

KRONES Autocol
The machine for self-adhesive labelling



Accurate - as a matter of course

KRONES Autocol

Self-adhesive labels are a winning product thanks to their adaptability and advantageous features – they are sturdy, elastic, and water and slip-resistant. In many sectors, they are the product of choice for high-quality and long-lasting container marking. Autocol applies self-adhesive labels to containers with constantly high precision, even where the situation calls for very high rates of output. At the same time, the machine is designed so flexibly that it can be adjusted to a wide range of container sizes and shapes.

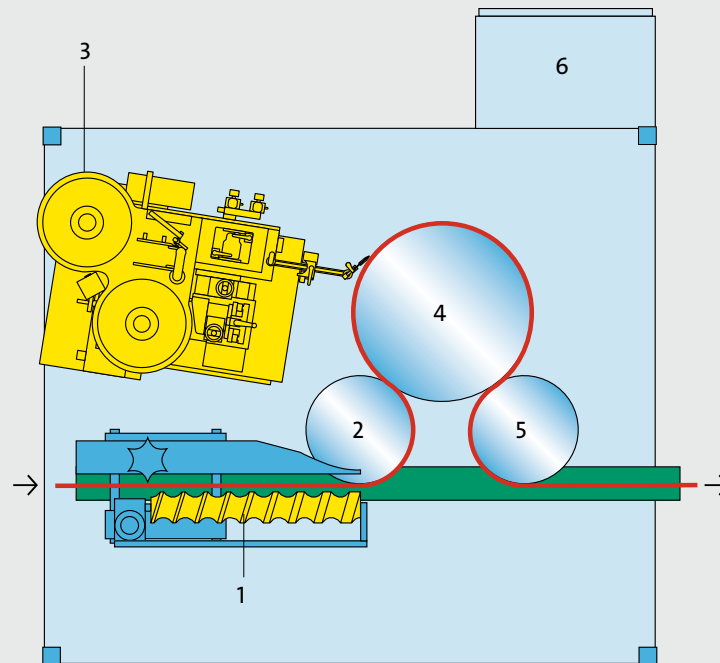


Method of operation

The label applicator for self-adhesive labels conveys the label carrier film to the container via tension and feed rollers. A pneumatic loop buffer system at the infeed ensures continuous unwinding of the label carrier film from the reel. The label is removed at the application wedge, and precisely transferred to the container. The label position can be corrected using a digitally adjustable starting position. In the machine carousel the self-adhesive label is pressed to the container, fixing it in place.

Application

Labelling of glass, plastic, metal and ceramic containers with self-adhesive labels



- 1 Infeed worm
- 2 Infeed starwheel
- 3 APS 3 Label Applicator
- 4 Container table
- 5 Discharge starwheel
- 6 Control cabinet with operator terminal

Performance range

Depending on the label size, up to 48,000 containers per hour can be labelled using the APS 3 Label Applicator, or up to 60,000 containers per hour using the APS 4 Label Applicator.

Design features

- Electronic closure inspection and gap detection at machine infeed
- Infeed worm with safety clutch
- Single-hand fasteners for the quick change-over of the centring bells and container plates
- Autonomous label applicator with tensioning and feed roller
- Central lubrication points
- Various installation options possible

APS3 and APS4 Label Applicators

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- Accommodating two horizontally orientated label rolls
- Inspection of label and carrier film using ultrasound
- Inspection for torn label carrier film
- Pneumatic loop buffer system to relieve strain on the label carrier film
- Adjustment of the applicator via four, or optionally up to six, axes
- Reproducible settings by means of adjustment indicators with locking function
- Infinitely adjustable contact pressure in the applicator head conveyor system unit
- Tensioning and feed roller with servo drive
- APS 3 Label Applicator: presentation tolerance at the application wedge +/- 0.5 mm, even at maximum output of 48,000 containers per hour
- APS 4 Label Applicator: presentation tolerance +/- 0.2 mm, even at maximum output of 60,000 containers per hour
- Operation via separate LC terminal



