eignung

Innocheck Inspektionssysteme



Beschreibung

INNOCHECK TSI Sicherungsringinspektion: Kompakte, leistungsfähige Verschlussinspektion zur Prüfung auf mögliche Verschluss- und Sicherungsringfehler. Der Einsatz einer speziellen Optik ermöglicht eine lückenlose, präzise Rundumansicht des Verschlusses. Das generierte, hochwertige Bildmaterial ermöglicht die Detektion kleinster Defekte am Sicherungsring. Erweiterung auf Verschlussfarbinspektion und Codeanwesenheit auf der Verschlussseite möglich.

Kundennutzen

Erhöhung der Produktsicherheit „Rund-um-den-Verschluss“ durch Inspektion von möglichen Verschlussdefekten im Bereich des Sicherungsringes. Einsetzbar für 28-mm- und 38-mm-Verschlüsse und für Sportscap. Reduzierung von Wartungskosten durch Einsatz von langlebiger LED-Beleuchtung und verstellbaren Acryl-Zylindern zum Schutz der integrierten Optik-Komponenten.

Lieferumfang

- Edelstahlgehäuse in hygienischem Design
- Stativ mit Höhenverstellung, auch motorisch ausführbar
- Wartungsfreie, konfigurierbare LED-Blitzbeleuchtung
- Hochauflösende Farb-Kameras -
- Schutzzylinder für Optikeinheiten
- Innovative KHS Bildverarbeitungssoftware
- Das Gerät ist nur in Kombination mit der CUB-Einheit funktionsfähig.

Kontakt

Helmut.Schmitt@KHS.com



Eignung

Innocheck Inspektionssysteme



Beschreibung

INNOCHECK VRS Ausleit-/Verteilsystem: In Edelstahl aufgebautes pneumatikfreies Ein-Segment-Ausleitsystem für sichere Ausleitung von Glasflaschen, Dosen und anderem Behältern im Hochleistungsbereich. Durch Einsatz einer intelligenten Steuerung wird eine optimale Ansteuerung des Ausleitsegments mit individuellen Einstellungen für Hubweg und Beschleunigung erreicht. Dabei werden verschiedene Parameter wie Transportbandgeschwindigkeit und Behältertyp berücksichtigt.

Kundennutzen

Sichere Ausleitung von Glasflaschen, Dosen und anderen Behältern im Hochleistungsbereich. Ideal zur Ausleitung/Verteilung von zylindrischen Glasflaschen sowie von Dosen auf einen Ausleitstisch, für diese Behälterart auch bestens für Füller-/Verschleißer- Management-Systeme mit Sampling-Funktion geeignet. Kompaktes, platzsparendes, wartungs-, verschleiß- und geräuscharmes System. Zusätzlich Minimierung der Betriebskosten durch pneumatikfreie Ausführung. Einsetzbar für Leistungen bis 120.000 cph und Bandgeschwindigkeit bis 2,9 m/s.

Lieferumfang

- Edelstahlgehäuse in hygienischem Design.
- Behälterunabhängiges Ausleitsegment mit elektromagnetischem Auslöser und Servomotor.
- Das Gerät ist nur in Kombination mit der CUB-Einheit funktionsfähig.

Kontakt

Helmut.Schmitt@KHS.com

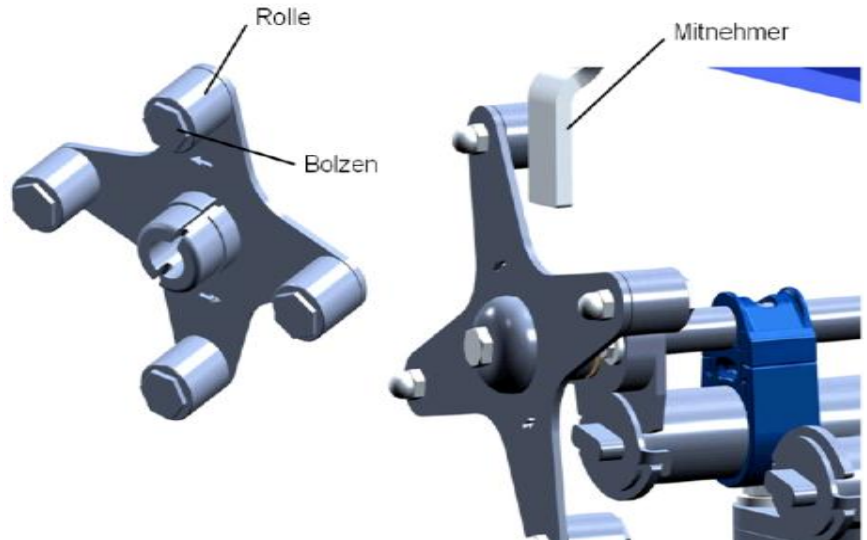
KHS Umbaukatalog
KHS Innoclean





Eignung

KHS Innoclean DM und EE



Beschreibung

An den vorhandenen Sternen werden die starren Rundelemente durch rotierende Rollen ersetzt. Die neuen Bolzen drehen sich, aufgrund ihrer Lagerung, im Reinigungsprozess mit. Die zuvor bestehende Gleitreibung kann in eine Rollreibung umgewandelt werden. Demzufolge kann der Reibungskoeffizient erheblich reduziert werden. Um von den genannten Vorteilen in vollem Umfang zu profitieren, wird ein Austausch aller Sterne in der Reinigungsmaschine empfohlen.

