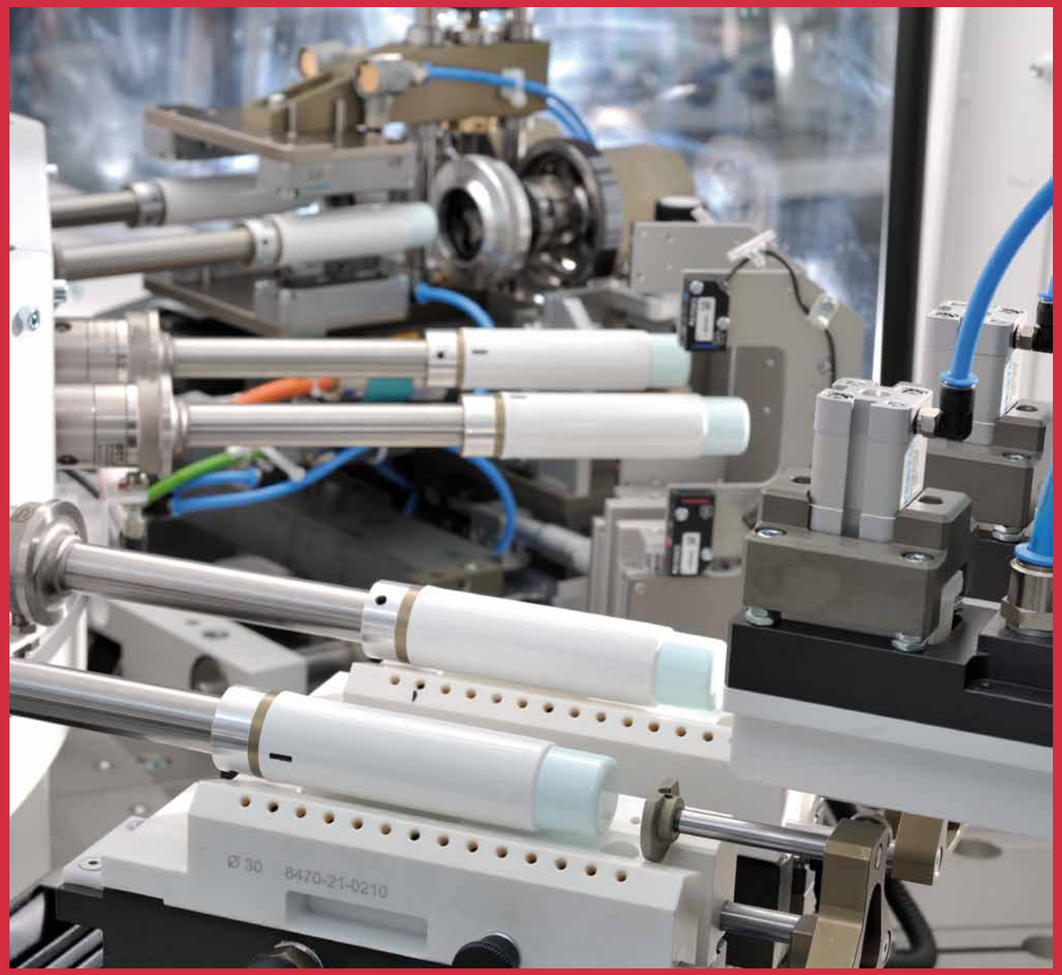
HINTERKOPF
technology partnership

The perfect solution for every closure!

Capping Machines

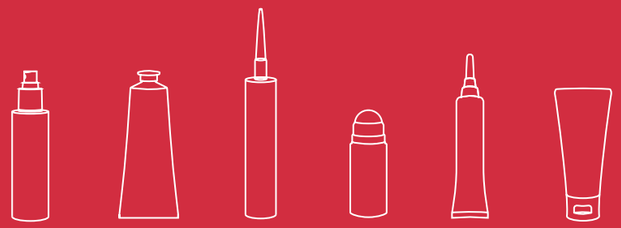
Capping

A120 | A212 | A222 | A240



Caps and Closures
To protect and keep the product inside, every tube needs a cap. It is applied after the printing, and before the filling stage. The purpose of a cap covers a large range of requirements, and the shapes of the caps vary just as much – depending on content and application.
The tube is always filled through the large back opening of the tube, after it is closed in the front. Only with a cap or closure the tube becomes a packaging container, which can be opened and sealed again as many times as desired. Hardly any two caps are exactly the same, because they each serve a different purpose.

