

**E-CO FLEX**

THE ROOTS OF A NEW  
PACKAGING ERA



**IMA**  **E-COMMERCE**  
Advanced Packaging Solutions

# The roots of a new packaging era





**E-CO Flex** an innovative automated packaging station designed to streamline the packing process and provide invaluable support to operators. This cutting-edge, highly modular solution leverages the customer's existing case suite, enabling it to intelligently select the most suitable case size for each product to be packed. The process involves retrieving the appropriate blank from the magazine, expertly erecting, downsizing, and securely sealing the box with water-activated tape. The result is an optimal case size, leading to reduced dimensional (DIM) weight and significant freight savings.

The equipment is composed of two standalone units:

- case magazine and forming module
- down-sizing (reshaping) and case closing module.

These two modules can be combined in an infinite number of configurations, offering adaptive solutions in a rapidly evolving market.

# CASE MAGAZINE AND FORMING UNIT



The E-CO Flex boasts the market's widest case magazine, capable of accommodating up to 12 distinct box sizes. This intelligent system efficiently selects the most suitable box size based on the volume of each individual order to be packed.

The E-CO Flex case magazine is designed to avoid downtimes and machine stops: if a cassette runs out of cases, the equipment selects the next best-fit size box until the magazine is replenished.

After the case is formed, the bottom is securely sealed using Water-Activated Tape (WAT). Additionally, a barcode is assigned to the box, by either applying an ID label or directly printing it on the corrugated surface.

## NEVER LEAVE AN EMPTY MAGAZINE, THANKS TO LCD LIGHT ALERTS

<p>TRAY 1 F1234</p> 	<p>TRAY 1 F1234</p> 	<p>TRAY 1 F1234</p> 
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RED LIGHT  
The magazine is empty

ORANGE LIGHT  
The magazine will soon  
need replenishment

GREEN LIGHT  
The magazine is full

# WAT TAPE APPLICATION

Thanks to the partnership with Intertape Polymer Group, market leader for water-activated sealing tape, E-CO Flex integrates a Water-Activated Tape (WAT) head, which applies recyclable reinforced paper packaging tape used by top e-commerce retailers. It generates an immediate destructive bond, resulting in a tamper evident package.

Exclusive distributor  
for North America



## PACKING STATION

If the case forming and closing modules are combined in a packing station configuration, a dedicated workstation is provided to connect the two processes seamlessly. The formed and bottom-taped cases are dispensed by the forming unit to this workstation. Here, the operator, guided by the HMI (Human-Machine Interface), proceeds to insert the items intended for shipping and appropriately secures them with the necessary dunnage.

Once the packing is completed, the operator can activate the motorized belt of the workstation using a LED button. This action smoothly transfers the packed box to the closing module for final sealing and preparation for shipping.