Kundennutzen

- Reduktion des Verschleißes durch geringere Reibung zwischen Mitnehmer und Rolle
- Gleichmäßige Beanspruchung der Rollen
- Sicherstellung der exakten Spritzgenauigkeit über einen erweiterten Zeitraum
- Hohe Prozesssicherheit durch geringere Wartungsintervalle und -zeiten

Lieferumfang

für einen Drehstern:

- 4 Bolzen mit Schrauben
- 4 Rollen mit je 2 Gleitlagern
- 4 Hutmuttern

Kontakt

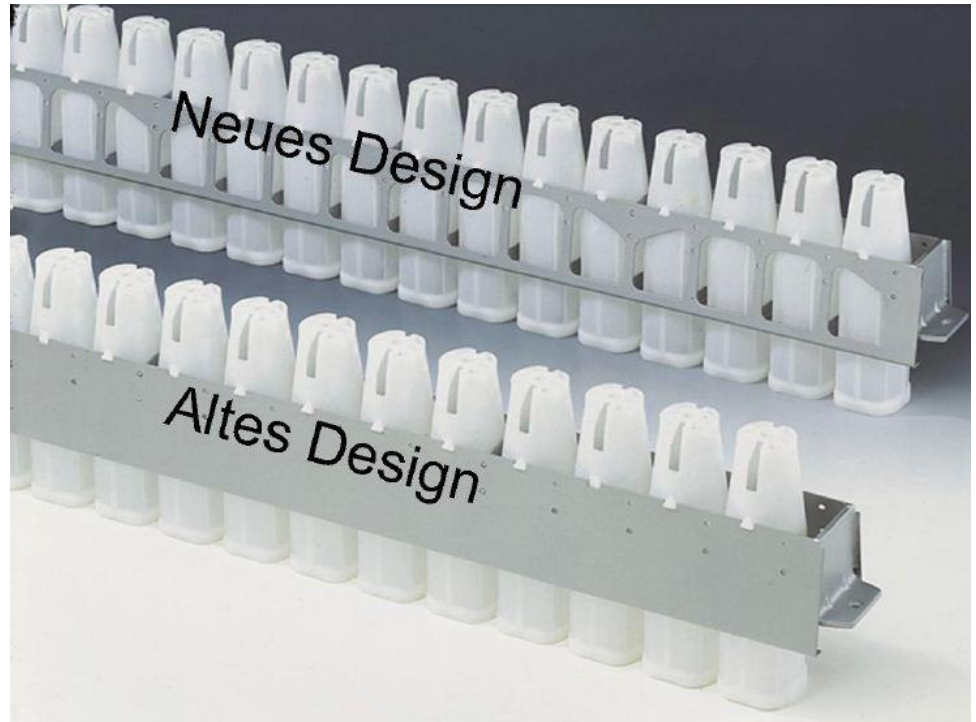
Peter.Sappik@KHS.com



Eignung

KHS Innoclean EE

KHS Innoclean DM



Beschreibung

Das aktuelle KHS Flaschenkorbdesign hat im Gegensatz zum Standardträger ein um 25% geringeres Gewicht. Dadurch reduzieren sich automatisch die Belastungen auf Kette, Umlenkungen und Antriebe. Ebenso reduziert sich die Wärmekapazität der Träger erheblich, was sich sehr positiv auf die Energiebilanz auswirkt. Durch die neue, offene Bauweise sinkt der Verschleppungsfaktor erheblich. Dies gilt sowohl für die Laugenverschleppung als auch für den Frischwasserverbrauch. Die Behälter werden nun optimal ausgespült, sodass die Reinigungsstufen besser getrennt bleiben. Durch das innovative Snap-On System können optimal passende Flaschenzellen schnell ausgetauscht werden.

