



**COMPLETE PACKAGING  
LINES FOR LIQUIDS,  
POWDERS AND SOLIDS**

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## Our History

Since 1949, CAM has been at the forefront of Italian innovation, pioneering automatic cartoning machines.

Today, our expertise extends far beyond, offering complete packaging lines designed to handle virtually any product – liquids or solids, powders, granules, or creams – in standard or uniquely shaped packs.

With a global network of 19 trade centers and 15 after-sales centers, supported by over 50 specialized technicians, CAM ensures immediate assistance wherever you are.

From the first cartoning machine, CAM developed machines to build complete packaging lines to satisfy pharmaceuticals, cosmetic and food markets request. Blister and thermoformig, filling, strip, stick and more.

### PRODUCTION



SALES PROJECT  
COORDINATION AND  
DEVELOPMENT OF  
THE COMMERCIAL  
AND TECHNICAL  
DOCUMENTATION

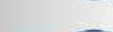
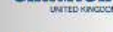
### SALES



SOLE EXPORT DISTRIBUTION



### AFTER SALES



## WORLDWIDE PRESENCE

**19** CAM TRADE CENTERS

**15** AFTER SALE CENTERS

**MORE THAN 50** SPECIALISED TECHNICIANS AVAILABLE FOR IMMEDIATE AFTER-SALES ASSISTANCE



Over the years more than 23.000 machine have been installed all over the world.

Experience the evolution of packaging with CAM, where sustainability drives our engineering.

We're committed to reducing energy consumption and enabling the use of recycled and lightweight cartons through advanced technology.

Furthermore, CAM is actively developing solutions for easily recyclable packaging materials by using in single-material blisters and patent-pending innovations cardboard eco-trays.



## MACHINES EVOLUTION WITH ATTENTION TO SUSTAINABILITY

**REDUCTION OF ELECTRICAL AND PNEUMATIC CONSUMPTION**  
thanks to the targeted use of electronics and pneumatics

Ability to handle **RECYCLED AND LOW WEIGHT CARTONS**  
thanks to positive carton erection

Search for easily recyclable packaging materials,  
such as **SINGLE-MATERIAL BLISTERS AND CARDBOARD ECO-TRAYS**,  
with solutions pending patent



### EcoVadis certification

EcoVadis certification is an international recognition that evaluates a company's sustainability by analyzing four key areas: Environment, Labor and Human Rights, Ethics, and Sustainable Procurement. Possessing this assessment and certification demonstrates our concrete commitment to responsible and sustainable business practices, integrating sustainability at the heart of our strategy and operations.

It helps companies, including ours, to identify and manage sustainability risks within the supply chain. In a context where environmental, social, and ethical (ESG) performance has become an essential factor for business, and where our Clients are increasingly focused on improving their own practices and ensuring transparency, including the sustainability of their business partners like our Group, we have chosen to undertake this assessment process to demonstrate our concrete commitment and reliability.

### Sustainability in the packaging industry

#### PLASTIC SUBSTITUTION

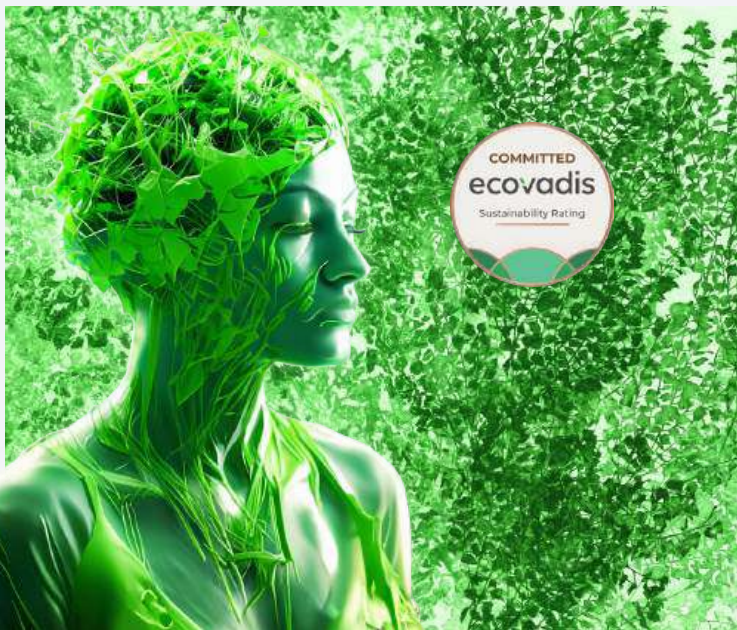
Another strategy CAM employs is to replace plastic with paper-based materials, both for the packaging of vials, bottles and syringes in trays and for the wrapping boxes. Thanks to this choice, the need to produce plastic is reduced and the recycling of packaging is facilitated.

#### USE OF RECYCLED CARDBOARD

The most significant impact on the environment is certainly waste management. As important step towards sustainability is the use of recycled material. For Several years now, CAM machines have been able to manage the volume of cartons in positive mode, with the consequent possibility of using low-weight cartons with a high percentage of recycled material.

#### CONSUMPTION OPTIMIZATION

CAM undergoes a constant optimization process on its machines, which has led to the reduction of inertia and friction and the consequent reduction on power of the motors that move them, the adoption of high-efficiency motors and their precise sizing to reduce consumptions as much as possible. A machine with a single drive axis requires less electricity than a machine of the same type with a motor for each station.



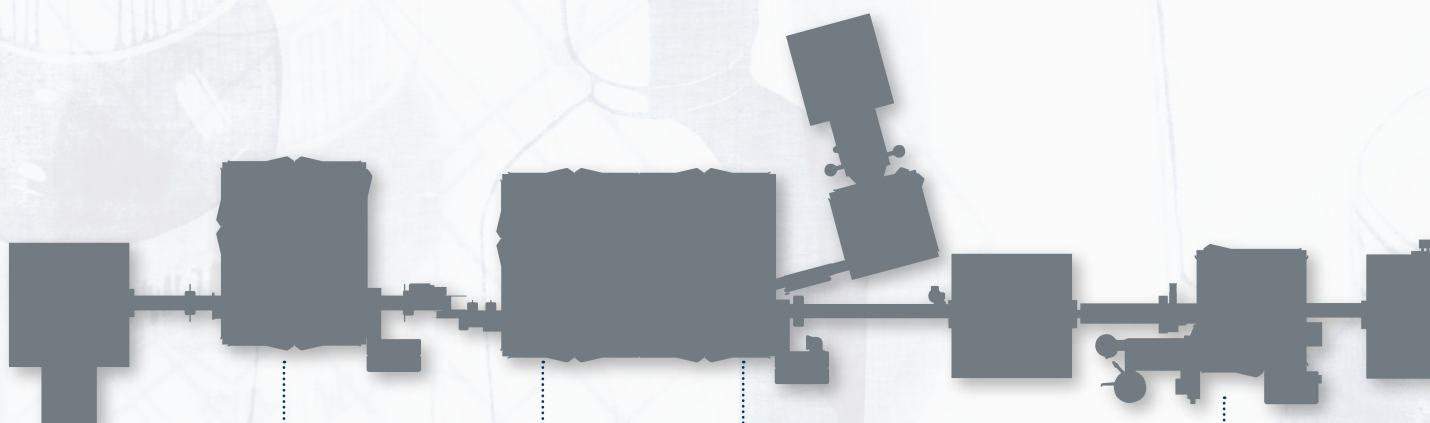


This range of packaging solutions, the result of applying the most advanced technologies, is designed to ensure optimal levels of efficiency and maximum safety throughout the entire production process. Its extreme flexibility allows it to quickly adapt to a wide range of formats and product types, offering a versatile and reliable solution for every need.



The line is capable of handling a wide variety of products: it manages liquids such as creams, gels, lotions, pharmaceutical and cosmetic solutions (including mascara and eyeliner) in bottles, jars, and squeeze tubes, using volumetric and mass systems for precise dosing. Similarly, it handles solid products such as tablets, pills, granules, and powders, packaging them in bottles or tubes and counting the solid products with highly reliable electronic counters. Its versatility also extends to more specific products, including inhalers, aerosol cans, soap bars, and kits for contact lenses or hair coloring. Each stage is designed to offer maximum precision, product integrity, and compliance with the most rigorous industry standards.





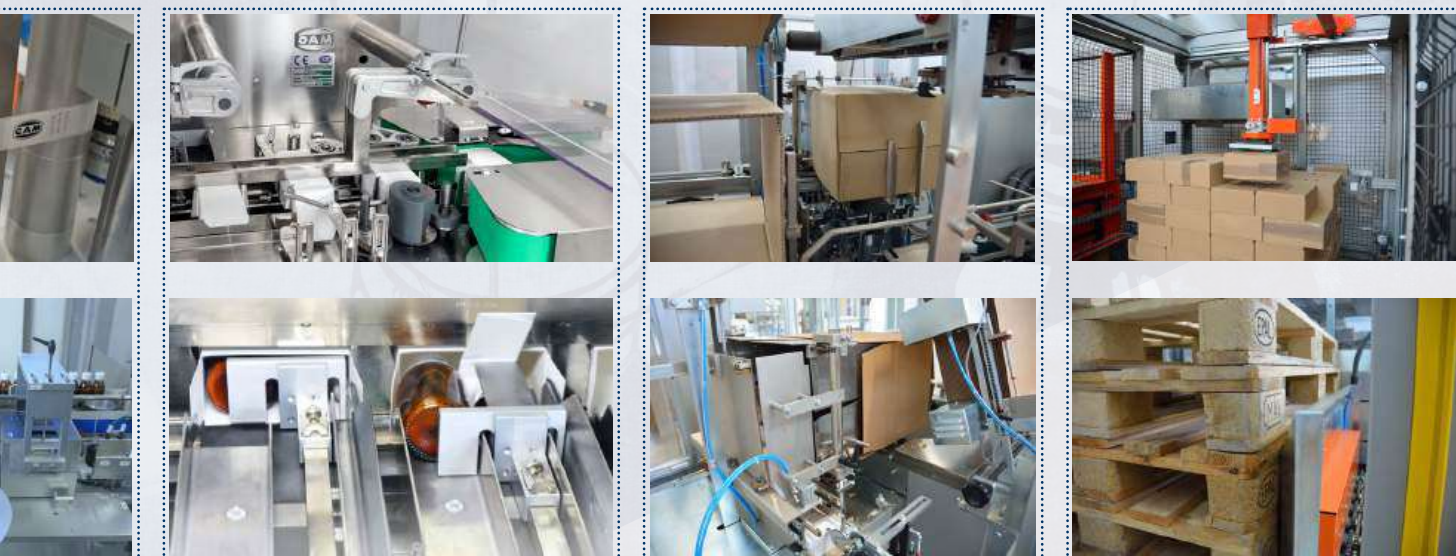
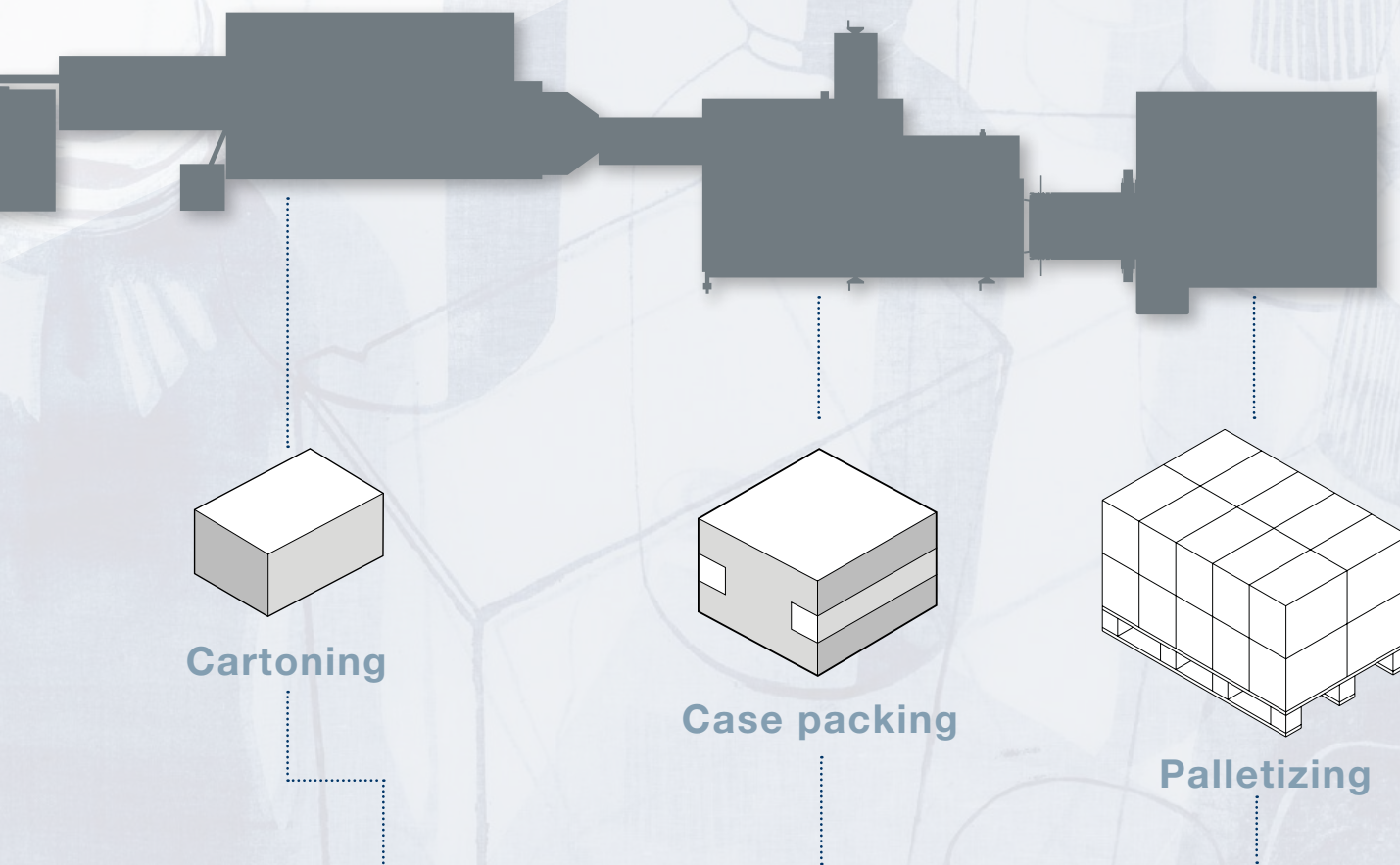
**Cleaning**

**Filling**

**Capping**

**Labelling**





## Automatic Depacker for Empty Glass Bottles wrapped in shrink – plastic material

CAM offers its Automatic depacker, a solution designed specifically for the efficient and automated handling of shrink-wrapped empty glass bottles.