Capping
It is inside the capping machine where the printed tubes receive their cap and often times other additional features, like a foil membrane. The capping machine can operate inline or stand alone.



“The perfect solution for every closure!”

DEPENDABLE, FAST AND VERSATILE – CAPPING MACHINES BY HINTERKOPF

“Form follows function”, when it comes to caps and closures for tubes from plastic or aluminum. The capping machine can apply a very fine tip on the tube of an eye medication cream, which allows precise and exactly metered application. Cleaning products in tubes often times requires brushes or sponges on the tubes, and cosmetics and personal care can require items like ball applicators for deodorants or pump spray heads for hair products.

The consumer wants to know whether a food product like mayo is really fresh inside the tube. This question is answered by a closure with aluminum or plastic membrane, which is removed or punctured during the initial use of the product. Safety from air or contamination can also be assured by a perforated ring, which separates from the cap or tube during initial use – an instantly visible sign for the consumer.

THE MAIN ADVANTAGES AT A GLANCE:

Remarkable Economics

- High processing speed at continuously top quality
- Dependable output and high technical availability
- Exact product handling for minimum waste

Reliable Quality

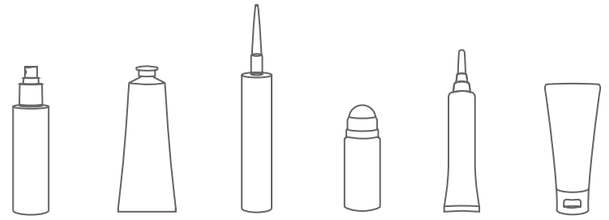
- Highest precision for cap positioning
- Permanent inline process control
- Careful and precise handling of caps and closures

High Flexibility

- Easily adaptable to new requirements
- Functionally expandable and economical upgrades
- Highest variability due to modular design

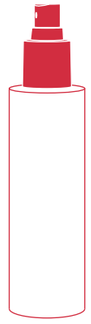
Simple Operation

- Easy setup, changeover and maintenance
- Short learning curve with intuitive touch screen operation



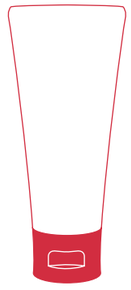
Applications

“Caps – simple or with options”



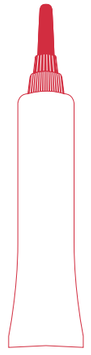
The tube for spraying

With the right kind of lid a plastic tube becomes a spray. This makes for a light, convenient packaging for hair care and other cosmetics that is easy to use. In this case a pump atomizer head is inserted into the tube and a cap is pressed on as a cover.



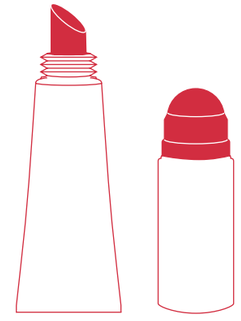
One-handed operation: hinged lids

Unlike most screwed caps hinged and fliptop spout caps are not usually rotationally symmetrical. This means that you can’t just screw them on. They have to sit correctly on the tube after being mounted, i.e. have to be correctly aligned with the print format. This advanced technology of cap assembly is child’s play for Hinterkopf capping machines. Print registration marks show the machine in which position the cap has to be mounted on the tube and the machine corrects the position accordingly.



Pin point accuracy, regardless of length; the hollow needle

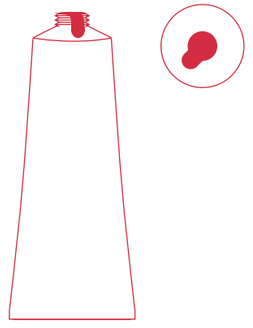
There’s nothing better than a fine hollow needle to exactly apply a substance to a particular spot. The spot in question and how easy it is to reach decides whether the hollow needle has to be short or long. Eye ointments have to be especially finely measured for example. The hollow needle for this, therefore, requires a very small opening, whose edges must be rounded in order to prevent injury when applying the ointment. The palette ranges from medicinal ointments to tattoo paste – the requirements for the hollow needle, therefore, are extremely varied.