# DOWN-SIZING AND FLAPS CLOSING UNIT

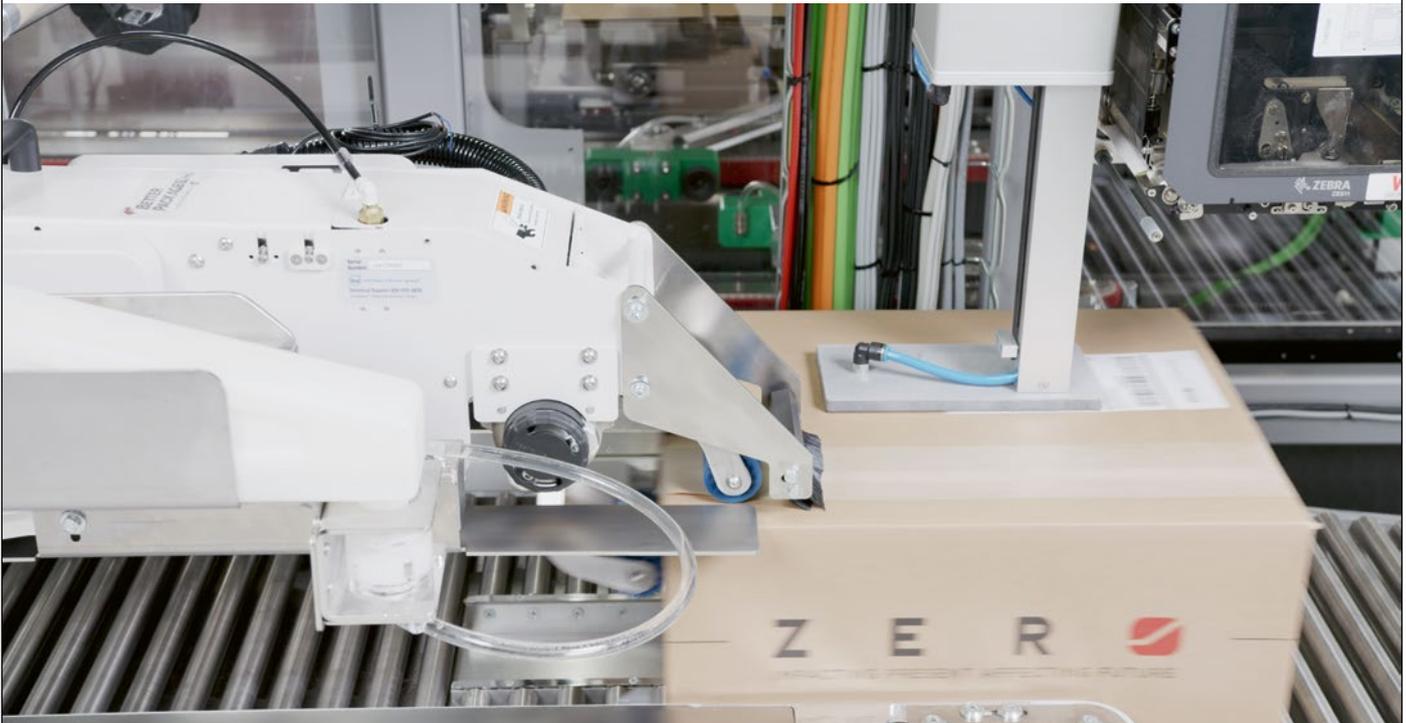


Upon inserting the open-faced case into the closing module, a bank of ultrasonic sensors meticulously measures the remaining void within the box.

If the case is the ideal height, the E-CO Flex lowers the flaps and applies WAT on top.

Should the system detect an opportunity to optimize the box height, it immediately initiates the process. The machine automatically centers the case within the downsizing unit, which then precisely cuts its four corners to the depth indicated by the sensor. Simultaneously, the flaps folding mechanism adapts to the new case dimensions and repositions the taping head accordingly.

# SHIPPING LABEL APPLICATION



As an optional feature, the E-CO Flex can be equipped with a Print & Apply unit, enabling the seamless placement of a shipping label on the finished case.

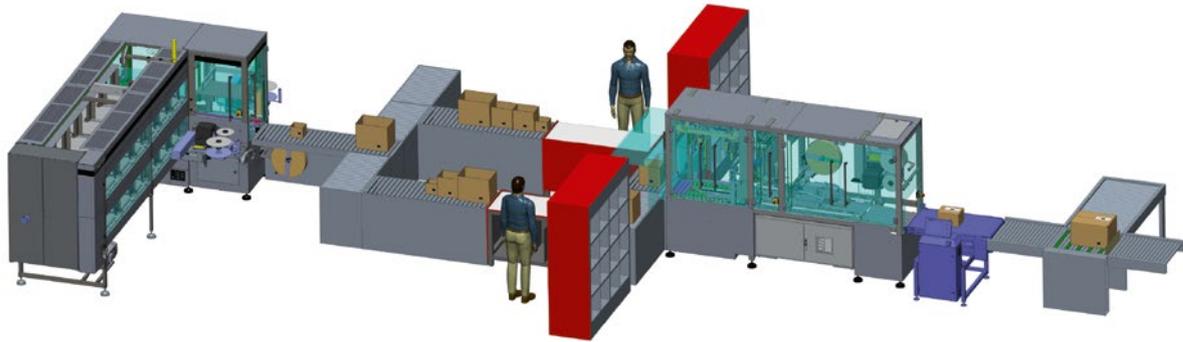
For added functionality, the system can include a check-weighing station to verify the weight of each case. If necessary, this weight information can be printed on the shipping label.

An Artificial Intelligence-based Vision System is used to meticulously verify the correct closure of the flaps and ensure the integrity of the taping process.

# TWO MODULES, ONE MACHINE ENDLESS CONFIGURATIONS

## WMS integrated put-to-wall

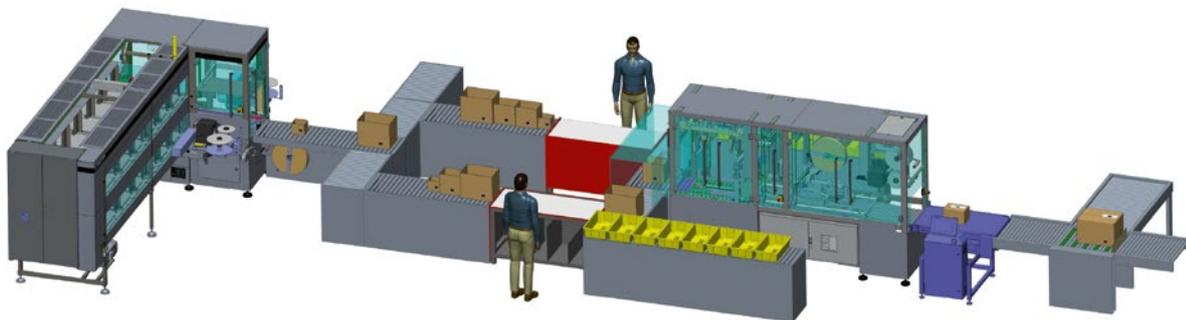
A cutting-edge 12-cassette case magazine efficiently supplies two distinct working stations, each capable of producing up to 10 boxes per minute. The first station is dedicated to forming and bottom taping the cases, once finished, are then directed to the appropriate pack station for product filling. Once the cases are filled with products, both operators benefit from a shared closing module that offers downsizing capabilities. Finally, the process completes with top flap folding and water activated tape application.