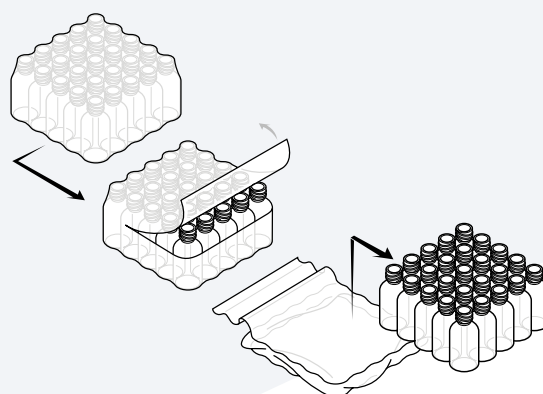
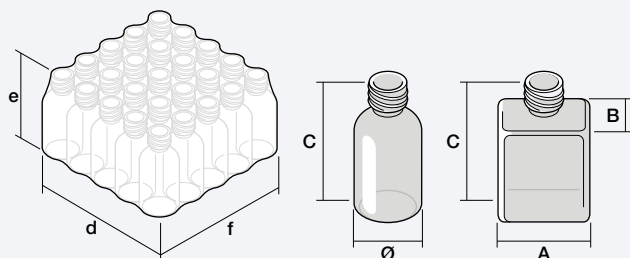
This technology offers a robust and reliable approach to automatically opening and depacking bundles of bottles. This eliminates the need for manual intervention and significantly reduces time of production.

The system features a unique hooked cutting device designed to cut the shrink film with maximum precision. After the cut, a dedicated mechanism lifts the removed film, then allows a push from below that gently emerges the bundle of bottles. This controlled process ensures bottle integrity throughout the entire cycle. Its high flexibility makes it ideal for integration into existing production lines, helping to optimize workflow and increase companies' overall productivity.



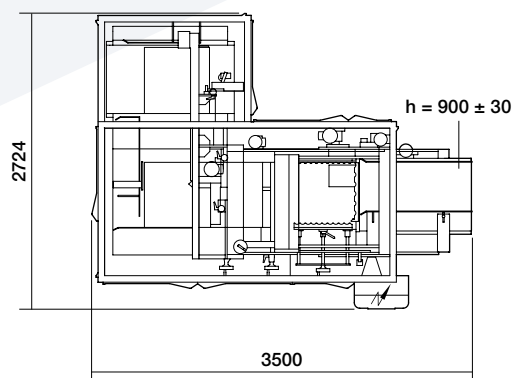
# MD

DEPACKING  
MACHINE FOR  
EMPTY BOTTLES  
WRAPPED IN  
SHRINK-PLASTIC  
MATERIAL



## TECHNICAL DATA

|                         |            |        |
|-------------------------|------------|--------|
| Mechanical speed (Max.) | STROKES/1' | 5      |
| Power absorption (Max.) | kW         | 8      |
| Air consumption         | NI/1'      | 600    |
| Air pressure            | bar        | 5-6    |
| Net weight              | kg         | ~ 1300 |



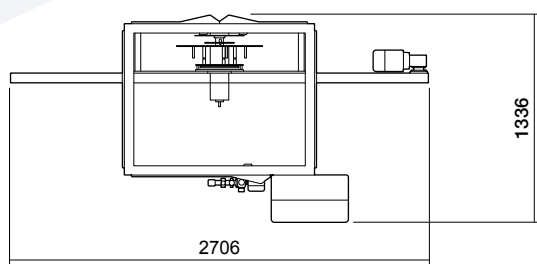
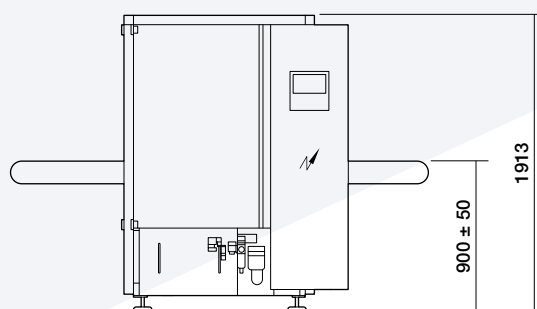
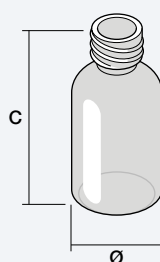
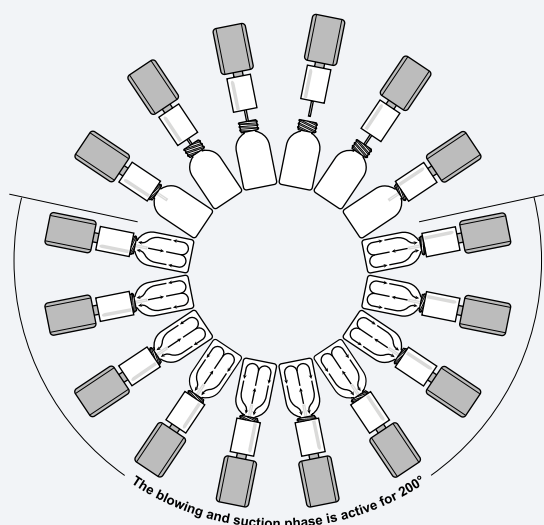
Modern packaging systems for glass or plastic containers allow, in most cases (owing to the cleaning standard of the product contained) to eliminate large, complex and difficult to manage washing machines from packaging lines; at the same time this makes the use of blowing machines necessary to eliminate particles or impurities left by external packaging materials from inside the bottles. For connection upstream to their filling systems, CAM proposes a complete range of blowing machines which, thanks to the possibility of being able to accommodate different numbers of blowing nozzles, can reach production speeds up to 30.000 bottles/hour. Tests, carried-out by end users of these machines for internal bottle residue, demonstrate the high standard of cleaning achieved by CAM blowing machinery. Bottles, synchronized by a timing scroll, are picked-up by a series of mechanical grippers, assembled onto a continuous motion rotary turret,

which, by turning them upside-down, allows the blowing nozzles to be inserted into the bottles from below, with the consequent centering of the suction devices onto the bottle necks. Each nozzle releases air at high pressure (4 atms. with PALL filtering at 0.2 microns) which removes every particle from the internal sides of the bottle allowing, along with the simultaneous action of the suction devices, immediate elimination to be achieved. The possibility to install an air deionising system guarantees the removal of any kind of particle sticking to the inside of plastic bottles caused by electrostatic charges. The extremely compact dimensions, rationality and simple construction allow inspection and cleaning to be carried-out with ease.



# SVA

VERTICAL  
CONTINUOUS  
MOTION BOTTLE  
CLEANING  
MACHINE WITH  
BLOWING/SUCTION  
SYSTEM

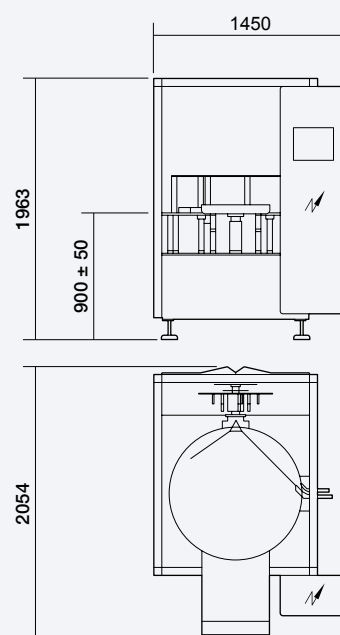
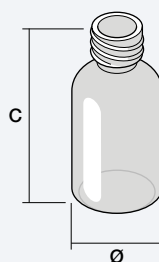
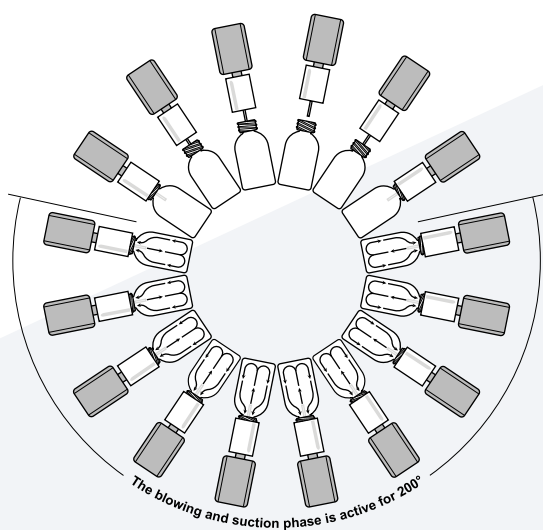


## TECHNICAL DATA

|                  |            |      |
|------------------|------------|------|
| Mechanical speed | STROKES/1' | 150  |
| Power absorption | kW         | 2.3  |
| Air consumption  | NI/1'      | 900  |
| Air pressure     | bar        | 5-6  |
| Net weight       | kg         | ~800 |

# TSA

VERTICAL  
CONTINUOUS  
MOTION BOTTLE  
CLEANING MACHINE  
WITH ROTARY  
TABLE AND  
BLOWING/SUCTION  
SYSTEM

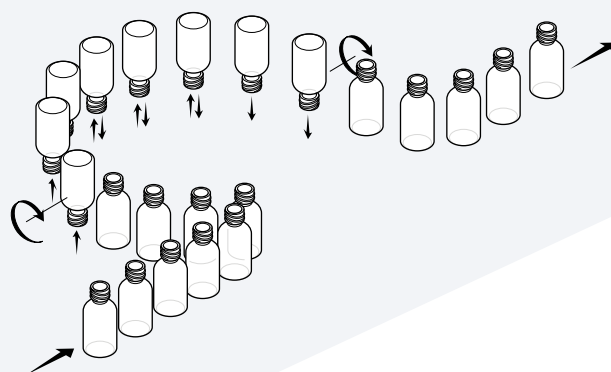
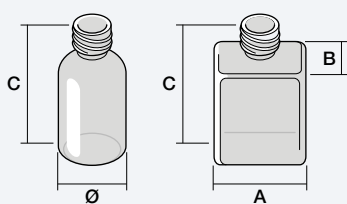


## TECHNICAL DATA

|                  |            |      |
|------------------|------------|------|
| Mechanical speed | STROKES/1' | 150  |
| Power absorption | kW         | 4    |
| Air consumption  | NI/1'      | 900  |
| Air pressure     | bar        | 5-6  |
| Net weight       | kg         | ~800 |

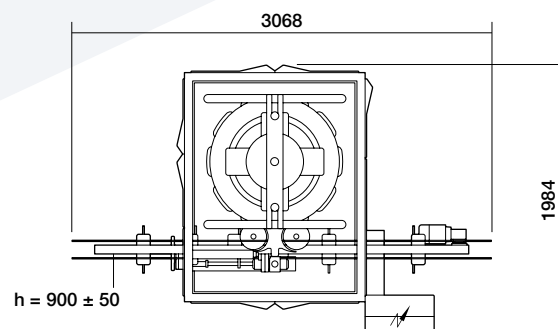
# MS

ROTARY  
CONTINUOUS  
MOTION BOTTLE  
CLEANING  
MACHINE WITH  
BLOWING/SUCTION  
SYSTEM



## TECHNICAL DATA

|                  |            |        |
|------------------|------------|--------|
| Mechanical speed | STROKES/1' | 300    |
| Power absorption | kW         | 3      |
| Air consumption  | NI/1'      | 600    |
| Air pressure     | bar        | 5-6    |
| Net weight       | kg         | ~ 1300 |



## Positive displacement pumps with pneumatic operation

Positive displacement pumps use the change in volume within a chamber to create the suction and thrust of a fluid. The fluid is initially sucked into the chamber, generating a vacuum, and then expelled from the chamber itself, thus increasing the pressure inside.

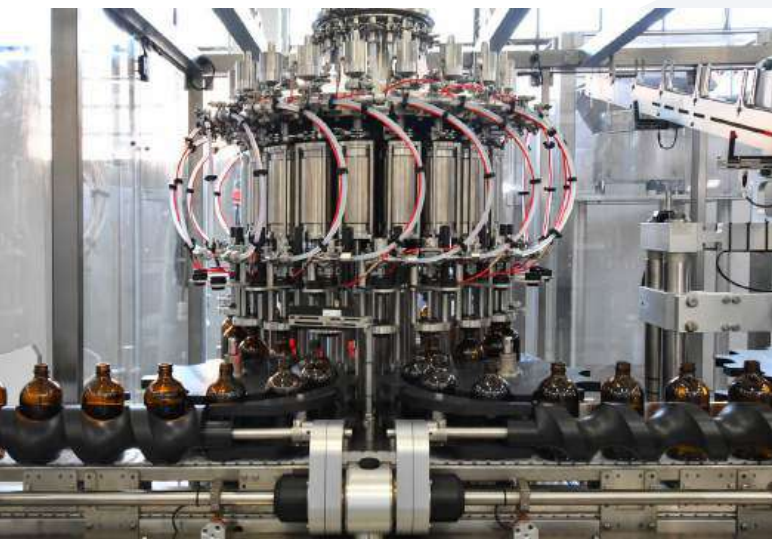
Positive displacement pumps move constant volumes of liquid with each operating cycle, as the chamber has a defined volume.