APS 3 Label Applicator

Mechanically-controlled container table

- Container table with mechanical cam control
- For simple applications with a limited range of variations

Servo-controlled container table for alternating decorations

- Each container plate is driven by a computer-controlled servomotor
- Optimal use of the brush-on run using individual container rotation
- Container orientation, for example in accordance with the can seam or glass seal, is possible using a camera or sensors



*Servo-controlled
container table
in spoked wheel finish*

Screen

- Colour touch-screen
- Safe access to the user interface using individual transponders
- User-friendly menu setup in the operating program
- Task-oriented user concept
- Easy-to-follow display of current production data
- Malfunction display in plain text and as graphic display
- Text displayed in the set language
- Interface to superordinated systems such as PDA (production data acquisition) or LMS (line management system)
- Remote maintenance possible

Change-over

All models in the Autocol range can be quickly changed over to other container and label formats, without requiring tools. Firstly, select the new type using the LC terminal on the label applicator. The unit can be adjusted via four axes, and optionally via up to six axes, and accordingly re-set for the new container shapes. Thanks to the adjustment indicators with their locking function, all settings can be reproduced with total precision.

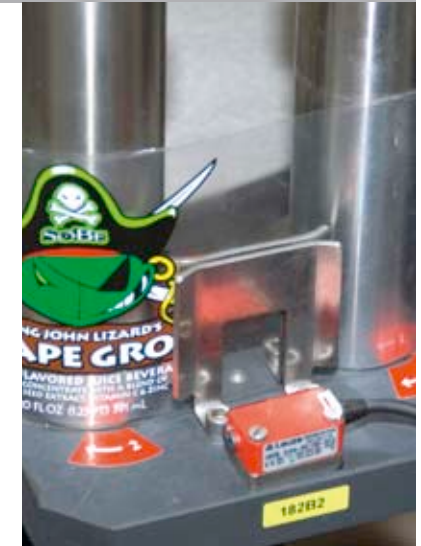
A system with indexed stops enables the container guide rails to be quickly adjusted in relation to the infeed worm to accommodate different container diameters. The Rapterc handling parts are easy to change and are colour-coded. The height of the machine head can be electrically adjusted and automatically fixed in place. Centring bells and container plates are equipped with single-hand fasteners. As a result, change-over times are greatly reduced.



Touch-screen operation



The Rapterc handling parts can be changed over easily



Precise recognition of the end of reel via sensor

Reel change-over

When changing the reels on the Autocol, the operator splices the end of the first label reel with the start of the second reel. This eliminates the need to thread the label carrier film into the machine at each changeover. A cutting table is mounted on the labelling station to facilitate this task. If optional additional equipment is

purchased, the reel can be changed over automatically. At a slightly reduced machine speed, the end of the first reel is spliced with the start of the second reel. A further option is a sensor which can precisely identify the end of the reel, so that each reel can be fully used.

Examples of applications

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Mechanical container orientation

In this Autocol version, the containers are orientated prior to labelling so that the labels cannot be placed on the container seam. The orientation of the containers with base-spotting bars is performed at the container table. After this, the front and reverse labels are glued accurately into position on the containers. It means that labels in the “no-label look” in particular have an immaculate appearance.



Camera-assisted container orientation

Several CCD cameras identify lettering, emblems, cans or the moulding seam on the containers. After this, servo-controlled container plates handle bottle alignment. 64 different programs can be called up on the operating terminal to control the rotation movements.



Examples of applications

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Labelling of containers for the pharmaceutical industry

The self-adhesive labels are applied to the containers using a label applicator unit. Sponge rollers and brushes help wrap each label around three sides of the container, gluing and pressing it on. Cam-controlled rotating plates rotate the containers as required. After this, a hotmelt unit glues an outsert onto the fourth side of the container.



Labelling ampoules

The pharmaceutical ampoules are first transferred from the feed table, where they are held on a tray, to the container table. Here they are given self-adhesive wrap-around labels in the "no-label look". Using two label applicators, outputs of up to 60,000 ampoules per hour can be achieved. This Autocol version is also a winning option for its compact design.