Gentle and pliant: ergonomic design for grooming

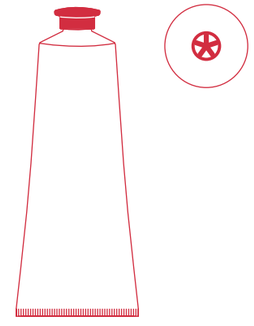
Users of lip balm or deodorant cream-want to be able to apply these evenly, well dosed and pleasantly to apply. As far as the application is concerned modern caps leave no desires unfulfilled.

From spherical or slanted oval shaped tube heads to the roller ball there is a suitable applicator for each kind of application. If the sprues on the plastic tubes are cut off then the roller balls can be pressed on in the following station on the capping machine turret head.



Thin and airtight: sealed with a membrane

Membranes can be used to seal aluminum and plastic tubes. Whether the membrane itself is of aluminum or plastic depends upon the individual requirements and decides whether the membrane must welded on thermally or with high frequency. Hinterkopf capping machines can be delivered with either of these technologies.

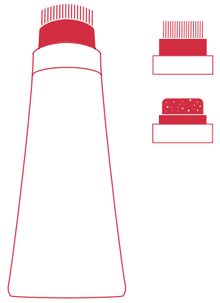


Stars and stripes: pretty things sometimes come out of tubes

There are various possibilities to give the contents of a tube a distinctive character at the moment it leaves the tube.

A simple solution is to stamp the opening in a special shape. The strand then comes out very defined. A sophisticated nipple can also be inserted in the tube in order to produce coloured striped cream when filled with the appropriate contents.

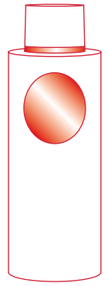
Applications



For those who want to spread themselves about: brush or sponge

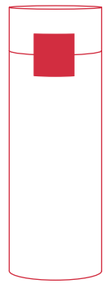
Shoe cream and assembly paste have one thing in common: they should be applied over a large surface Good results can be achieved with a sponge. Washing paste must also be rubbed in and therefore requires a brush. Brushes and sponges can be pressed in after slug cutting, similar to roll-ons for deodorant.

There are, however, also combinations, e.g. when a small sponge is screwed on over a normal tube opening. The same tube can then be used for fine dosed or larger applications according to requirements. All the machine then does, is screw the finished combination seal onto the tube.



For little highlights on the tube: stroke stamping

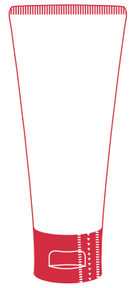
Hinterkopf capping machines can do more than just fit on lids correctly. They can also apply small gold and silver colour highlights because they can be equipped with a stroke stamping equipment.



A foil or paper seal: the label seal

Often the individual unique style of a product is the decisive factor for its success on the market.

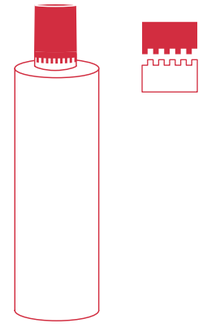
If the product is identified by a label then these can also be applied to the tube in the capping machine, for example as a seal if it reaches over the lid and onto the tube.



Nearly invisible, yet elegant: Sleeve Closures

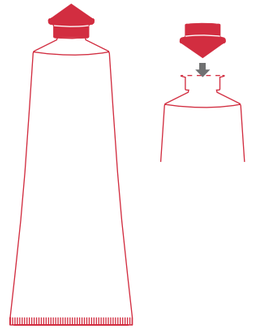
Sleeve closures provide critically needed protection for your products. A tamper evident membrane – individually branded with a corporate color or logo – surrounds the closure in an elegant and unobstructive fashion. This type of secure closure is utilized mainly for high end cosmetics and pharmaceutical products.

In both applications, hygienic protection is paramount, and evidently ensured by sleeve closures.



The ring is the sign of security

If the cap is firmly fixed to a ring via a perforated strip then a broken ring shows that the tube has already been opened. In this version an appropriate seal is screwed onto the tube.



Sometime the seal is also the key

In sealed tubes the seal must be broken. In order to achieve this the seal and cap must be appropriately designed. An aluminum tube whose opening was left closed in the deep drawing process can be opened with its own lid.