The volume depends on the diameter and height of the chamber, i.e. the construction parameters of the pump. Once a pump with maximum volume and

fixed diameter has been defined, the volume can be adjusted by varying the height inside the chamber. This adjustment is made as follows: the piston is connected to an eccentric that takes rotation from the main crankshaft. On the eccentric there is a micrometric register that allows you to change the piston stroke (therefore the height and consequently the volume) in the chamber.

The theoretical volume variation for each mm of stroke is indicated on the pumps.

One operating cycle corresponds to a complete (360°) rotation of the crankshaft. The volume pumped per unit of time is independent of the fluid pressure, while it is directly proportional to the speed of the pump (number of rpm), i.e. the speed of the machine.



## Filling with peristaltic pumps Operation, scheme and advantages

In peristaltic pumps, the hose is compressed by rollers or skids that rotate, thus creating a vacuum capable of sucking the liquid through the duct itself. The main advantage of this technology lies in the fact that the liquid comes into contact exclusively with the pipe, eliminating any risk of mutual contamination between pump and fluid. The process, illustrated by the animation, shows the liquid being sucked into the tube and trapped by the head roller, and then pushed forward by the sequential passage of the subsequent rollers. The continuous rotation of the rollers generates the necessary vacuum in the tube, thus allowing the suction of the liquid ready to advance to the next step. The complete occlusion of the pipe, obtained when it is crushed between the roller and the guide, allows for a self-priming volumetric action, preventing backflow and making check valves unnecessary when the pump is not running.

As for the circuit scheme, a 50-liter tank is planned to be positioned near the machine. The bottom of

the tank has several outlet sections, designed to adapt to the number of peristaltic pumps installed. These pumps can be mounted on a structure next to the machine, also supplied by WM, or the upper plate of the base and its cover can be prepared to accommodate the dosing units and their motors. Each dosing group is connected directly to its own nozzle.

This system offers many advantages: it can handle liquids of any density, including suspended or sterile liquids, and maintenance is extremely easy thanks to an easy opening system without the need for tools. The only part in contact with the liquid is the tubing, made of silicone or FDA-approved materials, which can be easily replaced according to the characteristics of the fluid used.

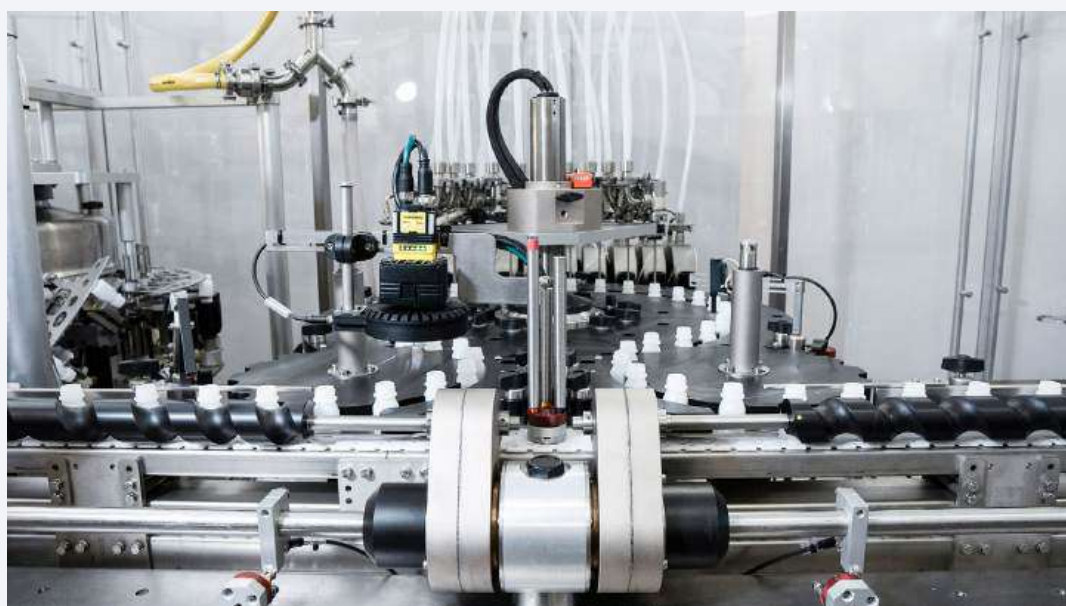
Filling accuracy achieves a margin of error of just plus or minus 0.5% for water-like, non-foaming liquids. The dosage can be adjusted conveniently from the panel. In addition, the simplicity of the construction of the filling unit is due to the presence of only the closing valve of the dosing nozzle, which can be gravity or controlled, and to the linear mechanics, without the eccentrics typical of the movement of volumetric pumps.



## An advanced solution for precise liquid dosing

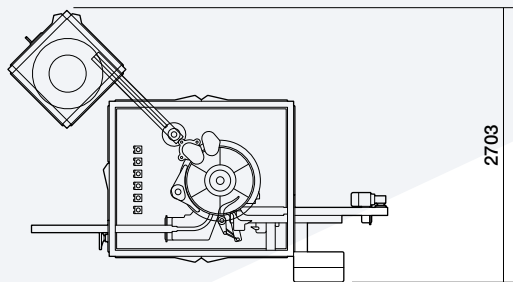
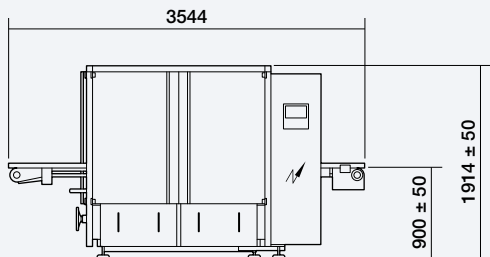
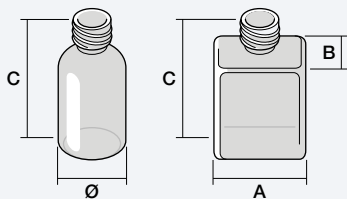
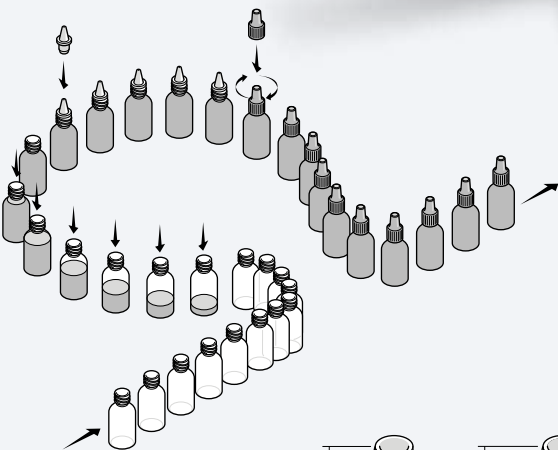
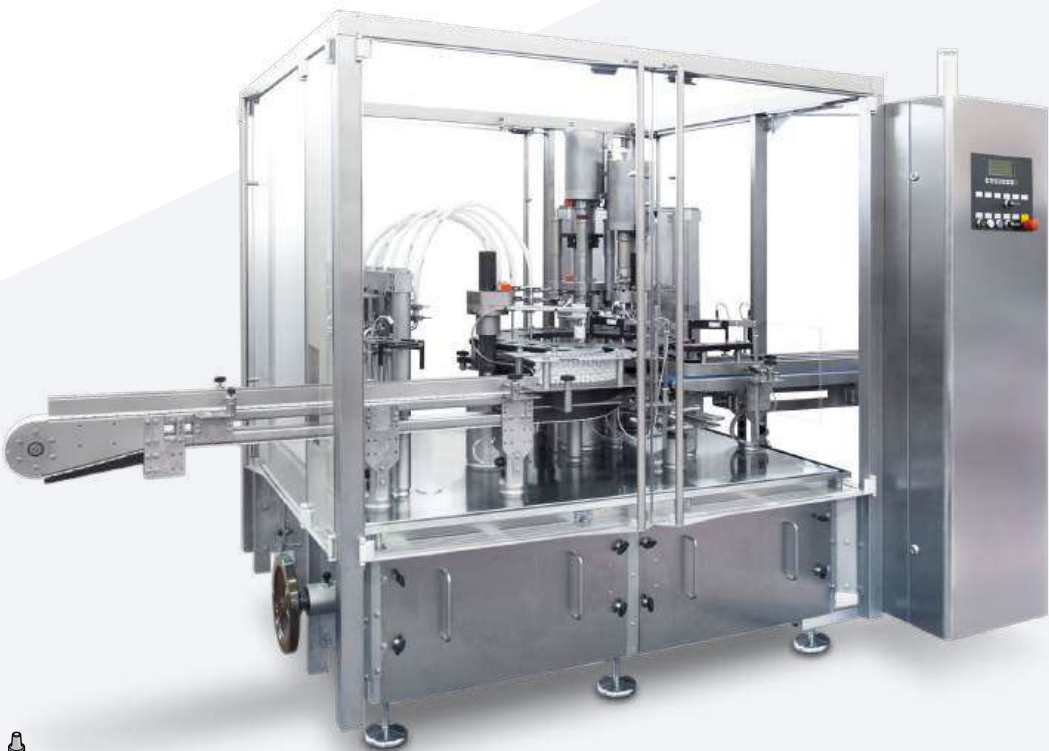
The mass filling system represents one of the most reliable and innovative technologies in the panorama of liquid dosing in automatic machines, fully responding to the needs of accuracy, flexibility and control required by modern industry. At the center of this system is a 50-liter storage tank positioned on the ground, equipped with a centrifugal pump that transfers the liquid to a second tank located in the upper part of the machine. This second container, built in a seal and kept under slight overpressure, ensures that the pressure remains constant upstream of the E&H dosing units, thus ensuring optimal filling accuracy. From the pressurized tank, the liquid is channeled into a manifold, from which a battery consisting of ten mass dosing groups starts. Each

group is associated with a pneumatically controlled valve, which is responsible for opening and closing a dosing nozzle that allows you to precisely adjust the flow and volume dispensed. Among the main advantages of this system is the possibility of adjusting the dose directly from the control panel, with options of self-adjustment for each E&H group or manual intervention by the operator. It is not necessary to make mechanical changes as the volumes to be dosed or the size of the bottles change, unless the variations are particularly significant, in which case it may be necessary to replace the dosing nozzles. In addition, the absence of the drive mechanics typical of positive displacement pumps simplifies maintenance and reduces the complexity of the system. The ability to offer production flexibility and precision makes the mass filling system an ideal choice for those who want to innovate and optimize their dosing process by relying on cutting-edge technological solutions.



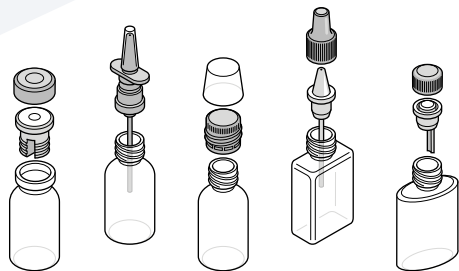
LA

INTERMITTENT  
MOTION FILLING  
AND CAPPING  
MACHINE



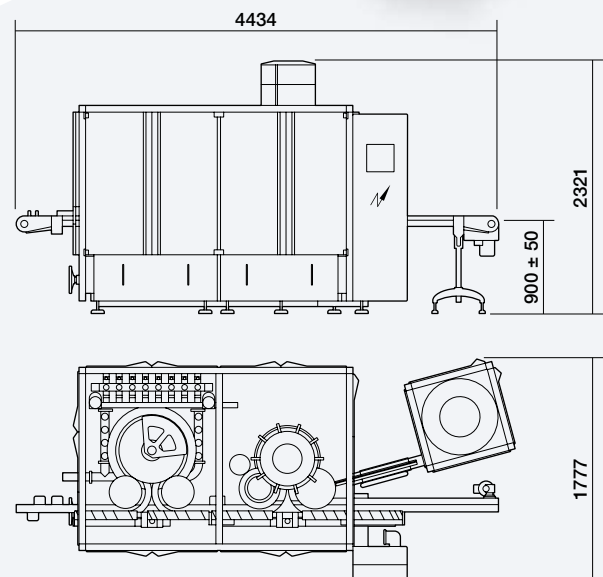
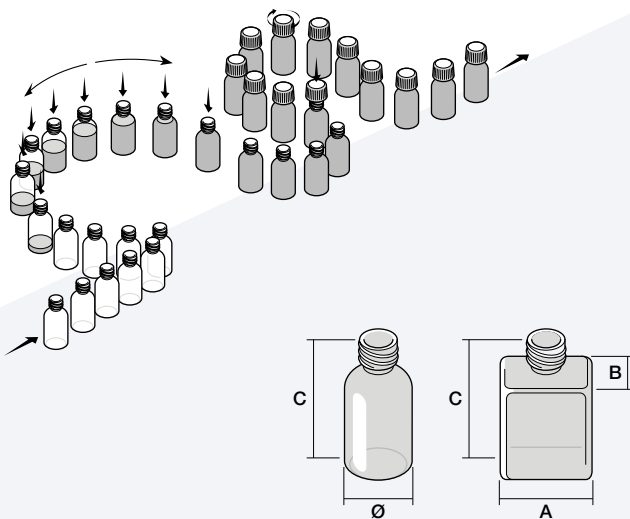
TECHNICAL DATA

|                  |            |        |
|------------------|------------|--------|
| Mechanical speed | STROKES/1' | 90     |
| Power absorption | kW         | 8      |
| Air consumption  | NI/1'      | 400    |
| Air pressure     | bar        | 5-6    |
| Net weight       | kg         | ~ 1400 |