Examples of applications

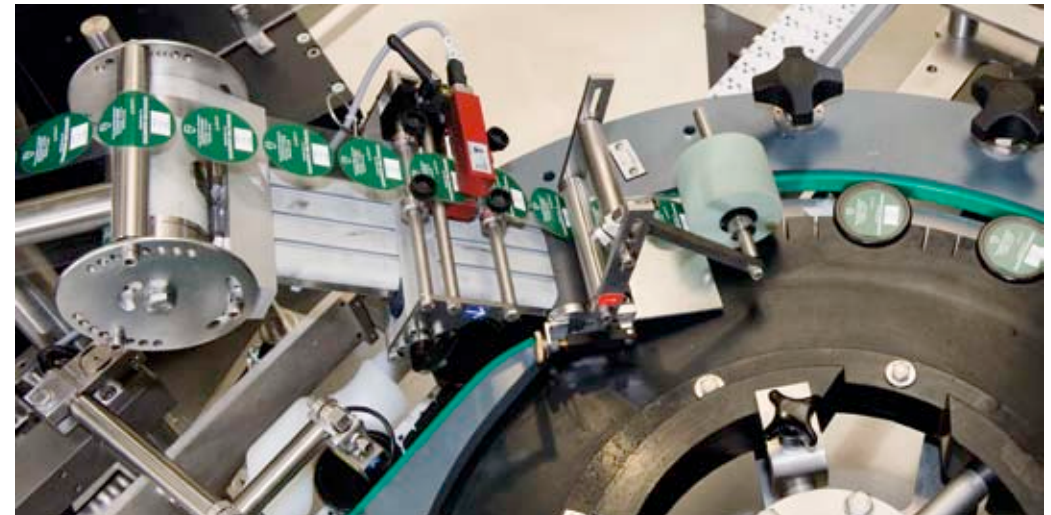
Labelling of unstable containers

In this Autocol model, the unstable containers are conveyed in carriers, each holding one workpiece. This makes for precise guidance and centring, so labels can be applied to an accuracy of millimetres. Two label applicators apply front and back labels to the containers.