Kundennutzen

- Reduktion des Frischwasserverbrauchs um ca. 15-20%
- Einsparung von Wärmeenergie (Heißwasser, Satttdampf) ca. 10-15%
- Senkung der Flüssigkeitsverschleppung auf bis zu 8 ml/Flasche
- Verminderung des Verschleißes somit geringerer Wartungsaufwand
- Spürbare Senkung der Betriebskosten

Lieferumfang

- Die Trägeranzahl entspricht der bereits installierten Anzahl
- Jeder ECO - Carrier ist mit der, je nach Teilung, entsprechenden Anzahl an Kunststoffzellen bestückt

Kontakt

Ulrich.Wiedemann@KHS.com

Wirtschaftlichkeitsrechnung

Bei Interesse übersenden wir Ihnen eine Parameterabfrage zur Erfassung der Ist- Verbräuche und Kosten. Daraus berechnen wir Ihnen gerne für Ihre Maschine und Ihren Anwendungsfall Ihr individuelles Sparpotential.



Eignung

INNOCLEAN EE / DM ab dem
Baujahr 1978



Beschreibung

Die bisherige konstante Frischwasserzufuhr wird um ein regelbares Druckminderventil, welches mit dem Taktzähler der Maschine verbunden ist, ergänzt. Die Frischwasserzufuhr kann somit individuell auf die Leistung der Maschine abgestimmt werden.

Kundennutzen

Hohe Kosteneinsparung aufgrund von deutlicher Verminderung des Frischwasserverbrauchs bei geminderter Leistung der Maschine.

Lieferumfang

- Elektrisch-pneumatisches Regelventil inkl. zugehöriger Flanschverbindung
- Programmerweiterung (Einbindung des Regelventils in die Maschinensteuerung)

Kontakt

Ulrich.Wiedemann@KHS.com



Eignung

O + H Contina DK
(Doppelendmaschine)

Zellenteilung 110mm

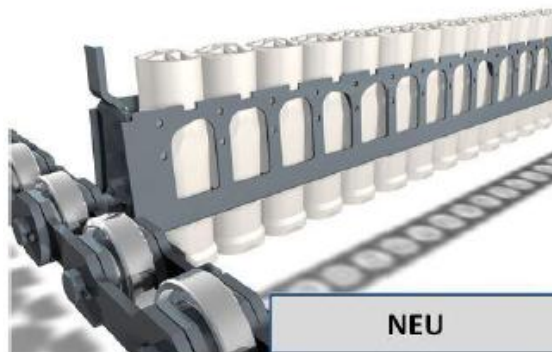
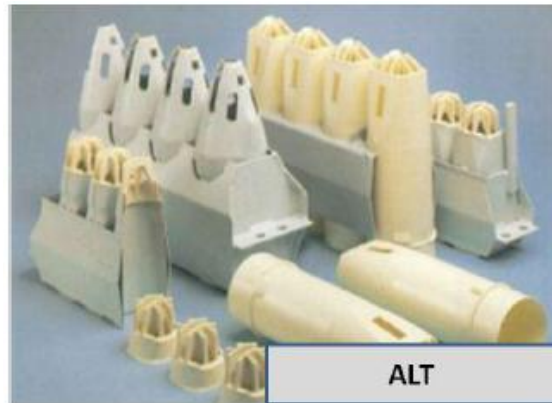


Abb.: EcoCarrier mit Leichtlaufkette

Beschreibung

Das aktuelle KHS Flaschenkorbdesign hat im Gegensatz zum Standardträger ein um 46% geringeres Gewicht. Dadurch reduzieren sich automatisch die Belastungen auf Kette, Umlenkungen und Antriebe. Ebenso reduziert sich die Wärmekapazität der Träger erheblich, was sich sehr positiv auf die Energiebilanz auswirkt. Durch die neue, offene Bauweise sinkt der Verschleppungsfaktor erheblich. Dies gilt sowohl für die Laugenverschleppung als auch für den Frischwasserverbrauch. Die Behälter werden nun optimal ausgespült, sodass die Reinigungsstufen besser getrennt bleiben. Durch das innovative Snap-On System können optimal passende Flaschenzellen schnell ausgetauscht werden.

Kundennutzen

- Reduktion des Frischwasserverbrauchs um ca. 15-20%
- Einsparung von Wärmeenergie (Heißwasser, Satttdampf) ca. 10-15%
- Gewichtseinsparung bis zu 46%, dadurch Reduzierung der Belastung von Kette, Umlenkungen und Antrieben
- Senkung der Flüssigkeitsverschleppung auf bis zu 8 ml/Flasche
- Verminderung des Verschleißes somit geringerer Wartungsaufwand
- Spürbare Senkung der Betriebskosten

Lieferumfang

- Die Trägeranzahl entspricht der bereits installierten Anzahl
- Jeder Energiespar - Träger ist mit der, der Teilung entsprechenden Anzahl an Kunststoffzellen, bestückt

Wirtschaftlichkeitsrechnung

Bei Interesse übersenden wir Ihnen eine Parameterabfrage zur Erfassung der Ist- Verbräuche und Kosten. Daraus berechnen wir Ihnen gerne für Ihre Maschine und Ihren Anwendungsfall Ihr individuelles Sparpotential.