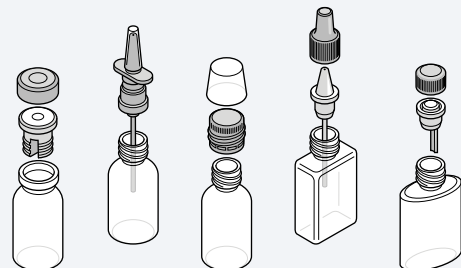
# L60

## CONTINUOUS MOTION LIQUID FILLING AND CAPPING MACHINE



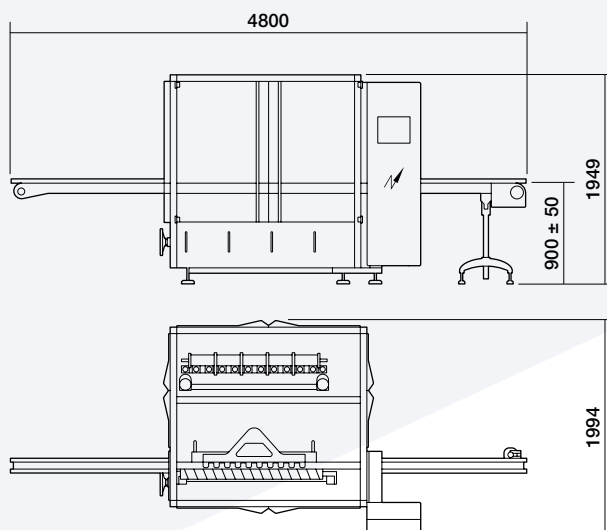
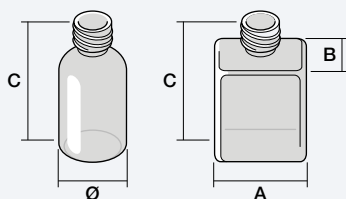
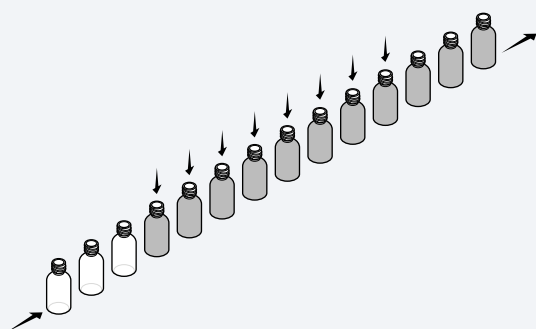
### TECHNICAL DATA

|                         |            |       |
|-------------------------|------------|-------|
| Mechanical speed        | STROKES/1' | 300   |
| Power absorption (max.) | kW         | 6     |
| Air consumption         | NI/1'      | 20    |
| Air pressure            | bar        | 5-6   |
| Net weight              | kg         | ~1400 |



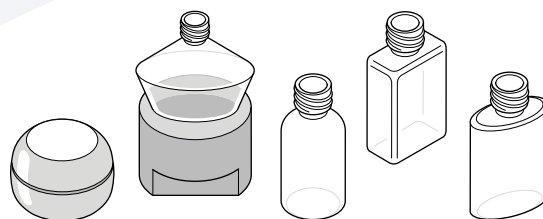
# LL

## LINEAR INTERMITTENT MOTION FILLING MACHINE



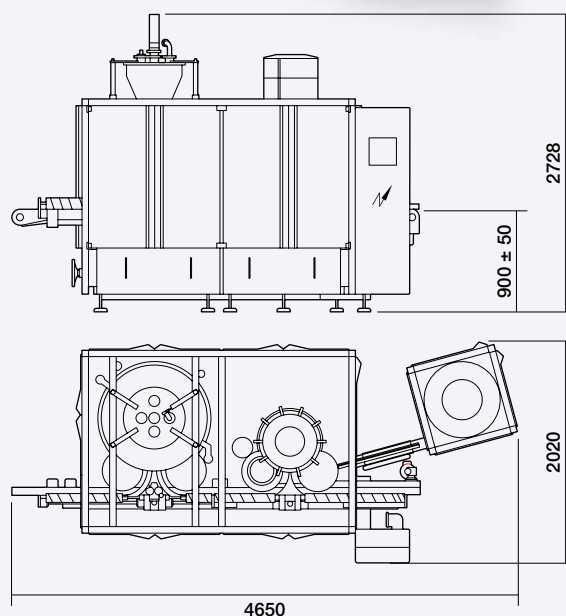
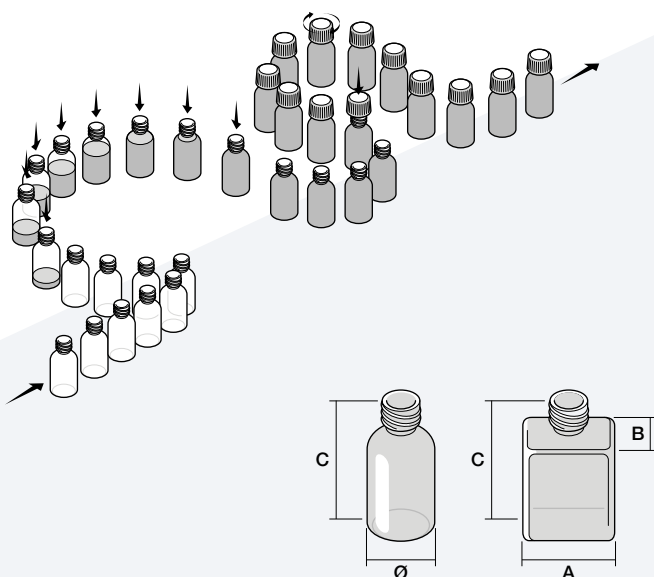
### TECHNICAL DATA

|                         |            |       |
|-------------------------|------------|-------|
| Mechanical speed        | STROKES/1' | 150   |
| Power absorption (max.) | kW         | 8     |
| Air consumption         | NI/1'      | 400   |
| Air pressure            | bar        | 5-6   |
| Net weight              | kg         | ~1400 |



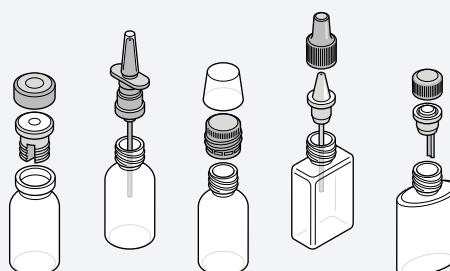
# L112/L212

HIGH SPEED  
CONTINUOUS  
MOTION  
LIQUID FILLING AND  
CAPPING MACHINE



## TECHNICAL DATA

|                  |            | L112   | L212   |
|------------------|------------|--------|--------|
| Mechanical speed | STROKES/1' | 80÷400 | 80÷400 |
| Power absorption | kW         | 5      | 7      |
| Air consumption  | NI/1'      | 100    | 100    |
| Air pressure     | bar        | 5-6    | 5-6    |
| Net weight       | kg         | ~1400  | ~1950  |



## Volumetric dosing with screw

This filling method is suitable for dosing fine powders directly into the bottle.

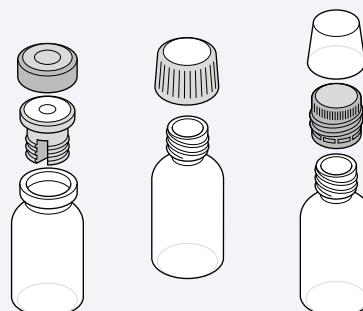
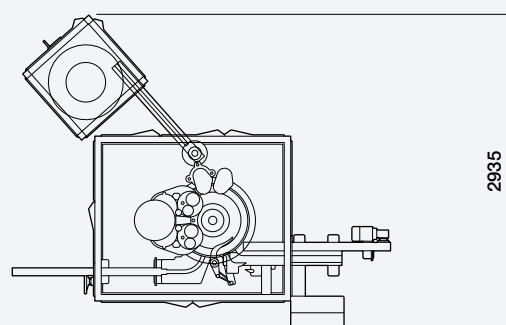
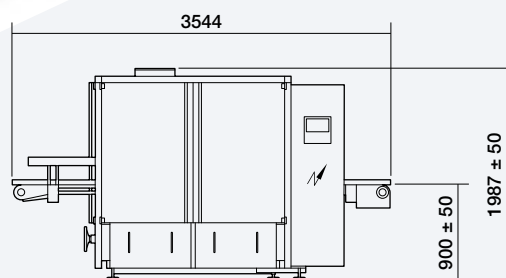
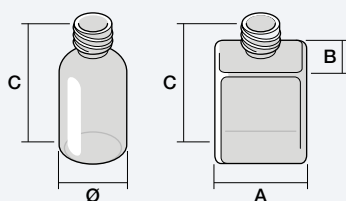
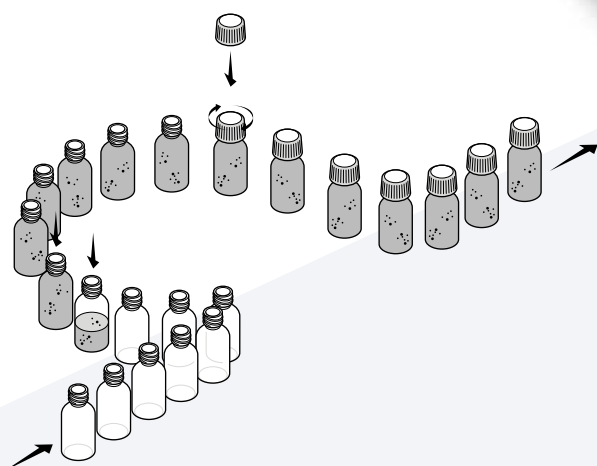
The parts of the machine in contact with dust are made of AISI316L stainless steel and other FDA-approved materials. The dosage is volumetric and is carried out by means of an auger. The machine can be equipped with one or two dosing heads. In the case of two heads, the dosage can be divided for a single powder or each head can dose a specific powder if two different powders are to be dosed in the same bottle.

The dosing screw is driven by a servo motor, which is remote in the machine's HMI interface. To minimize powder leakage between the dosing auger and the bottle mouth during the dosing phase, the bottle is lifted and pressed against the gland, which protects the auger. The mouthpiece is sized according to the size of the bottle's mouth. You can also install various dust extraction points and connect them to an industrial vacuum cleaner.



# DA

## INTERMITTENT MOTION POWDER DOSING AND CAPPING MACHINE

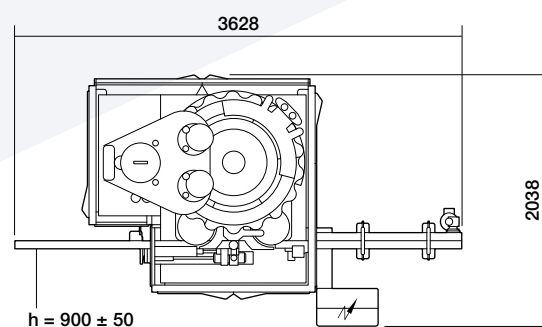
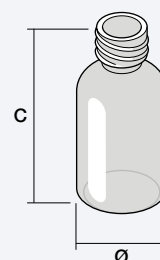
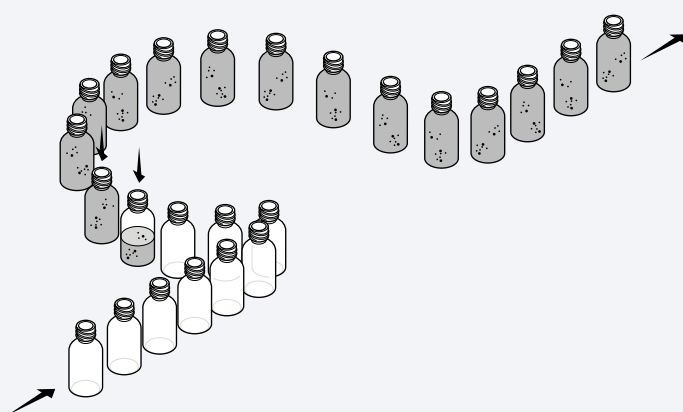


### TECHNICAL DATA

|                  |            |      |
|------------------|------------|------|
| Mechanical speed | STROKES/1' | 80   |
| Power absorption | kW         | 8    |
| Air consumption  | NI/1'      | 400  |
| Air pressure     | bar        | 5-6  |
| Net weight       | kg         | 1400 |

# D100

CONTINUOUS  
MOTION POWDER  
DOSING MACHINE



## TECHNICAL DATA

|                  |            |       |
|------------------|------------|-------|
| Mechanical speed | STROKES/1' | 150   |
| Power absorption | kW         | ~3    |
| Net weight       | kg         | ~2000 |

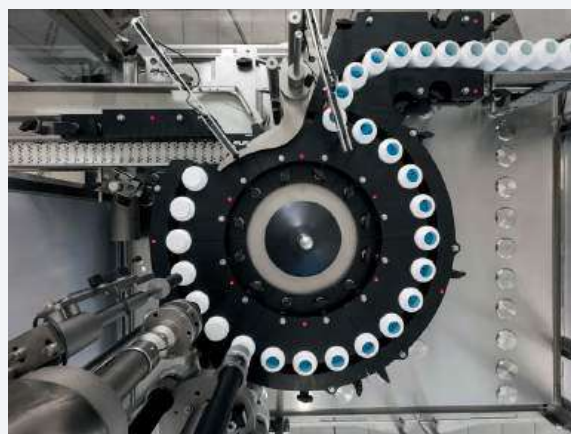
## Electronic counter for pills and tablets

The system involves the integration of an electronic counting module for pills, tablets and oblongs directly into the bottles. The counting module consists of separate vibratory plates, each with dedicated lanes that ensure smooth product transport and optimal separation, which is critical for counting. Under the vibratory plates there are trays that collect dust and small chips, which can be connected to an external extraction system.