The lid has a spike to pierce the aluminum membrane blocking the tube opening. If the spike is on the inside of the lid it will also keep the tube opening free during use to. When the tube is unopened a narrow band keeps the cap at a distance to the seal in the tube opening. When the band is removed and the cap is screwed on as far as it will go then the spike pierces the seal.

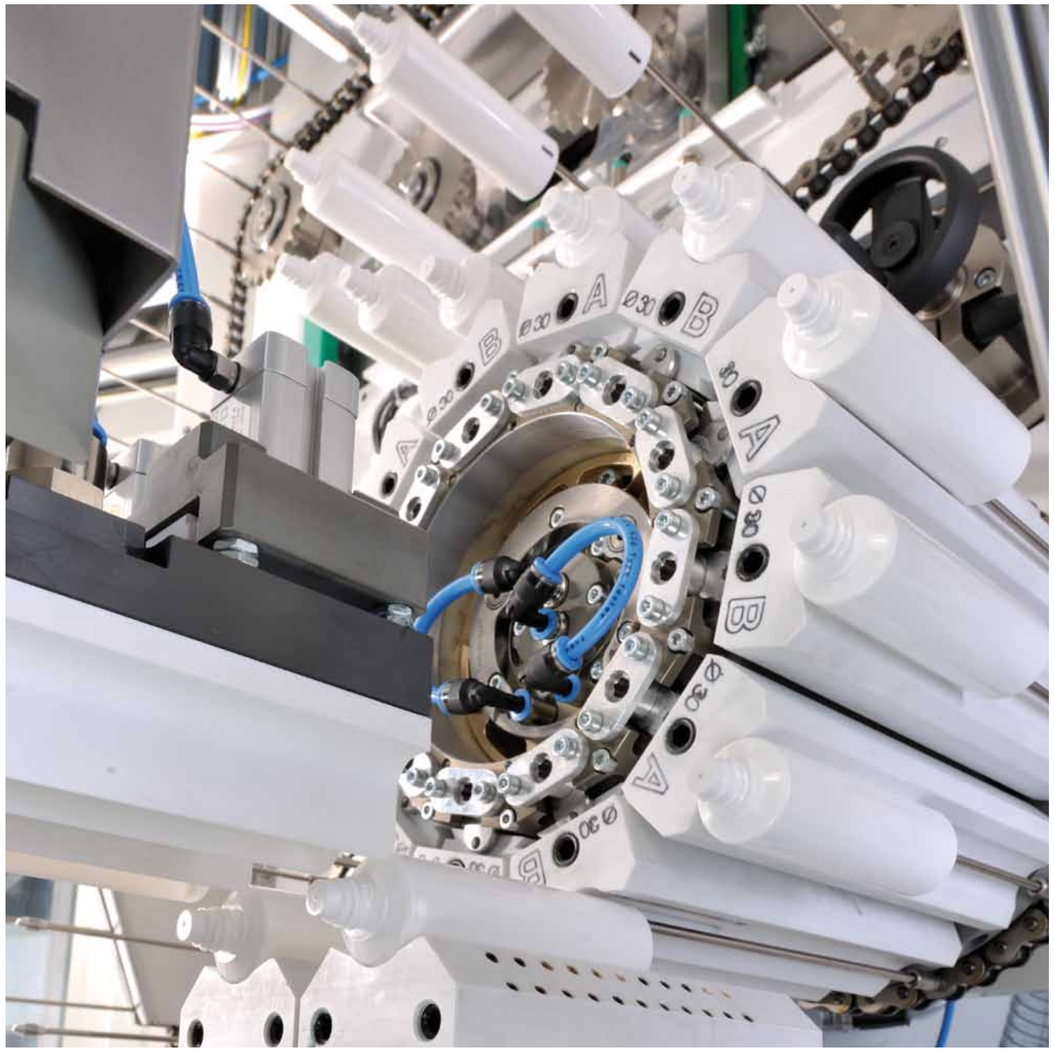
Functions

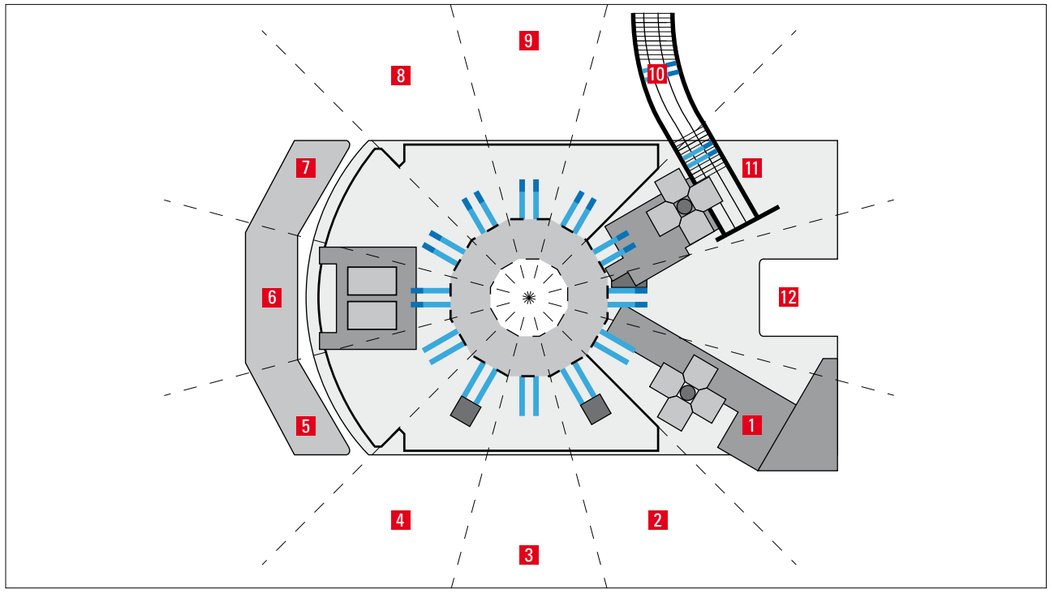
“The centre of everything: the turret”

A120 | A212 | A222 | A240

Cap application with a twist.
The decorated tubes are pushed onto the spindles of the turret head. All working steps that are necessary for mounting the desired caps are carried out during one complete rotation of this turret head.

Depending on the type of tube, this could be slug cutting, pressing on the nipples and membrane welding, and when the cap is already screwed on, tightening and, if required, stroke stamping and labelling.





Aluminium

	Ex works	optional
1	Loading	–
2	Checking of cap (cap correctly applied)	–
3	Assembly station	- Nipple station - Membrane welding
4	Membrane check	–
5	Pre-blowing	–
6	Screwing on	- Position-exact snapping-on
7 8	–	- Controle system - Labelling
9	Torqueing	–
10	Check of cap	–
11	Unloading	–
12	Check of unloading	–

Plastics / Laminate

	Ex works	optional
1	Loading	–
2	Checking of cap (cap correctly applied)	–
3	Membrane welding	- Sprue cutting
4	Membrane check	- Re-welding
5	Pre-blowing	- Membrane check - Recognition
6	Screwing on	- Position-exact snapping-on
7 8	–	- Controle system - Labelling
9	Torqueing	–
10	Check of cap	–
11	Unloading	–
12	Check of unloading	–

Quality Control

Highest quality through process control
Capping machines made by Hinterkopf not only perform with maximum reliability, they also deliver proven quality. Several control stations within the machine check permanently the critical parameters, to ensure perfect cap application from the first to the last tube. As soon as any process deviations are detected by the inline process control, the tube is flagged and ejected. The operator has always a complete overview through the user friendly touch screen panel.

Controlled Quality

- Centered application of foil membrane
- Cap correctly applied and torqued
- Control and re-torquing to specification as required

Check of membrane

Interface

Gives the operator full overview: the touch screen panel
The uniquely user friendly touch screen panel makes Hinterkopf capping machines even more efficient. Prepared for various languages, it allows complete setup of the machine. The visual user interface guides the operator with simple to understand graphics through the various menus. In addition to simple setup and adjustments, the touch screen panel provides critical feedback about production parameters.

Overview

Optimum interface

- Intuitive and easy to learn logic
- Touch screen optimized control elements
- Process oriented machine control

Flexible setup

- Setup of the machine is direct, digital and quick
- Optimization of the production processes
- Prepared for various languages

Production

Production planning and control

- Production data and statistics at the touch of a button
- Quick and efficient production

Settings

A120, 212

“The versatile partner for the decoration of tubes.”