Kontakt

ulrich.wiedemann@khs.com

Preis *

Der Preis ist abhängig von der Maschinenauslegung. Gerne erstellen wir Ihnen ein individuelles Angebot.

* Technische und Preisänderungen vorbehalten; auf Nachfrage erstellen wir für Sie gerne ein verbindliches Angebot.



Eignung

für alle Spritzpumpen an
Reinigungsmaschinen



Beschreibung

Die Spritzpumpen werden bei Maschinenstopp während der Produktion auf einen Mindestdruck von ca. 0,3 bar heruntergefahren.

Kundennutzen

Energieeinsparungen an den Spritzpumpen von bis zu 40%

Lieferumfang

- Frequenzgeräte
- Schaltschrank
- Geschirmte Kabel
- Software

Kontakt

Ulrich.Wiedemann@KHS.com

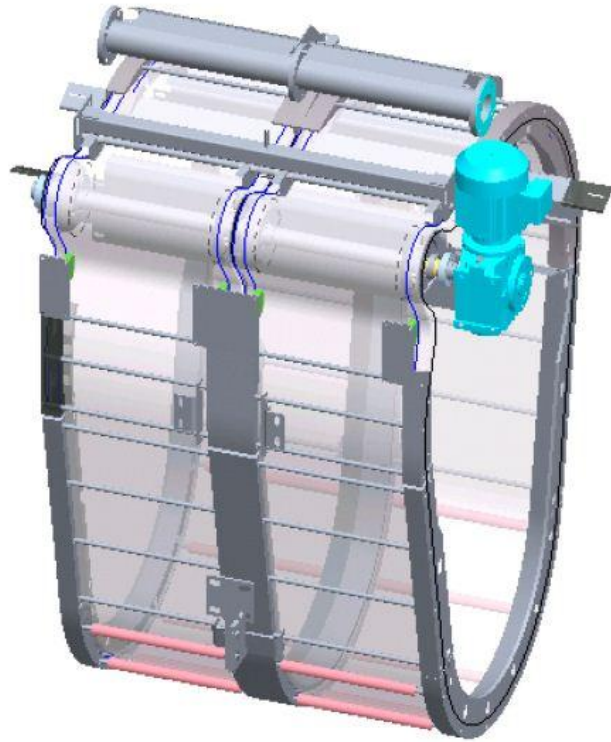
Wirtschaftlichkeitsrechnung

- 4 KW auf 0,6 KW
- 7,5 KW auf 1,1 KW



Eignung

INNOCLEAN DM



Beschreibung

Ein umlaufendes Siebband transportiert die abgelösten Etiketten aus der Maschine.

Kundennutzen

- Erhöhung der Produktsicherheit
- Durch verbesserte Austragsrate kann das Risiko der Etikettenverpulpung und Zerfaserung gesenkt werden
- Erhöhung der Standzeit der Lauge
- Minimiertes Risiko zum Verblocken der Spritzung
- Erhöhung der Funktionssicherheit der Bandausträge
- Verbesserung der Zugänglichkeit
- Wartungsarme Ausführung
- Sicherung der Ersatzteilverfügbarkeit

Lieferumfang

- Etikettenausragband aus Drahtösgewebe
- Bandführung
- Gehäuseanpassung
- Zusätzliche Umlenk- und Antriebstation
- Elektrische Einbindung in die Maschinensteuerung

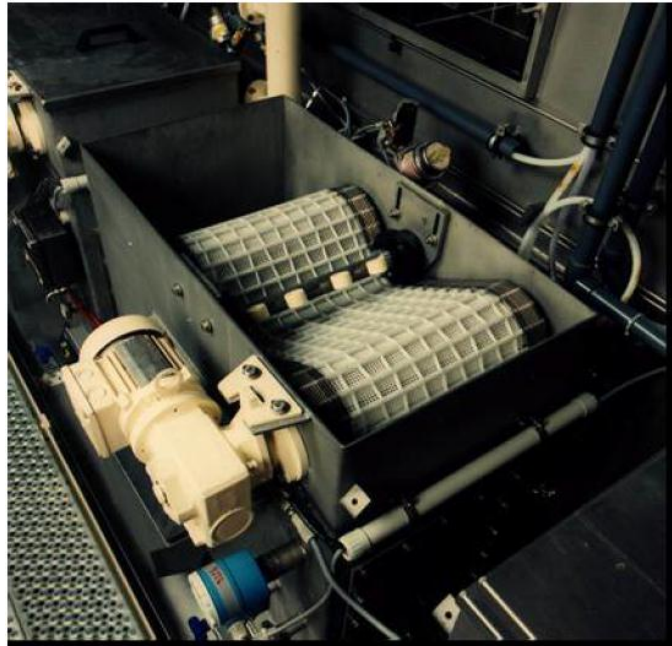
Kontakt

Ulrich.Wiedemann@KHS.com



Eignung

INNOCLEAN EE / DM
ab Baujahr 1988 mit Stecksieben.