Each lane ends in a channel where infrared sensors verify the passage of the product and count it. The

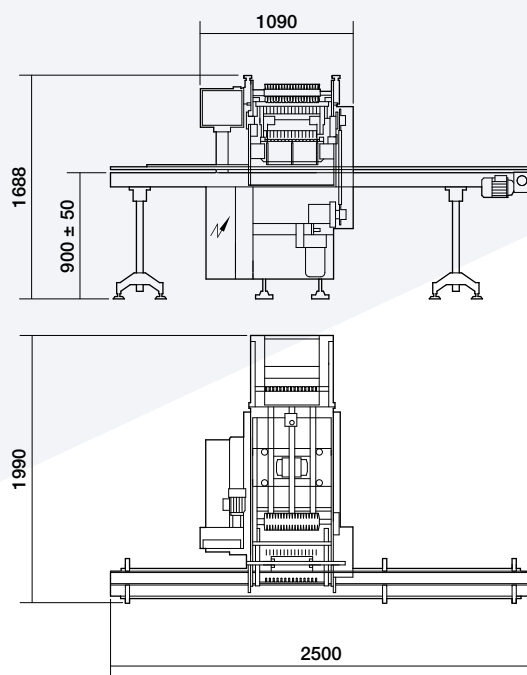
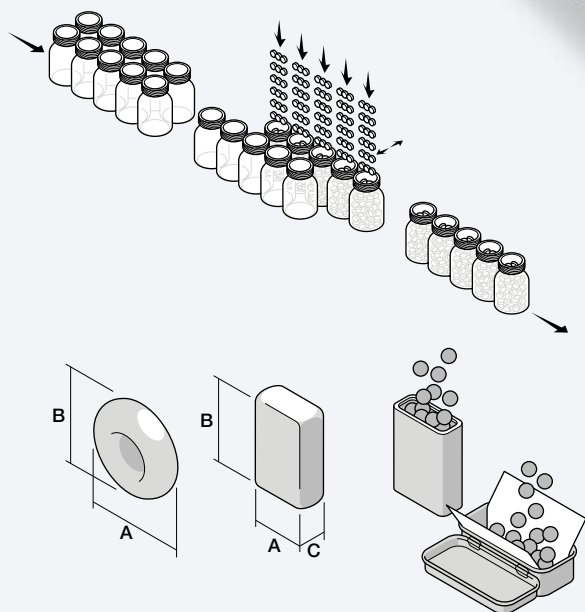
detectable size range is from 3 mm to 20 mm. For each channel there is a flap driven by an engine that separates the completed count from the next one. Once closed, the products for later counting are collected on the flap flaps, allowing for continuous operation.

Typical speeds are around 45 plastic bottles per minute for a count of 100 convex pills. The use of an electronic counting system does not require the replacement of format parts as the type of product changes. The dosing funnel is formed on the base of the mouth of the bottle and can be changed without the use of tools. The parts in contact with the product are made of SS stainless steel, aluminum and FDA-approved plastic material.



# CM

## SLAT-TYPE COUNTING MACHINE



| TECHNICAL DATA   |            | CM/30      | CM/45      |
|------------------|------------|------------|------------|
| Production up to | TABLETS/1' | 6000       | 9000       |
| Power absorption | kW         | 2.5 (Max.) | 2.5 (Max.) |
| Air consumption  | NI/1'      | 16.9       | 16.9       |
| Air pressure     | bar        | 6          | 6          |
| Net weight       | kg         | ~ 600      | ~ 830      |

## In the pharmaceutical industry, efficiency and precision in the capping process are crucial to ensure product quality and safety

Non-sterile pharmaceutical caps are stored in bags and poured by the operator into vibrating cups, who sort them for automatic feeding into the machine. The automatic capping machine works in different ways depending on the type of cap. The main types of caps are as follows:

**PRESSURE CAP:** Positively applied for vertical interference. The correct force acts on the deflection of the cap.

**SCREW CAP:** Applied positively by screwing. The first station pre-screws the cap, the second completes the screwing. This second station is equipped with a servo motor that allows you to indirectly identify the screwing torque by varying or controlling the intensity of current generated by the servomotor. The spindles are equipped with a magnetic clutch.

**ALUMINUM CAP:** It is not a capping application, but a crimping one. During the passage, the cap undergoes a dedicated punching and then a seaming and finishing operation.

**PLASTIC DISPENSER:** It is not a capping application, but a seaming application. During the passage, the cap undergoes a dedicated punching.



## Torque Control in Bottle Closure Systems: Ensuring Integrity and Safety

**TORQUE CONTROL CONSISTS OF TWO MAIN STEPS:** The rotational torque (or opening torque) and the tightening torque

**ROTATIONAL TORQUE (OR OPENING TORQUE):** The force required for access. It is essential that this force is adequate: if too low, the closure could open unintentionally; if it is too high, it may be difficult or impossible to open the bottle.

**TIGHTENING TORQUE:** The force that ensures tightness. The correct tightening torque is crucial to prevent damage to the fastener thread, which could lead to warping or leakage.

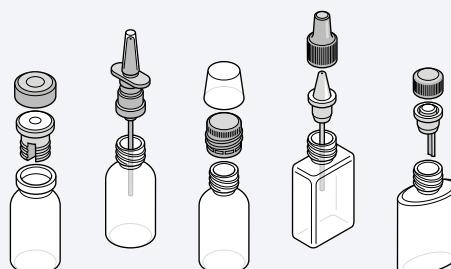
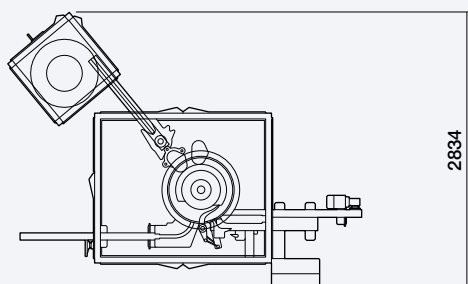
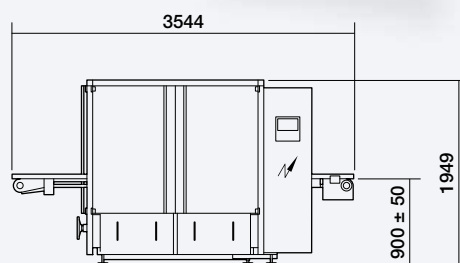
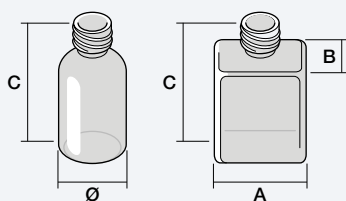
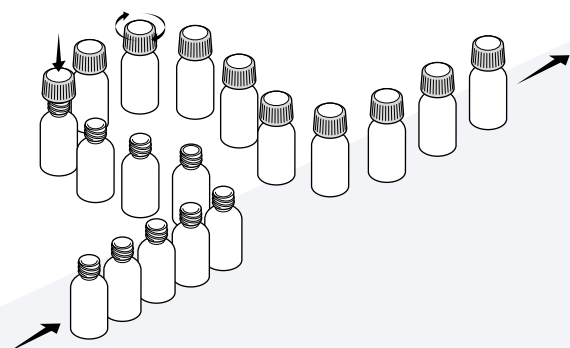


## Optimal Values and Measurement

The optimal torque values, both for tightening and opening, are specific to each type of package and depend on the size of the caps. For accurate control, the cap size is determined based on the diameter of the bottle mouth. To calibrate the optimal torque value on a capping machine, the cap is applied to a representative sample of bottles with the clamping torque value required by the customer. Next, the torque required to open the corked bottles is measured using a torque meter. Generally, the opening torque should be about 40-60% of the applied torque value.

**QUALITY ASSURANCE AND CONTROL:** To check the machine's function in detail, the tightening torque is checked at regular intervals. For quality control purposes, torque measurement must be performed within 5 minutes of the closure being applied, ensuring that the values are within the established parameters. This rigorous control process ensures that each bottle is sealed effectively and securely, protecting both product quality and the consumer experience.

## TA

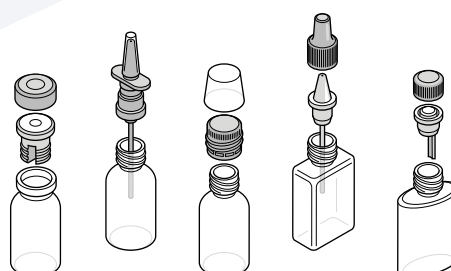
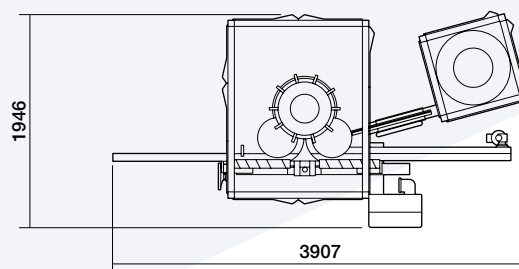
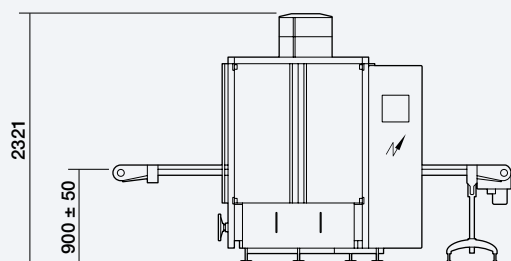
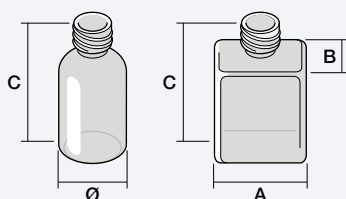
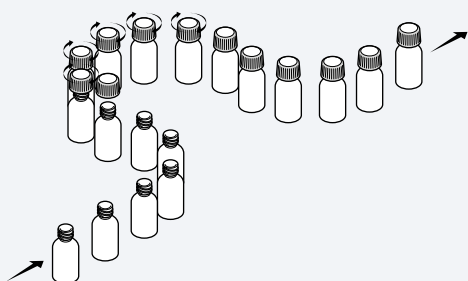
INTERMITTENT  
MOTION CAPPING  
MACHINE

## TECHNICAL DATA

|                  |            |       |
|------------------|------------|-------|
| Mechanical speed | STROKES/1' | 90    |
| Power absorption | kW         | 8     |
| Air consumption  | NI/1'      | 400   |
| Air pressure     | bar        | 5-6   |
| Net weight       | kg         | ~1400 |

# T105/T205

CONTINUOUS  
MOTION CAPPING  
MACHINE



## TECHNICAL DATA

|                         |            |       |
|-------------------------|------------|-------|
| Mechanical speed (max.) | STROKES/1' | 400   |
| Power absorption (max.) | kW         | 7     |
| Air pressure            | bar        | 5-6   |
| Net weight              | kg         | ~1200 |

Labellers are essential tools in the packaging industry, designed to apply self-adhesive labels to bottles, vials, ampoules and cartridges with precision and reliability.

## **LINEAR AND ROTARY LABELING MACHINES FOR SELF-ADHESIVE LABELS**

Our linear labeling machine is designed to apply self-adhesive labels to bottles with precision and reliability. It is equipped with a single or double head for printing and OCR/OCV control, a label presence control device and a reject system. This machine is ideal for applying labels on both sides of oval or rectangular shaped bottles.

In response to the needs of major pharmaceutical companies, CAM has designed an high-speed monoblock rotatory labeller for labeling vials, cartridges and syringes.

Self-adhesive labels are applied by a roller at a speed of up to 500 labels/min for labels up to 48 mm in length. The labeling unit can perform inkjet or thermal transfer printing, depending on the production speed and label type. The unit is also fully controllable via the machine's operator panel, with settings for print parameters and label format data.