Base of tin labelling

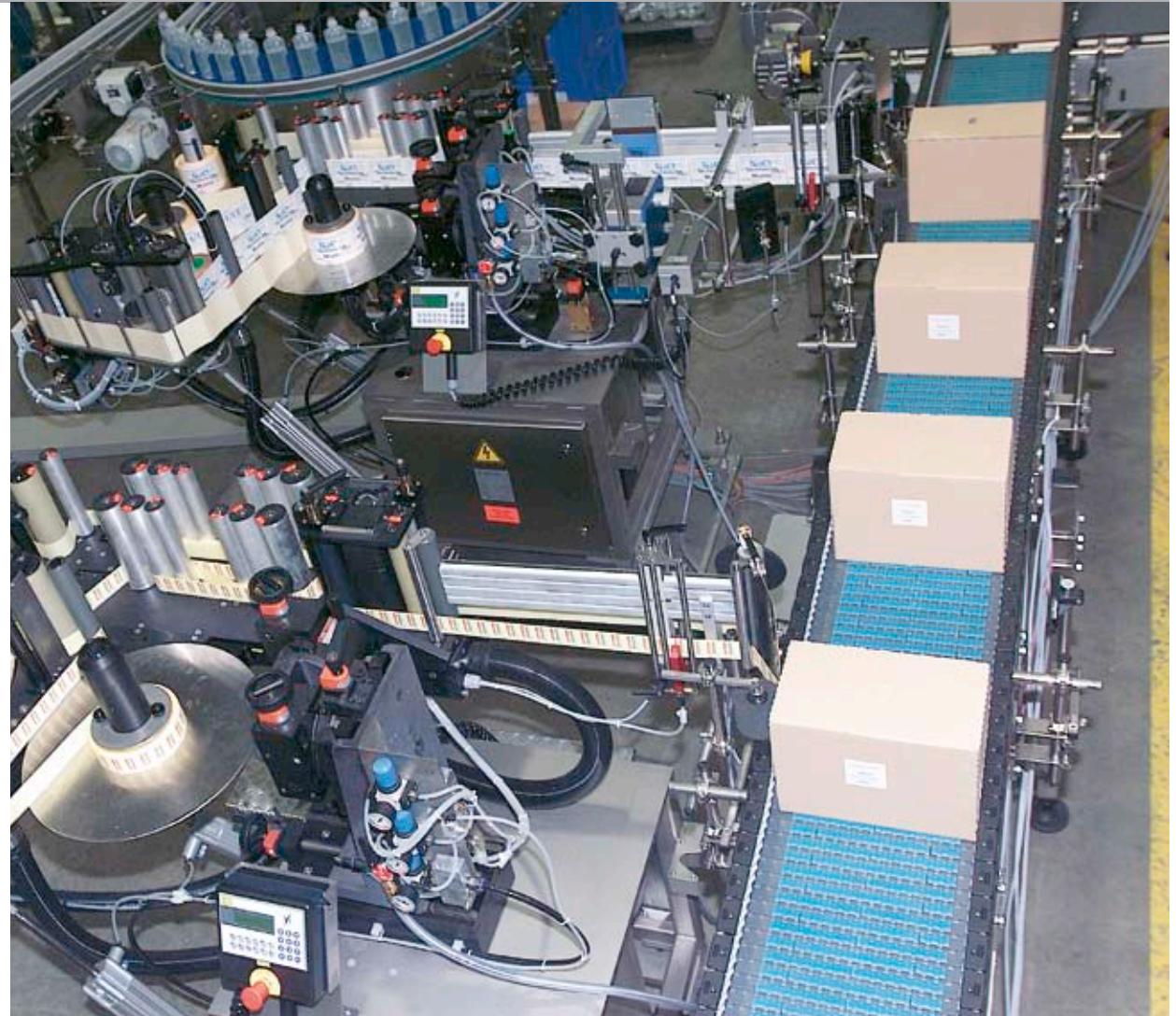
For plastic tobacco tins, the base of the container can be given a self-adhesive label. The tins are labelled from above on the Autocol's infeed starwheel via a dispenser arm, with the label then being pressed on using a sponge roller. The label reels are fitted horizontally on the unit, with an option to install automatic splicing of the label carrier films. On the container table, the plastic tins are equipped with a further self-adhesive label, applied around the side wall.



Label applicator on the conveyor belt

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- Label applicator mounted directly onto the conveyor
- Suitable for simple labelling tasks
- Inexpensive – no main machine necessary



Carton labelling with two label applicators, installed directly on the conveyor belt

System expansions

KRONES Checkmat – the versatile inspection unit

KRONES Autocol

- Checks that the labels are not missing and have been applied correctly
- Checks the label position and angle of rotation
- Checks printed-on data, e.g. BBD or product codes, to ensure they are present and accurate
- Recognises bar codes
- Checks the fill level and container seal
- Discharges faulty containers using the retaining starwheel, clamping starwheel, or pusher



System expansions

KRONES Autocol

KRONES Garantomat – the labelling station for tamper-evident seals

- Additional labelling station above the Autocol infeed or discharge
- Applies shrink sleeves to act as tamper-evident seals
- Unwinds the sleeve tube from the reel and cuts it to form individual shrink sleeves in the labelling



Your benefits

KRONES Autocol

- **High-precision labelling**
Both large and ultra-small labels are applied with great precision.
- **High performance**
The different Autocol designs allow for precise labelling from the low to the highest output range.
- **User-friendliness**
The Autocol is easily accessible and comfortable to use.
- **Relieves pressure on operators**
An additionally-available device can provide for automatic splicing of the label carrier film during the reel change-over.
- **Flexibility for the future**
The Autocol can still be retrofitted or converted, even after many years of service.