Beschreibung

Automatisch umlaufende Siebbänder reinigen sich selbstständig.

Kundennutzen

- Erhöhung der Betriebssicherheit
- Verbesserung der mikrobiologischen Sicherheit
- Verbesserung der Hygienebedingungen durch erhöhten Schmutzaustrag
- Verringerung des Wartungsaufwands

Lieferumfang

- Fertig vormontierter, automatischer Bandfilter (Gehäuse in Edelstahl, Bandausführung in Kunststoff mit seitlichen Edelstahl-Lamellenketten).
- Rohrleitungsmaterial zur Anpassung an die vorhandene Rohrleitung.
- Benötigte Elektrokomponenten.
- Einbindung der Bandausträge in die elektrische Steuerung der Maschine.
- Anpassung der Begebühne.

Kontakt

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KHS Umbaukatalog

KHS Innofill



KHS Umbaukatalog

KHS Innokeg





Gentlemen, start your Kegs.

Innovative systems from the leader of the keg market – KHS:
Top capacities in the fields of disposable, PET, and refillable kegs.



Filling and Packaging – Worldwide

KHS Umbaukatalog

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KHS Umbaukatalog
KHS Innoline



KHS Umbaukatalog
KHS Innopack



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KHS Innopal



KHS Umbaukatalog

KHS Innopas



KHS Umbaukatalog

KHS InnoPET



KHS Umbaukatalog

KHS Innopro



KHS Umbaukatalog
Ortmann + Herbst





Sensitive beverages have never been safer.

Aseptic filling from KHS:
With its unique room-in-room concept.



Filling and Packaging – Worldwide



Give your sensitive beverages
more private space.

The UCF BloFill monoblock from KHS – with fully enclosed hygiene housing.

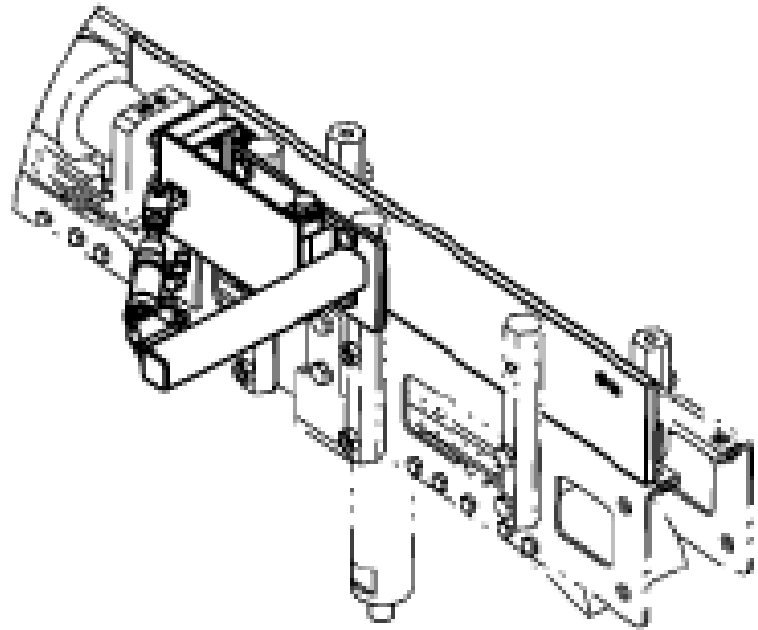
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Eignung

KHS INNOFILL
Dosenfüller Delta D



1:5

Beschreibung

Der elektrische Dosenstopper (PEKU) wird gegen einen pneumatischen Dosenstop ausgetauscht. Dadurch ergibt sich eine deutliche verbesserte Unempfindlichkeit gegenüber Feuchtigkeit und Reinigungsmitteln.

Kundennutzen

- Unempfindlichkeit gegen Feuchtigkeit und Reinigungsmitteln

Lieferumfang

- Dosenstop
- Ansteuerzylinder
- Softwareänderung (nur bei vorhandener S7 Steuerung)

Kontakt

Ulrich.Wiedemann@KHS.com



Eignung

Für elektronische Füllsysteme:
Compacta-Tronic
Delta-Tronic
Rola-Tronic
Innofill bis Baujahr 2003
mit Siemens SMP-Rechner



Beschreibung

Der alte Siemens SMP-Rechner wird durch einen neuen B & R (Bernecker & Rainer)-Rechner ersetzt. Eine neue Rechner-Software wird aufgespielt. Dabei kann die alte Visualisierung erhalten bleiben.
Bei Sondenfüllern werden zusätzlich auch die Sondenkarten ersetzt.
Der Elektronik-Dreh-Verteiler wird beibehalten.