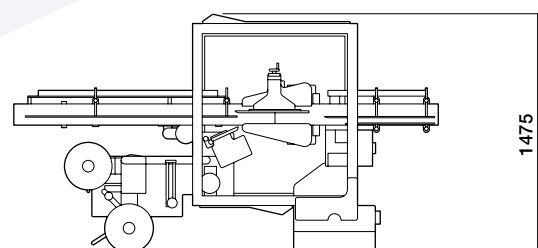
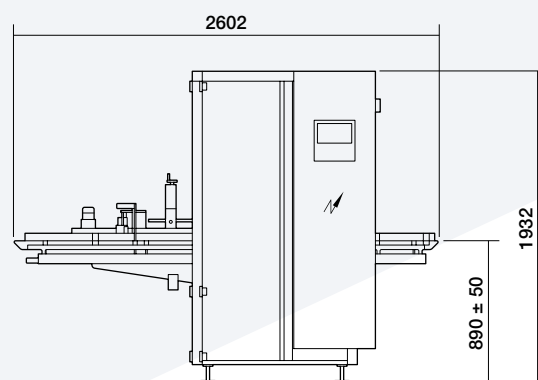
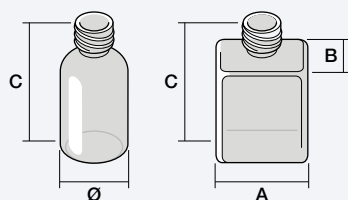
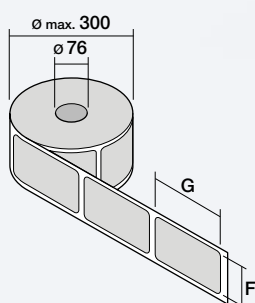
The machine can be further customized with the following equipment:

- Control systems to ensure the correct printing and application of labels
- Label Code Reader
- Lot code control systems
- Product rejection system



# EL

## LINEAR MOTION LABELLER FOR SELF-ADHESIVE LABELS ON BOTTLES

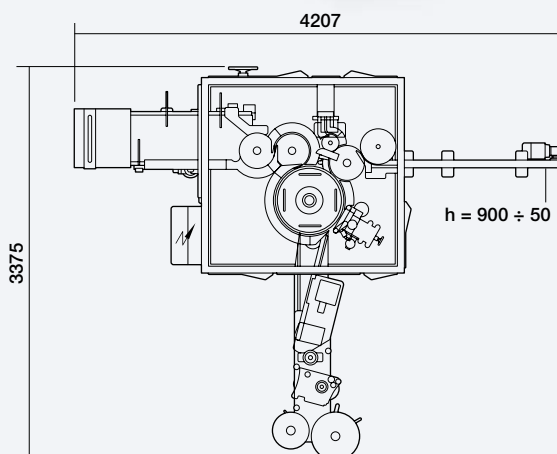
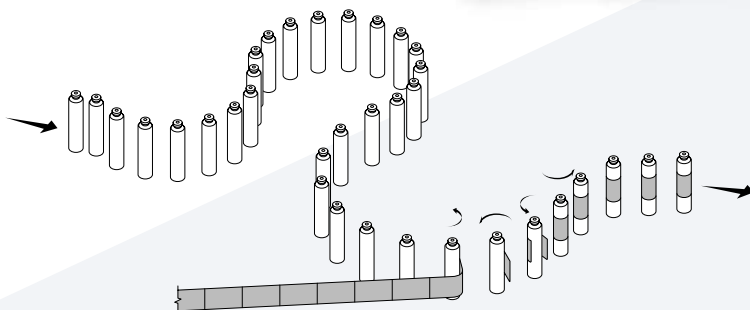
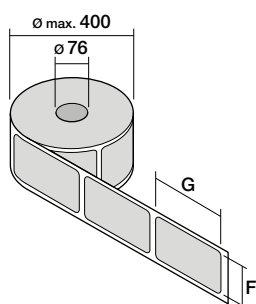


### TECHNICAL DATA

|                  |            |      |
|------------------|------------|------|
| Mechanical speed | STROKES/1' | 200  |
| Power absorption | kW         | 2.5  |
| Air consumption  | NI/1'      | 1    |
| Air pressure     | bar        | 5÷6  |
| Net weight       | kg         | ~150 |

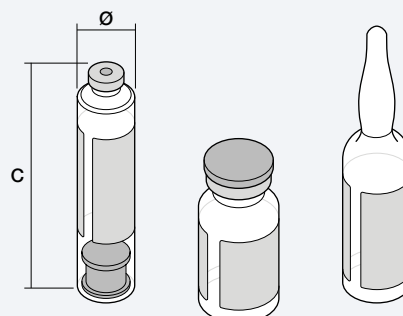
# LR

## HIGH SPEED ROTARY LABELLER



### TECHNICAL DATA

|                  |              |       |
|------------------|--------------|-------|
| Mechanical speed | CYCLES/1'    | 500   |
| Power absorption | kW           | 8     |
| Air consumption  | NI/min 6 bar | 100   |
| Air pressure     | bar          | 6     |
| Net weight       | kg           | ~1600 |



## Assembly of inhalers: from the spray bottle to final packaging

The assembly of inhalers in carton begins with an automatic sorting system for spray dispensers, followed by the feeding of the dispensers together with the spray bottles. These components are mechanically assembled to form the complete inhaler. The inhalers are then conveyed on a conveyor belt to the high-speed horizontal cartoning machine. During this step, brochures and package inserts are inserted using specific feeders, while a reverse-motion carton opening system prepares the packages for product insertion. After insertion, an inkjet printer codes the cartons, which are then closed and sent to a horizontal cartoner for final packaging in shipping cartons.



## Inhale in flowpack solutions

The assembly of inhalers involves an automated sequence in which the devices are sorted and inserted into a flowpack machine, where silica gel sachets are also added to maintain quality. Next, a printing and labeling system identifies each package, while forming and cutting stations shape the packaging. Finally, the inhalers are transferred to the cartoning stage via a special feeder, completing the packaging process efficiently and safely.



## Testing machine for spray cans

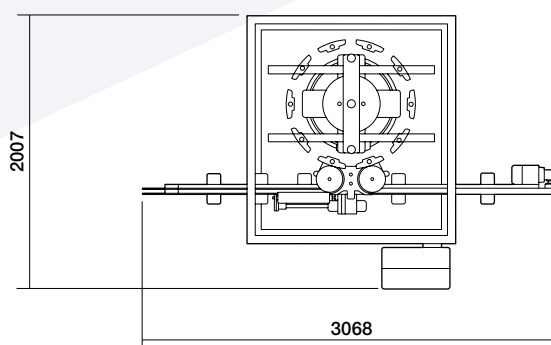
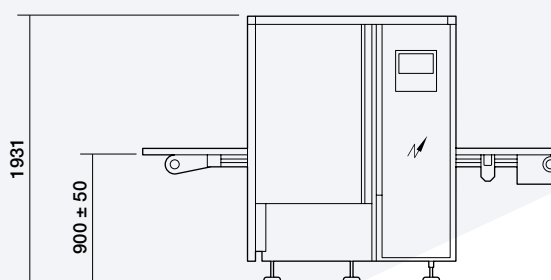
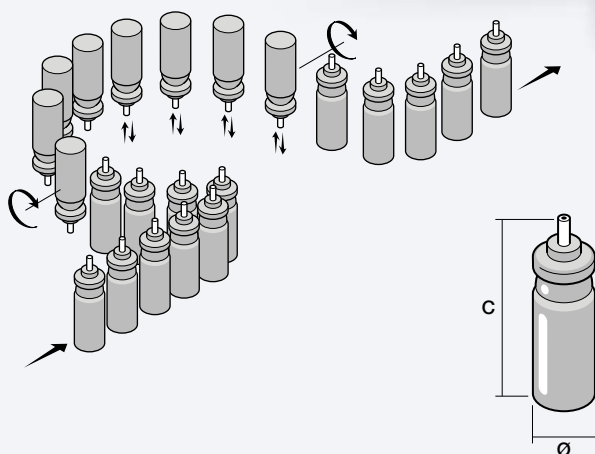
The spray test machine is designed to verify the correct operation of the valve installed on aerosol cans. The product is introduced into the equipment and positioned with the valve facing downwards by means of an automatic clamping system. During programmed rotation, the process is divided into three distinct phases:

- Loading of the can into the test station.
- Initial activation of the valve through controlled spray dispensing.
- Final verification of dispensing, performed using dedicated fiber optic sensors after the second activation of the valve.



# MT

## TESTING MACHINE FOR SPRAY CANS



### TECHNICAL DATA

|                  |            |       |
|------------------|------------|-------|
| Mechanical speed | STROKES/1' | 300   |
| Power absorption | kW         | 3     |
| Air consumption  | NI/1'      | 100   |
| Air pressure     | bar        | 5-6   |
| Net weight       | kg         | ~1900 |

## Feeding systems

CAM cartoning machines offer a wide range of feeders and are characterized by their extremely compact layout, specifically designed to allow for easy and rapid integration within existing production lines, optimizing available space without compromising efficiency.

## Blade opening and Erection system

CAM carton erection systems ensure a positive, total and progressive pre-breakage of the cartons, allowing low grammage board to be used even when handling square-section formats or carton with glueing and creasing imperfections.

## Rotating Opening System

Our carton opening system using a "ROTATING HEAD" allows picking from the warehouse at "0" speed, total and progressive storage of the cases. Each individual storage station is composed of 2 arms with suction cups that pull two adjacent faces of the case, ensuring positive opening, regardless of the weight and quality of the cardboard used or the section of the case. The opening system is defined as "positive": since the opening occurs, via a suction cup system, following the flow of movement and not by contrast.



## Main features

### ULTRA COMPACT LAYOUT

The CAM cartoners are characterised by an extremely compact layout so that it can be easily integrated in any production site.

### PERFECT PRODUCT INTRODUCTION

Perfect product introduction (even for products with irregular shape/dimensions) is guaranteed by the insertion of the moveable mouthpiece inside the carton, avoiding any uncontrolled passage of product from bucket to carton. Products are also prevented from straying out of the carton by the action of the spring loaded guides which automatically close during the return stroke of the pusher.

### HIGH RELIABILITY

CAM cartoning machines are characterized by a design based on solid mechanical concepts, in addition the use of closed profile cams with surface hardening treatment, guarantees the reliability of all positive driven movements during the course of time. CAM cartoners can be equipped with a complete range of product feeding systems and additional units, such as: coders, leaflet and booklet feeders, detection and reject devices, etc.

### FAST AND SIMPLE FORMAT CHANGE-OVER

All CAM machinery, are equipped with the Mechanical Memory® system, transforming complete size change-over into a series of rapid and pre-set operations, which can be carried-out by unskilled personnel allowing production to be resumed immediately without the need for fine-tuning adjustments.

Complete the characteristics of the CAM cartoners: Wide range of automatic feeders to handle any type of product. Great autonomy of the carton magazine, easy to be accessed, loading from the top.

Low power consumption thanks to a single mechanical transmission axis that drives all the main stations.

### EASY CHANGE CLOSURE UNIT

CAM has recently developed and patented a new carton closure system, that grants the possibility of: carrying out format change without requiring the services.





## End-of-Line Packaging Solutions

Explore our versatile range of end-of-line machinery, designed to meet diverse packaging needs. CAM catalogue includes machines for Trak & Trace solutions, cartons can be bundled, stretched and packaged in differently kind of boxes. To complete the production line all the palletizing systems.

Through the serialization improved, it is possible to install all the aggregation solutions at the end of the line in the end of the line can be installed all the solutions for the aggregation required as per customers needs. Discover the ideal solution to optimize your packaging process.



## The Monobloc Case Packer

A new and modern design horizontal monobloc case-packer, for packing products into small and medium sized cases: particularly suited to the pharmaceutical, cosmetic and food sectors. Engineered for overall compactness, accessibility, and ease of format changeover, the SMP maintains CAM's renowned robustness and reliability.

Its cantilever structure separates mechanical components from the product handling area, providing easy operator access for feeding, management, and maintenance. The simple yet reliable case forming, transfer, and closure system, combined with a proven product stacking and loading mechanism, ensures exceptional reliability even in demanding environments.

Case closure options include adhesive tape, gummed paper, hot-melt glue, or vinyl. Like all CAM machines, CAM machines feature the Mechanical Memory® system, significantly reducing format changeover time to simple adjustments at fixed reference points, achievable in minutes by any operator without special tools.

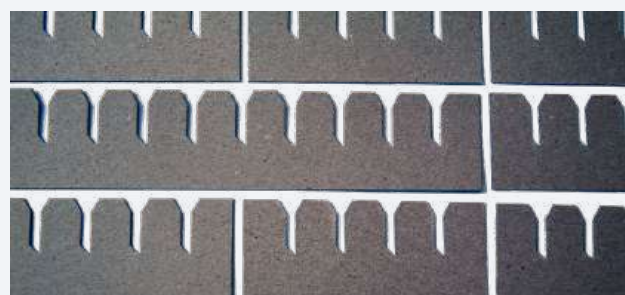
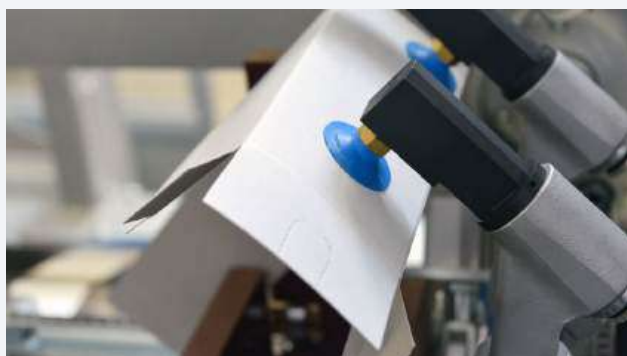
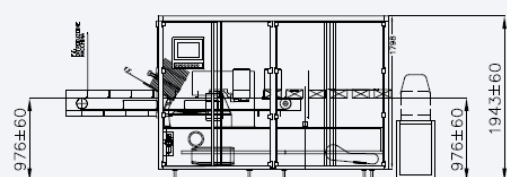
The case packer module can be further enhanced with optional accessories such as a taping device with full case perimeter overlap, case stamping device, label applicator, and label printer.



**CAM's NCX Tray Forming Machine** emerges as a state-of-the-art solution for automating tray forming, filling and closing by integrating several key functionalities into one system.

This machine is distinguished by its sophisticated triple-lane conveyor designed to ensure a continuous and cadenced workflow. The triple lane system allows several process steps to be handled simultaneously, significantly increasing the speed and overall efficiency of the packaging line.

An essential component of the NCX is the leaflet feeder, an integrated device for the automatic feeding of leaflets or information material into the tray. This feature eliminates the need for a separate manual operation, further optimizing production time and ensuring that each package contains the information needed by the consumer.



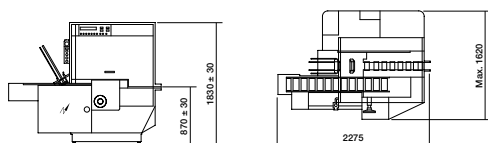
The heart of the system is represented by the section dedicated to tray forming and product loading. The machine is designed to precisely form trays of different sizes and configurations, ensuring stability and protection for the products contained. At the same time, an integrated loading system places products inside the formed trays, ensuring accurate and repeatable filling.

The next step in the process is the hot-melt glue box closure, this technology ensures a robust and reliable sealing of the trays, protecting the contents during the transport and storage phases. The hot glue provides a fast and durable adhesion, contributing to the integrity of the final packaging.