A120

A120 – FOR HIGH REQUIREMENTS

Twelve instead of six work stations make the capping machine A120 an extremely versatile partner for the decoration of tubes made of aluminum or plastic.

Particularly sensitive contents such as ointments or medical adhesives that contain solvents require special packaging closing air-tight. With its twelve work stations the A120 capping machine handles challenging tasks: it can cool, for example, welded membranes, curl aluminum tubes or provide them with a plastic nipple.

The A120 is equipped with a capping unit and works at a production speed of up to 120 units per minute.

A 212

A212 – VERSATILE AND POWERFUL

The capping machine A212 represents a variant of the type A120. Quintessential differences are a second capping station and a higher production speed.

A second capping station enlarges the possibilities for decoration. So that for example the first station presses-on balls for roll-ons and the second station screws-on the caps. Next to aluminum and plastic tubes the capping machine A212 is also suitable for the processing of laminate tubes.

More performance, larger diversity: With the A212 your production speed is increased in comparison to the A120 by 50 percent up to 180 pieces per minute.

A222

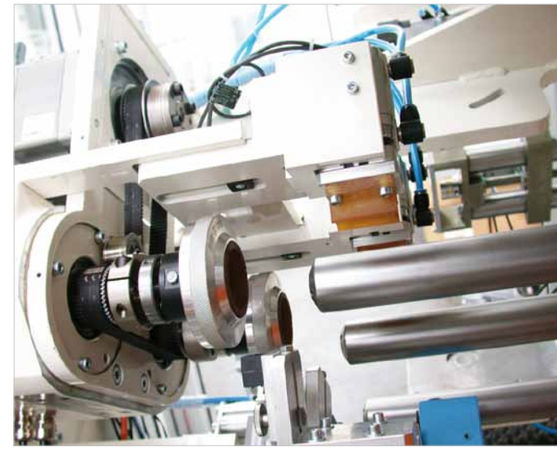
“Combines high-tech with high speed.”

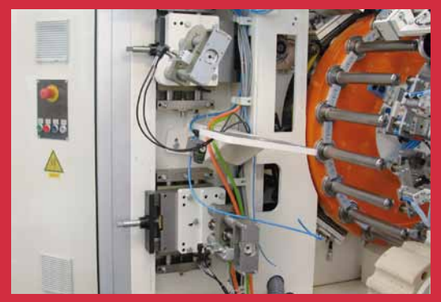
A222 – INDIVIDUAL AND FLEXIBLE

You have special requirements for the decoration of plastic or laminate tubes? With the A222 capping machine you put them all into practice!

20 work stations, including two capping units, can be configured individually – for example, for a loading check or snipping, torquing or a cap check.

In addition there is the surprisingly high production speed of up to 240 units per minute. Thus, the Hinterkopf A222 combines high-tech with high speed.





A240

“The allround solution with maximum speed.”

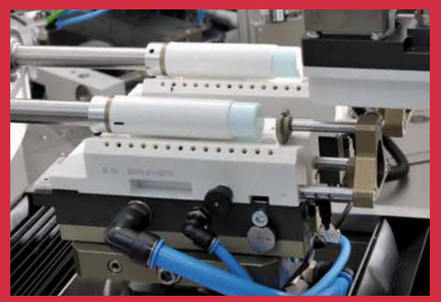
A240 – FLEXIBLE, ECONOMICAL AND EASY TO OPERATE

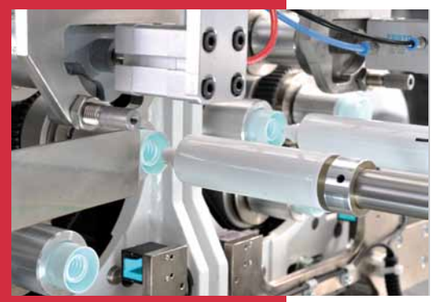
The remarkably flexible capping machine for tubes with the largest variety of caps and closures, for tubes from aluminum or plastic.