# NE:

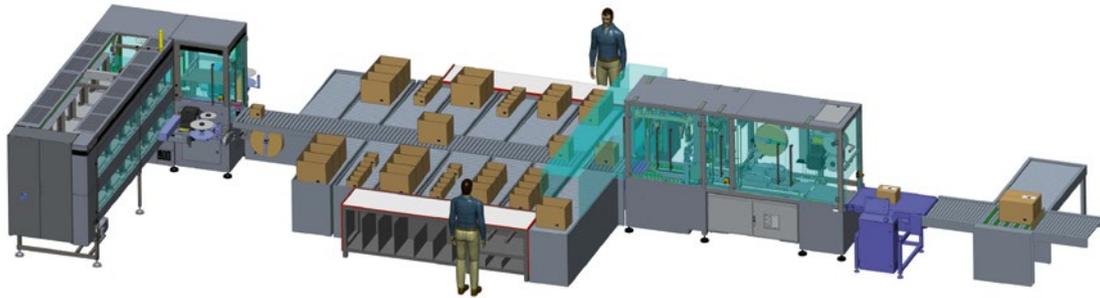
## WMS integrated tote-based layout

The case magazine efficiently supplies two packing stations, where products are received from a tote-based system. The right size case for each order can be chosen using either the customer's WMS or a dimensioning system to measure the required volume. Once the boxes are filled, both packers take advantage of the convenience of a shared closing machine. This integrated setup ensures a smooth and productive packaging process, optimizing efficiency and minimizing redundancy.



# Case erecting for right size box selection by operator

When the customer's WMS lacks precise product cubing information or requires manual selection of the right case size, the E-CO Flex proves to be of great help. Its case forming module pre-assembles various box sizes, which are then diverted to separate slipways. Here, operators visually assess the incoming orders and select the most suitable case for packing. This flexible and intuitive process streamlines the packing workflow, ensuring efficient and optimal packaging for each order, while minimizing waste and enhancing customer satisfaction.



# Case erecting for pick-to-box

The E-CO Flex platform is perfectly suited for pick-to-box operations. Its versatile case magazine can be used in a multi-format case erecting mode, supplying various box sizes to the slipways. This allows the same cases to be made available for pick-to-box tasks, where the order picker takes multiple cases onto a cart. Each picked product is promptly placed into the specific case designated for shipping. Additionally, the slipways can be configured to enable warehouse automated systems, such as AMRs.



## E-CO FLEX TECHNICAL DATA

Throughput speed (cases per minute)	Up to 10 CPM
Electric*	480V ( $\pm 10\%$ ), 3 Phase + 1 ground, 60 Hz, 10A
Air	Pressure 6 bar (87 psi)
Bench height	33.5" (85 cm)
Machine dimensions	224" x 134" x 84" (5.7m x 3.4m x 2.1m)

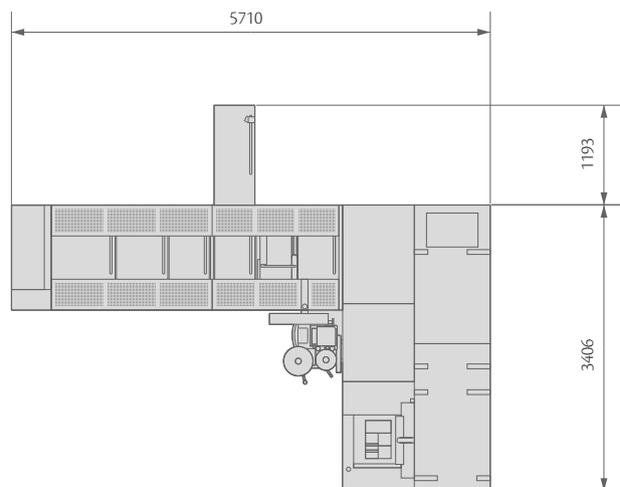
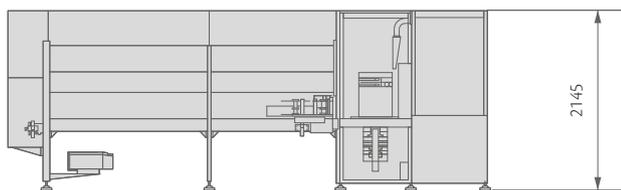
## CASE TECHNICAL DATA

Min case - internal dimensions (L x W x H)	7" x 6" x 3" (17.78 cm x 15.24 cm x 7.62 cm)
Max case - internal dimensions (L x W x H)	21" x 15" x 13" (53.34 cm x 38.1 cm x 33.02 cm)
Case type	Standard or multi - depth case - RSC - 0201

## TAPE TECHNICAL DATA

Adhesive technology	Water-activated (or gummed) tape
Tape roll specification	3" core width max roll diameter 20"
Tape width	2.75" - 3" (70-76 mm)
Corrugated box layout	Right hand or left hand

\*Other input voltages available



**E-CO FLEX**

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IMA S.p.A. reserves the right to make any changes to the described machine characteristics.

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