To ensure traceability and regulatory compliance, the NCX Tray Forming Machine is equipped with an ink-jet code printing/reading device () and a reject system (rejection device). This system allows you to print identification codes, production dates, lots or other relevant information directly on the trays. Then, a reading system checks the printed codes for correctness and, in case of anomalies, activates a discard mechanism to remove non-conforming packages from the production line.

## PMM

INTERMITTENT  
MOTION  
HORIZONTAL  
CARTONER

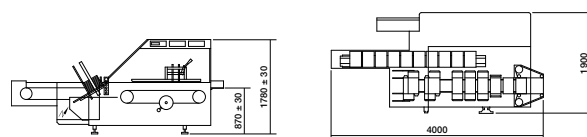


### TECHNICAL DATA

|                  |            |                          |
|------------------|------------|--------------------------|
| Mechanical speed | STROKES/1' | 25-140                   |
| Power absorption | kW         | 1.55<br>(Hot-melt + 3.9) |
| Air consumption  | NI/1'      | 16.9                     |
| Air pressure     | bar        | 5-6                      |
| Net weight       | kg         | ~1050                    |

## PG

INTERMITTENT MOTION  
HORIZONTAL CARTONER  
FOR LARGE SIZE  
PRODUCTS

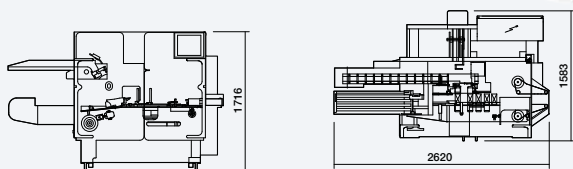


### TECHNICAL DATA

|                  |            |                         |
|------------------|------------|-------------------------|
| Mechanical speed | STROKES/1' | 15-60                   |
| Power absorption | kW         | 2.5<br>(Hot-melt + 3.9) |
| Air consumption  | NI/1'      | 16.9                    |
| Air pressure     | bar        | 5-6                     |
| Net weight       | kg         | ~1800                   |

## PVX

HIGH SPEED  
INTERMITTENT  
MOTION  
HORIZONTAL  
CARTONER

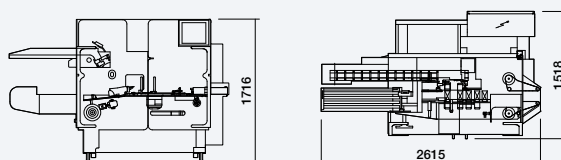


### TECHNICAL DATA

|                  |            |                         |
|------------------|------------|-------------------------|
| Mechanical speed | STROKES/1' | 165                     |
| Power absorption | kW         | 2.1<br>(Hot-melt + 3.9) |
| Air consumption  | NI/1'      | 16.9                    |
| Air pressure     | bar        | 5-6                     |
| Net weight       | kg         | ~1230                   |

## PMX

INTERMITTENT  
MOTION  
HORIZONTAL  
CARTONER

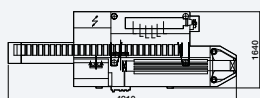
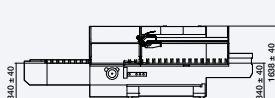


### TECHNICAL DATA

|                  |            | PMX/1                    | PMX/2                    |
|------------------|------------|--------------------------|--------------------------|
| Mechanical speed | STROKES/1' | 25-150                   | 25-110                   |
| Power absorption | kW         | 1.75<br>(Hot-melt + 3.9) | 1.75<br>(Hot-melt + 3.9) |
| Air consumption  | NI/1'      | 16.9                     | 16.9                     |
| Air pressure     | bar        | 5-6                      | 5-6                      |
| Net weight       | kg         | ~1230                    | ~1230                    |

## HV

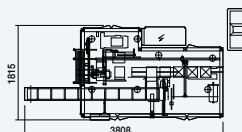
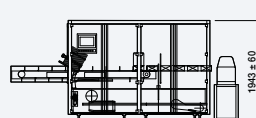
**HIGH SPEED CONTINUOUS  
MOTION HORIZONTAL  
CARTONER**



| TECHNICAL DATA   |            | HV/1                     | HV/2                     |
|------------------|------------|--------------------------|--------------------------|
| Mechanical speed | STROKES/1' | 400                      | 260                      |
| Power absorption | kW         | 5.20<br>(Hot-melt + 3.9) | 5.20<br>(Hot-melt + 3.9) |
| Air consumption  | NI/1'      | 16.9                     | 16.9                     |
| Air pressure     | bar        | 5-6                      | 5-6                      |
| Net weight       | kg         | ~2500                    | ~2500                    |

## NCX

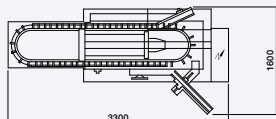
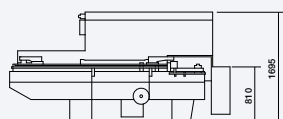
**TRAY FORMING  
MACHINE**



| TECHNICAL DATA          |            |       |
|-------------------------|------------|-------|
| Mechanical speed (Max.) | STROKES/1' | 50    |
| Power absorption        | kW         | 3.5   |
| Air consumption         | NI/1'      | 150   |
| Air pressure            | bar        | 5-6   |
| Net weight              | kg         | ~1600 |

## AV

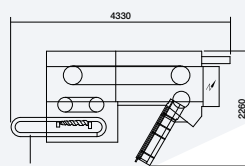
**INTERMITTENT MOTION  
VERTICAL CARTONER FOR  
MANUAL OR AUTOMATIC  
FEEDING**



| TECHNICAL DATA   |            |                         |
|------------------|------------|-------------------------|
| Mechanical speed | STROKES/1' | 15-70                   |
| Power absorption | kW         | 1.2<br>(Hot-melt + 3.9) |
| Air consumption  | NI/1'      | 16.9                    |
| Air pressure     | bar        | 5-6                     |
| Net weight       | kg         | ~1200                   |

## AVC

**HIGH SPEED CONTINUOUS  
MOTION HORIZONTAL  
CARTONER**

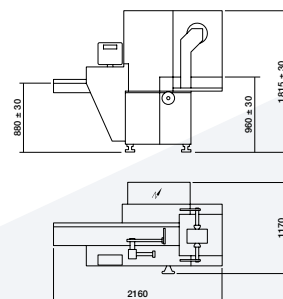


| TECHNICAL DATA   |            | AVC/1                   | AVC/2                   |
|------------------|------------|-------------------------|-------------------------|
| Mechanical speed | STROKES/1' | 300                     | 200                     |
| Power absorption | kW         | 3.8<br>(Hot-melt + 3.9) | 3.8<br>(Hot-melt + 3.9) |
| Air consumption  | NI/1'      | 16.9                    | 16.9                    |
| Air pressure     | bar        | 5-6                     | 5-6                     |
| Net weight       | kg         | ~2000                   | ~2000                   |

## Overwrapping

### ASB38

BUNDLER WITH STRETCH-BANDING  
OR SHRINK-WRAPPING

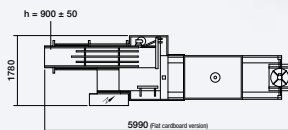


#### TECHNICAL DATA

|                         |            |         |
|-------------------------|------------|---------|
| Mechanical speed (Max.) | STROKES/1' | 30      |
| Power absorption (Max.) | kW         | 1.8     |
| Air consumption         | NI/1'      | 180-300 |
| Air pressure            | bar        | 5-6     |
| Net weight              | kg         | ~600    |

### NV750

INTERMITTENT MOTION BUNDLER  
WITH SHRINK-WRAPPING

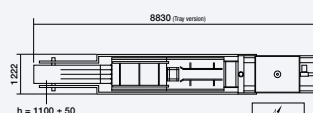


#### TECHNICAL DATA

|                  |            |       |
|------------------|------------|-------|
| Mechanical speed | STROKES/1' | 10-17 |
| Power absorption | kW         | 13    |
| Air consumption  | NI/1'      | 13    |
| Air pressure     | bar        | 6     |
| Net weight       | kg         | ~1100 |

### NV700

CONTINUOUS MOTION BUNDLER  
WITH SHRINK-WRAPPING



#### TECHNICAL DATA

|                         |            |       |
|-------------------------|------------|-------|
| Mechanical speed (Max.) | STROKES/1' | 25    |
| Power absorption        | kW         | 13    |
| Air consumption         | NI/1'      | 7     |
| Air pressure            | bar        | 6     |
| Net weight              | kg         | ~2000 |

## Case packing

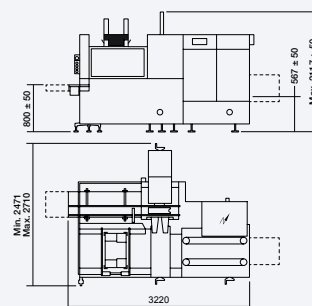
### SM80

HIGH SPEED HORIZONTAL CASE-PACKER  
FOR SHIPPING CASES



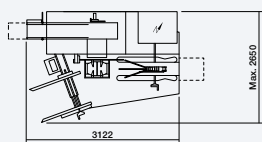
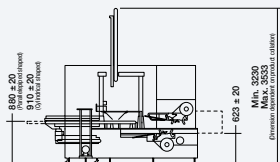
#### TECHNICAL DATA

|                         |            |                       |
|-------------------------|------------|-----------------------|
| Mechanical speed (Max.) | STROKES/1' | 16                    |
| Power absorption        | kW         | 4<br>(Hot-melt + 7.5) |
| Air consumption (Max.)  | NI/1'      | 1200                  |
| Air pressure            | bar        | 5-6                   |
| Net weight              | kg         | ~1700                 |



### SMV

VERTICAL  
CASE-PACKER FOR  
SHIPPING CASES

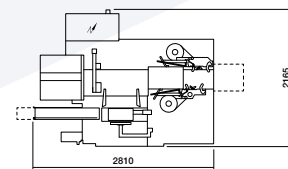
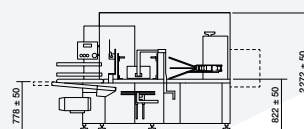


#### TECHNICAL DATA

|                    |            | SMV/1                 | SMV/2                 |
|--------------------|------------|-----------------------|-----------------------|
| Pick & place speed | STROKES/1' | 20                    | 40                    |
| Production up to   | CASES/1'   | 12                    | 15                    |
| Power absorption   | kW         | 8<br>(Hot-melt + 3.2) | 8<br>(Hot-melt + 3.2) |
| Air consumption    | NI/1'      | 500                   | 500                   |
| Air pressure       | bar        | 6                     | 6                     |
| Net weight         | kg         | ~1850                 | ~2000                 |

### SMP

HORIZONTAL  
CASE-PACKER  
FOR SHIPPING  
CASES



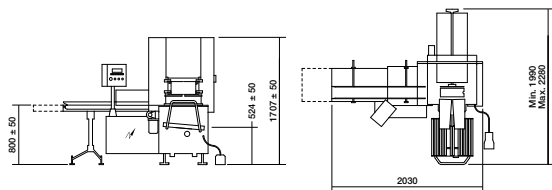
#### TECHNICAL DATA

|                  |            |                         |
|------------------|------------|-------------------------|
| Mechanical speed | STROKES/1' | 10                      |
| Power absorption | kW         | 5.6<br>(Hot-melt + 3.5) |
| Air consumption  | NI/1'      | 700                     |
| Air pressure     | bar        | 5-6                     |
| Net weight       | kg         | ~1750                   |

Case packing

SMA80

SEMI-AUTOMATIC  
CASE-PACKER



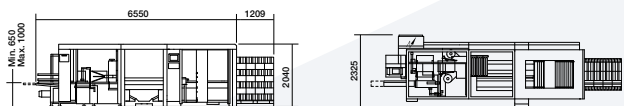
TECHNICAL DATA

|                         |            |       |
|-------------------------|------------|-------|
| Mechanical speed (Max.) | STROKES/1' | 6     |
| Power absorption        | kW         | 1.2   |
| Air consumption         | NI/1'      | 500   |
| Air pressure            | bar        | 5-6   |
| Net weight              | kg         | ~ 650 |



SPZ

CASE-PACKING AND CASE-PALLETIZING MONOBLOC



TECHNICAL DATA

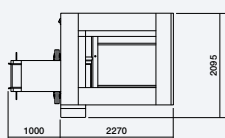
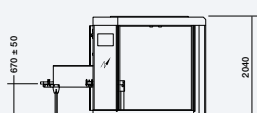
|                         |            |                         |
|-------------------------|------------|-------------------------|
| Mechanical speed (Max.) | STROKES/1' | 10                      |
| Power absorption (Max.) | kW         | 7.6<br>(Hot-melt + 3.5) |
| Air consumption         | NI/1'      | 705                     |
| Air pressure            | bar        | 6                       |
| Net weight              | kg         | ~ 2500                  |
| Weight lifted           | kg         | 50                      |



## Palletizer

### ZP1

PALLETIZER  
FOR SHIPPING  
CASES



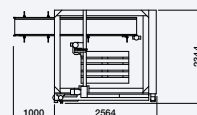
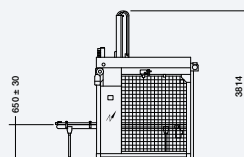
#### TECHNICAL DATA

|                         |            |       |
|-------------------------|------------|-------|
| Mechanical speed (Max.) | STROKES/1' | 12    |
| Air absorption (Max.)   | kW'        | 4     |
| Air consumption         | NI/Cycle   | 5     |
| Air pressure            | bar        | 6     |
| Net weight              | kg         | ~ 750 |
| Weight lifted (Max.)    | kg         | 50    |



### ZP EASY

PALLETIZER FOR  
SHIPPING CASES



#### TECHNICAL DATA

|                         |            |       |
|-------------------------|------------|-------|
| Mechanical speed (Max.) | STROKES/1' | 12    |
| Air absorption (Max.)   | kW'        | 4     |
| Air consumption         | NI/Cycle   | 15    |
| Air pressure            | bar        | 6     |
| Net weight              | kg         | ~ 750 |
| Weight lifted (Max.)    | kg         | 50    |