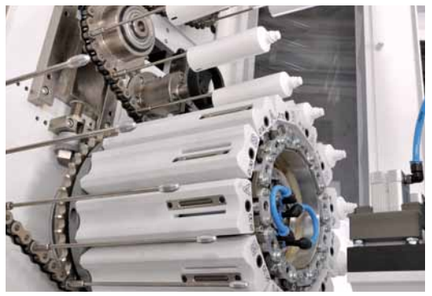
The state of the art A240 fully automatically applies caps and closures to tubes. Already from the initial concept, ease of operation and maintenance was designed into the machine, for quick and efficient setup and service.

KEY ADVANTAGES OF THE A240:

- Top speed with consistently optimum quality
- Easily adaptable to new requirements
- Simple and economical upgrades
- Highest variability through modular design
- Cleanest operation through oil free torque motor system
- Optimum hygiene without brake dust or belt abrasion
- Absence of loading pushers avoids scratches on products
- Fast and powerful, but gentle product handling avoids damage

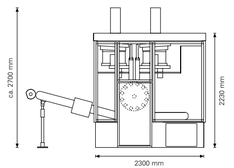


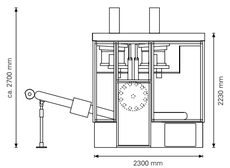


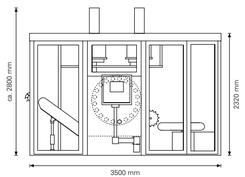


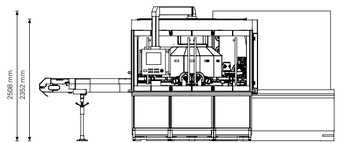
Technical Data

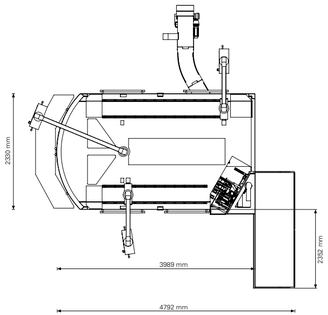
A120 | A212 | A222 | A240

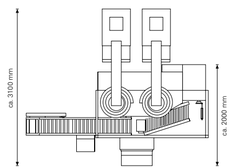


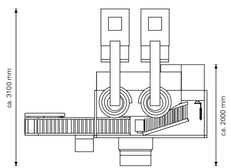


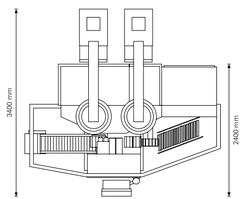












Technical Data		A120	A212	A222	A240
Applications	Plastic tubes	•	•	•	•
	Laminate tubes		•	•	•
	Aluminium tubes	•	•		
range of diameter		13.5–60 mm	10–19 mm | 13.5–25 mm | 19–50 mm	19–50 mm	10–50 mm
max. cylindrical tube length		210 mm	210 mm	210 mm	210 mm
max. production speed (depending on material, length and diameter of tube)		120 tubes/min	180 tubes/min	240 tubes/min	240 tubes/min
operation		Pi-Touch	Pi-Touch	Pi-Touch	Pi-Touch
control		Siemens S7	Siemens S7	Siemens S7	Siemens S7
electrical connected load		17 KW	17 KW	35 KW	110 KW
compressed air required		3 m³/h	3 m³/h	10 m³/h	15 m³/h
number of mandrels		12	12	10x2	12x2
weight		ca. 4400 kg	ca. 4400 kg	ca. 4800 kg	ca. 10,000 kg

CAP APPLICATION WITH HINTERKOPF CAPPERS:

FAST MAINTENANCE

MINIMUM WASTE RATE MAXIMUM AVAILABILITY

UPGRADABLE **HIGHEST FLEXIBILITY**

INTEGRATED INLINE QUALITY CONTROL

HIGHEST SPEEDS **EASY TO MODIFY**

HIGHEST ACCURACY

REMARKABLE ECONOMICS

USER FRIENDLY TOUCH SCREEN **OPTIMUM ACCURACY**

VARIABLE, MODULAR DESIGN

QUICK SETUP

HINTERKOPF
technology partnership

HINTERKOPF GmbH
Gutenbergstrasse 5
73054 Eislingen
Germany

Tel. +49 (0) 7161 8501-0
Fax +49 (0) 7161 8501-10
info@hinterkopf.de
www.hinterkopf.de