Kundennutzen

- Sicherstellung der Ersatzteilverfügbarkeit
- Modernisierung der Füllersteuerung
- Integrierte Fehlerdiagnose

Lieferumfang

- B&R-Rechner (Prozessor, Ein-/Ausgangskarten)
- Hardware (Sondenkarten bei Sondenfüllern)
- Software

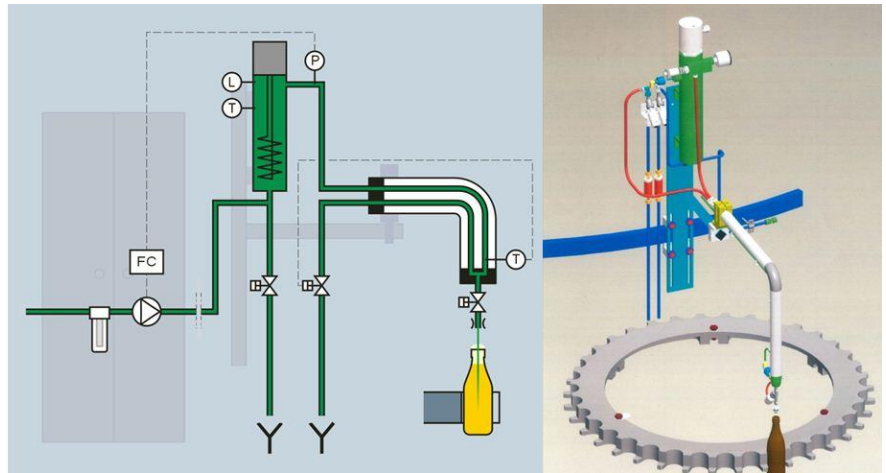
Kontakt

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Eignung

KHS Flaschenfüller für
Biergetränke



Beschreibung

Durch den Einsatz von verschiedenen Düsenbohrungsdurchmessern oder über die Variation des Einspritzdrucks kann die Einspritzmenge optimal angepasst werden. Eine hohe Reproduzierbarkeit wird durch den Einsatz von produktspezifischen, gespeicherten Programmen ermöglicht.

Kundennutzen

- Regelung des Einspritzdrucks von 1 bis 15 bar in Abhängigkeit der Füllerleistung
- Sicherstellung von reproduzierbaren Einstellungen
- Vereinfachung bei Produktwechseln

Lieferumfang

- HD-Pumpe mit Frequenzregelung
- Motor zur Pumpe
- Montageteile für das Heizgerät
- Heizung mit 3000 Watt Leistung
- Düsenarm mit Manometer und Thermometer
- Falls KHS-S7 Steuerung noch nicht vorhanden: Terminal und Elektroteile (inkl. Frequenzregler)
- Gehäuse

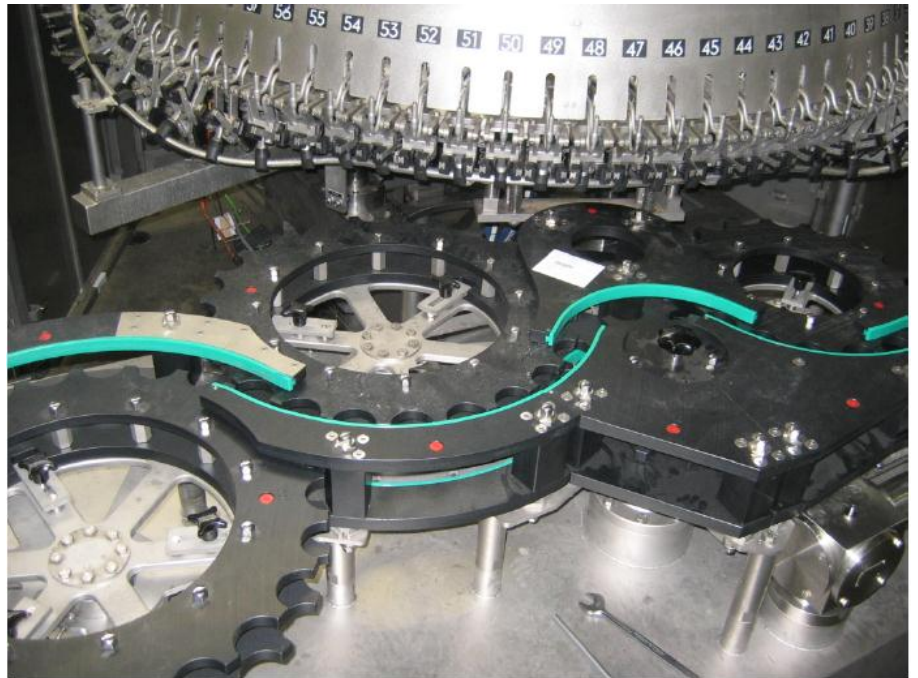
Kontakt

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Eignung

für alle Flaschenabfüllanlagen
mit
KHS-Standardvortisch (Typ 1000)