## Matrix table of liquid and powder line composition

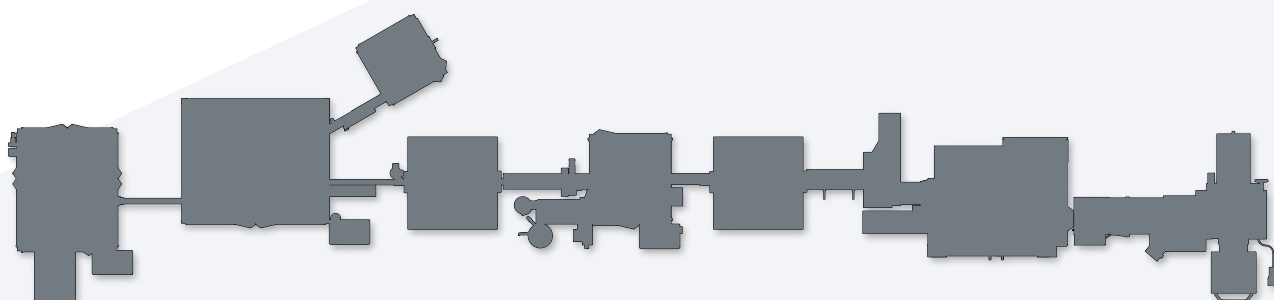
| PRIMARY PACKAGING                  |         |         |             |                          |       |    |                  |           | SECONDARY PACKAGING |         |     |     |                          | END OF LINE        |  |
|------------------------------------|---------|---------|-------------|--------------------------|-------|----|------------------|-----------|---------------------|---------|-----|-----|--------------------------|--------------------|--|
| MACHINE MODELS<br>FILLING MACHINES | LIQUIDS | POWDERS | SPEED (bpm) | BLOWING/SUCTION MACHINES |       |    | CAPPING MACHINES |           |                     |         |     |     |                          |                    |  |
|                                    |         |         |             | TSA                      | SVA   | MS | TA               | T105/T205 | AV                  | PMM-PMX | PVX | AVC | HV                       |                    |  |
|                                    |         |         |             | Up To                    | Up To |    |                  | Up To     |                     | Up To   |     |     |                          |                    |  |
|                                    |         |         | 100         | 150                      | 300   |    |                  | 50        | 100                 | 150     | 200 | 300 |                          |                    |  |
| LA                                 | V       |         | 60          | V                        |       |    |                  | V         | V                   |         |     |     | LABELLING - TRACEABILITY | TTS                |  |
| L60 1T/2T                          | V       |         | 200         |                          | V     | V  |                  |           |                     | V       | V   | V   | BUNDLING                 | ASB38 G35          |  |
| L112/212                           | V       |         | 300         |                          |       | V  |                  |           |                     |         | V   | V   | CASE PACKER              | SMA80 SM80 SMP SMV |  |
| DA                                 |         | V       | 50          | V                        |       |    |                  | V         | V                   |         |     |     | PALLETIZING              | ZP EASY - ZP1      |  |
| D100                               |         | V       | 150         |                          | V     | V  |                  |           |                     | V       | V   | V   |                          |                    |  |



## COMPLETE LIQUID HORIZONTAL PACKAGING LINE UP TO 60 BOTTLES/MINUTE

**TSA + LA + TR + EL + TR + PMX + SMA80**

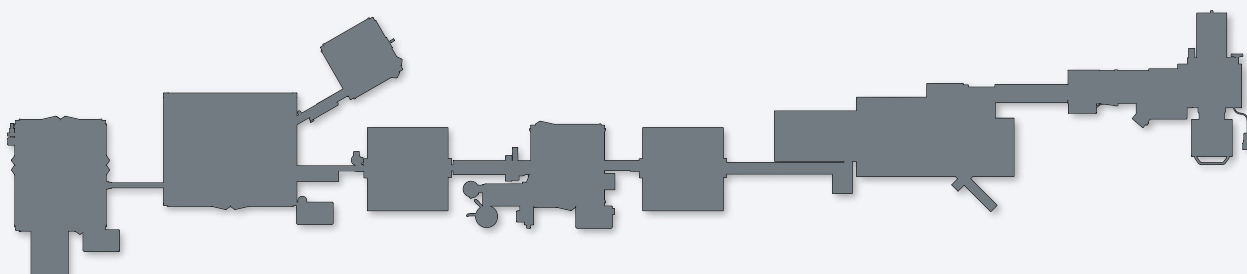
A complete packaging line for liquids including bottle cleaning, filling/capping, labelling, horizontal cartoning and case packing units. The line achieves production speeds of up to 60 bottles per minute.



## COMPLETE LIQUID VERTICAL PACKAGING LINE UP TO 50 BOTTLES/MINUTE

**TSA + LA + TR + EL + TR + AV + SMA80**

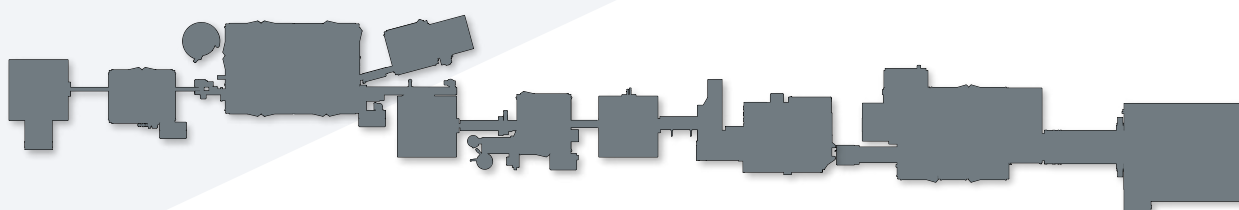
A complete packaging line for liquids including bottle cleaning, filling/capping, labelling, vertical cartoning and case packing units. The line achieves production speeds of up to 50 bottles per minute.



## COMPLETE LIQUID HORIZONTAL PACKAGING LINE UP TO 150 BOTTLES/MINUTE

**TR + SVA + L60-1T + TR + EL + TR + PVX + SMP + ZP1**

A complete packaging line for liquids including bottle cleaning, filling/capping, labelling, horizontal cartoning, case packing and palletizing units. The line achieves production speeds of up to 150 bottles per minute.



## COMPLETE LIQUID VERTICAL PACKAGING LINE UP TO 150 BOTTLES PER MINUTE

**TR + SVA + L60-1T + TR + EL + TR + PVX + SMP + ZP1**

A complete packaging line for liquids including bottle cleaning, filling/capping, labelling, vertical cartoning,

case packing and palletizing units. The line achieves production speeds of up to 150 bottles per minute.

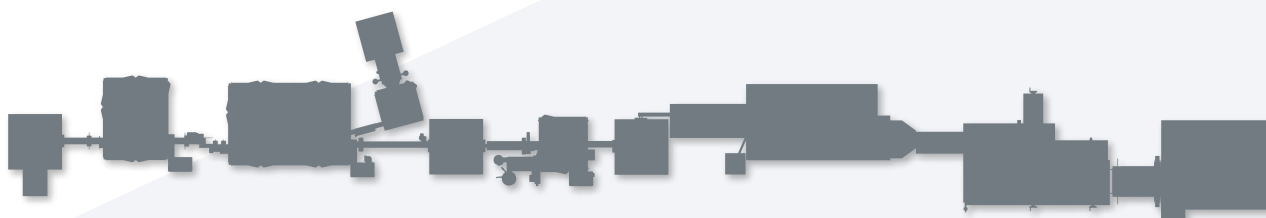


## COMPLETE LIQUID HORIZONTAL PACKAGING LINE UP TO 300 BOTTLES PER MINUTE

**TR + MS + L112 + TR + EL + TR + HV + SM80 + ZP1**

A complete packaging line for liquids including bottle cleaning, filling/capping, labelling, horizontal cartoning, case packing and palletizing units. The

line achieves production speeds of up to 300 bottles per minute.

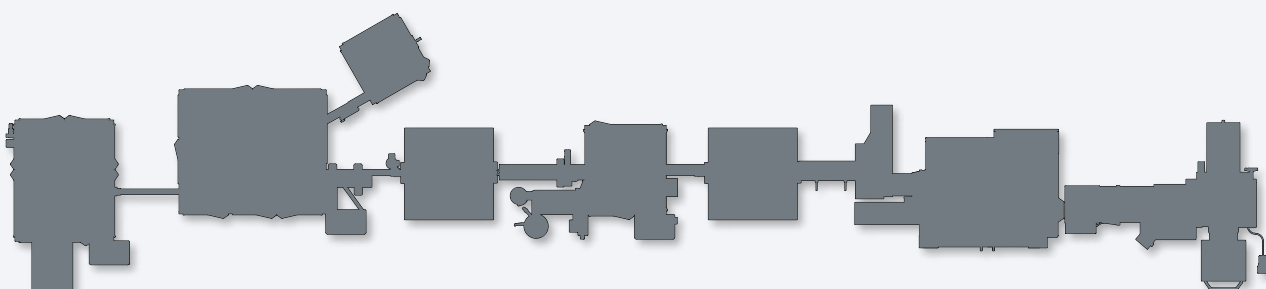


## COMPLETE POWDER HORIZONTAL PACKAGING LINE UP TO 50 BOTTLES PER MINUTE

**TSA1000 + DA + TR1000 + EL + TR1000 + PMX + SMA80**

A complete packaging line for powders including bottle cleaning, filling/capping, labelling, horizontal

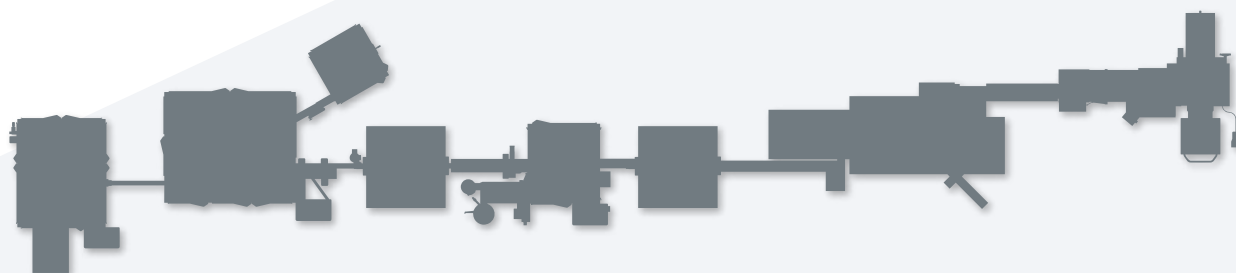
cartooning and case packing units. The line achieves production speeds of up to 50 bottles per minute.



## COMPLETE POWDER VERTICAL PACKAGING LINE UP TO 50 BOTTLES PER MINUTE

**TSA1000 + DA + TR1000 + EL + TR1000 + AV + SMA80**

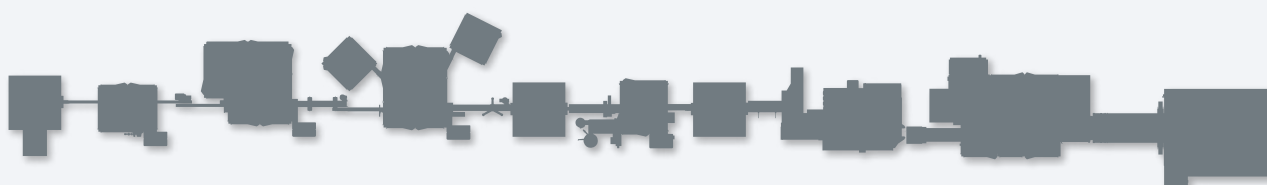
A complete packaging line for powders including bottle cleaning, filling/capping, labelling, vertical cartoning and case packing units. The line achieves production speeds of up to 50 bottles per minute.



## COMPLETE POWDER HORIZONTAL PACKAGING LINE UP TO 150 BOTTLES PER MINUTE

**TR + SVA + D100 + TR + EL + TR + PVX + SMP + ZP1**

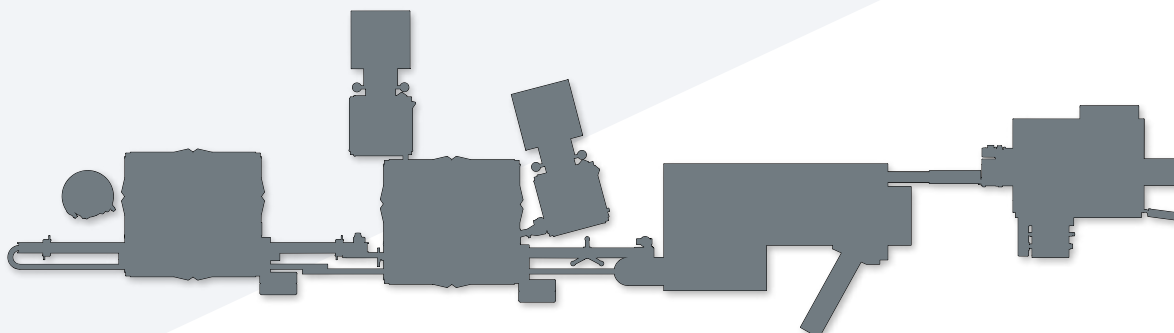
A complete packaging line for powders including bottle cleaning, filling/capping, labelling, horizontal cartoning, case packing and palletizing units. The line achieves production speeds of up to 150 bottles per minute.



## COMPLETE COSMETIC VERTICAL PACKAGING LINE UP TO 100 BOTTLES PER MINUTE

**LL + T205 + AVC + RD**

A complete packaging line for liquids including filling, capping, vertical cartoning and wrapping units. The line achieves production speeds of up to 100 bottles per minute.



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