Beschreibung

Abhängig vom Flaschensortiment kann es vorkommen, dass nicht alle Flaschen durch die Flaschenspülanlage, den Rinsler, geführt werden müssen. Um Reinigungsmedien und Energie zu sparen wird zwischen Einschub- und Ausschubstern des Rinslers ein Transferstern montiert. Somit ist es möglich die Flaschen direkt zum Füllerkarussell zu leiten. Am Rinsler findet kein unnötiger Verbrauch von Rinsmedien statt. Bei vorhandener Kupplung kann der Rinsler komplett abgeschaltet werden.

Lieferumfang

- Sternlagerung
- Gleitleiste
- Formateile (1 Satz für eine Flaschenform)
- Bohrschablone
- Gehäuse

Kundennutzen

- Abkopplung des Rinslerkarussells
- Energieeinsparung
- Verschleißreduzierung

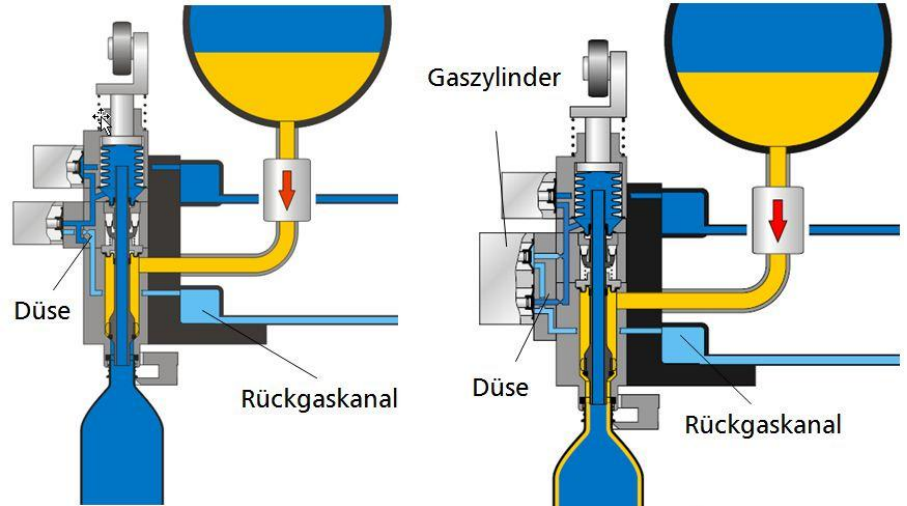
Kontakt

Ulrich.Wiedemann@KHS.com



Eignung

Innofill CO²-Einsparung für die Füllertypen DRV VF und VF/N, ab Baujahr 2006.



Beschreibung

INNOFILL CO² - Einsparung für die Füllertypen DRV VF und VF/N, ab Baujahr 2006: Durch einen zusätzlichen Gaszylinder werden die Düsen zum Rückgaskanal nur noch für die Bremsfüllung und die Entlastung auf geschaltet anstatt, wie im Einkammer System, ständig offene Düsen zum Rückgaskanal zu haben.

Kundennutzen

Aufgrund der automatischen Öffnung und Schließung der CO²-Düsen zum Rückgaskanal können, im Vergleich zum Einkammer Füllsystem, bis zu 70% Prozent des vorherigen CO²-Verbrauchs eingespart werden.

Lieferumfang

- Gaszylinder.
- Zusätzliche Ventilpatronen.
- Neues Füllprogramm.
- Ventilmittelteile.

Kontakt

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Wirtschaftlichkeitsrechnung

ROI Annahmen:

Abfüllmenge in Hektoliter pro Stunde:
625 hl/h. Preis für 1.000kg CO²:

160,00 €

Einsparung gegenüber Ein-Kammer System:

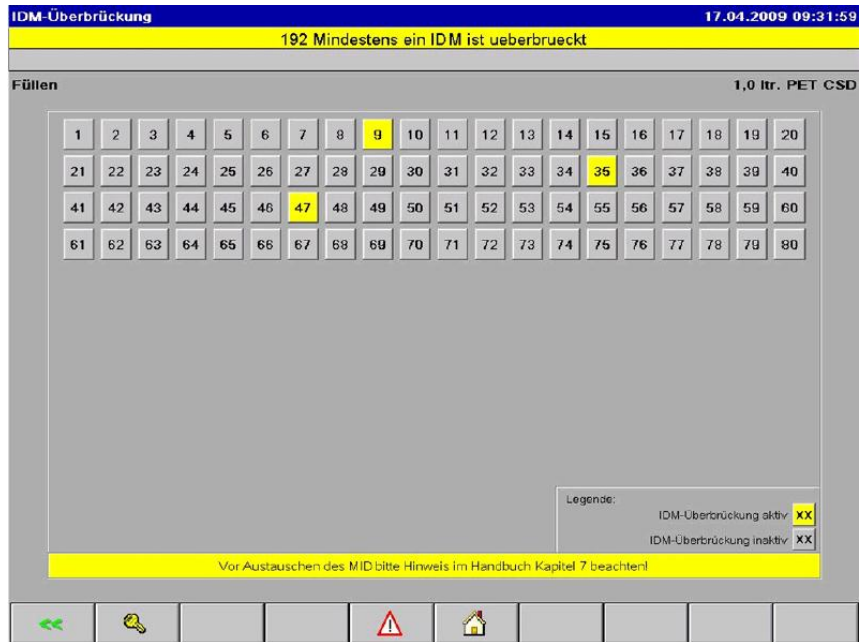
- Kg CO₂ pro Stunde 75% (375 Kg zu 118 kg)
- Pro Stunde 42,00 €
- Pro 8 Stunden Schicht pro Tag 336,00 €
- Bei 2 Schichten pro Tag 672,00 €
- Pro Woche 2 Schichten (5 Tage) 3.360,00 €
- Bei 2 Schichten 50 Wochen 168.000,00 €.



Eignung

KHS Füller mit B & R
Füllrechnern und mit Monitoren:

Simotion PC 670
MP 370
MP 377



Beschreibung

Mit dem Softwarepaket kann bei Ausfall eines magnetisch induktiven Durchflussmessers (IDM) das Füllventil softwaremäßig mit dem Nachbarventil parallelgeschaltet werden. Durch diese Überbrückung bleibt die Funktion des Füllventils erhalten, bis sich eine Gelegenheit zum Austausch des IDMs ergibt.

Zu beachten ist hierbei, dass bei diesem Parallel-Betrieb, an den überbrückten Füllventilen, größere Füllhöhentoleranzen als im Normalbetrieb auftreten. Zudem ist es notwendig die Maximalleistung etwas zu reduzieren, da der aktive Füllwinkel um eine Füllstelle kürzer ist.

Kundennutzen

- Sicherstellung des Produktionsablaufs
- Senkung der Produktionsausfallzeiten

Lieferumfang

- neue Auswahlmaske für den Touchmonitor (siehe Abbildung)
- Transferprogramm für die SPS
- neues Füllrechnerprogramm

Kontakt

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Eignung

für KHS Dosenfüller Typ Delta D
mit 30 bis 165 Füllstellen



Beschreibung

Die Tulpenbetätigung bei DELTA D Dosenfüllern wird gegen die neue verschleißärmere Bauart ausgetauscht. Zu beachten ist, dass auch die Tulpen nach KHS Vorgaben mechanisch überarbeitet werden müssen. Die erforderlichen Angaben werden zur Verfügung gestellt.

Zukünftig entsteht der Verschleiß hauptsächlich in den neuen günstigen Kunststoffelementen. Nachgeschaltete mechanische Stellelemente werden nicht mehr so hoch belastet, sodass deren Standzeit sich erhöht.

Kundennutzen

- Durch den Spezialkunststoff wird eine um 50% verbesserte Standzeit der Tulpenführung erreicht.
- zukünftig wesentlich weniger Verschleißteile
- Geringere Wartungskosten: Ein Satz neuer Kunststoffführungen für eine Füllstelle kostet ca. 25 €.
- Die Qualitätsunterschiede über alle Füllstellen hinweg werden so minimiert, dass Abfüllprobleme durch Undichtigkeit einzelner Tulpen während der Standzeit nicht auftreten.

Lieferumfang

- Tulpenbetätigung komplett (siehe Bild)
- Bearbeitungsangaben für die Tulpen

Achtung! ohne die auch dargestellten Tulpen

Kontakt

Ulrich.Wiedemann@KHS.com



Eignung

für Flaschenfüller Typ Delta A-C



Beschreibung

Austausch der Tulpenführung mit Knickarmgelenk bei DELTA Flaschenfüllern gegen Tulpenführung in linearer Bauweise.

Kundennutzen

- Verbesserte Standzeit
- Geringere Verschleißteile
- Geringere Wartungskosten
- Einsatz von Edelstahl Spülhülsen möglich.

Lieferumfang

- Tulpenführung linear komplett
- Zentrierpumpe mit Anpressgummi
- Werkzeuge

Kontakt

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