

FULLER®

VENTOMATIC® EMPTY BAG HANDLING STORAGE

AUTOMATION THAT KEEPS YOUR PACKING LINE FLOWING

VENTOMATIC® EMPTY BAG HANDLING STORAGE

The entire VENTOMATIC empty bag handling storage systems is an integrated range of machines engineered to handle, store, and apply empty bags within industrial packing plants, such as those for cement, building materials and more.

KEY BENEFITS

01

High operating capacity
(up to 6000 bags/hour)

02

Handling of various bag types (paper, plastic, Woven Polypropylene (WPP), glued or stitched valve)

03

Compatibility with both rotary and in-line packers

04

Easy maintenance and full integration with plant control systems

05

Higher plant autonomy, reduced manual handling

06

Improved safety and uptime across the entire bag handling system

VENTOMATIC® EMPTY BAG HANDLING STORAGE

SMART AUTOMATION STARTS AT THE EMPTY BAG

Modern packing plants demand precision, flexibility and high throughput. Every detail, even before the filling process begins, makes the difference in performance and reliability.

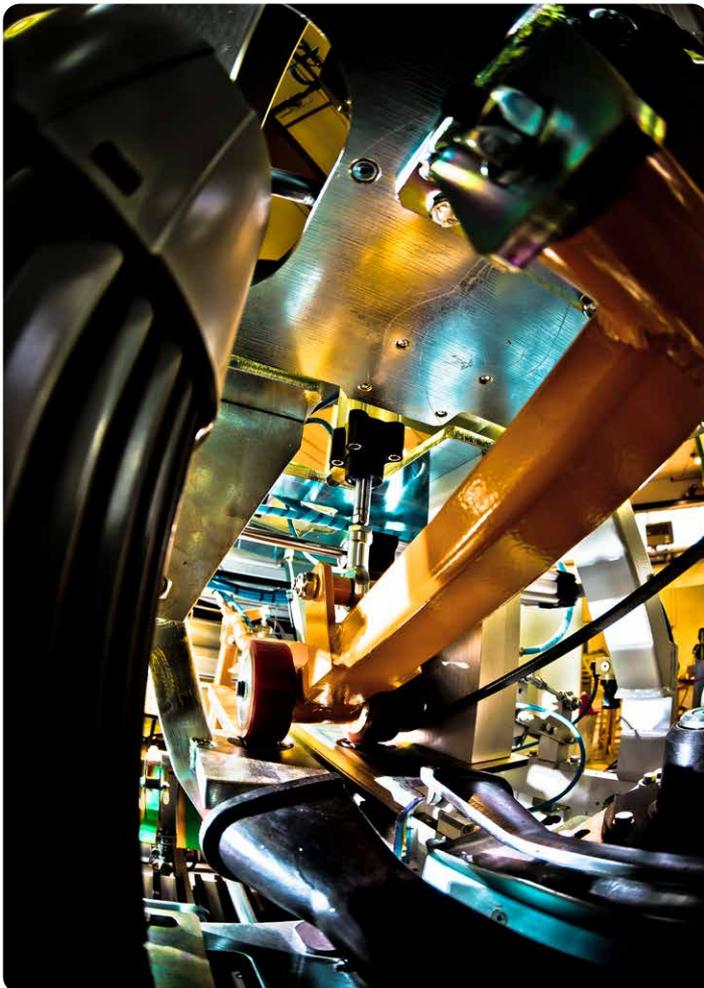
We offer a complete range of systems to handle empty valve bags with the same accuracy and care applied to the rest of the packing process.

From automatic de-palletizing to bag storage and application on rotary or in-line packers, our solutions ensure a continuous, controlled and fully automated bag flow.

We call it the smart link between logistics and production, turning empty bags into productivity.

A complete, modular system for every type of bag and every plant layout.

VENTOMATIC empty bag handling storage systems are designed as modular building blocks. Each unit performs a specific function within the bag-feeding cycle, and together, they form an integrated and seamless process, from empty bag storage systems (NORIAMAT H Empty Bag Storage and VENTOFEEED SR Empty Bag De-palletiser) to automatic bag application on the packer (INFILROT Bag applicators or LINEAR EVO Bag Applicator).



INFILROT™ bag applicator detail

VENTOFEEED™ SR Empty Bag De-palletiser

Unloads full pallets of bag bundles and feeds the storage line automatically.

NORIAMAT™ H Empty Bag Storage

Holds up to 1600 bags, stabilizes the bundle and ensures continuous feeding to the applicator.

INFILROT™ bag applicators or LINEAR™ EVO Bag Applicator

The heart of the system, applying the empty bags precisely onto the packer spouts.

Depending on the plant configuration, the core of the process is based on two main architectures:

Rotary packers → INFILROT bag applicators series
In-line packers → LINEAR EVO Bag Applicator

The result is a consistent, uninterrupted supply of bags, whatever their material, design or manufacturing origin (paper, Woven Polypropylene (WPP); glued or stitched valves).

Performance, reliability, integration

Each solution is engineered for long-term reliability and simple maintenance.

Thanks to advanced mechatronic design, electric actuation and intuitive Human Machine Interface (HMI) control, the operator can monitor, adjust and optimize every phase of the cycle.

Key advantages

- Continuous bag flow from pallet to packer
- High capacities up to 6000 bags/hour with > 99.5 % reliability
- Full flexibility for different bag materials and dimensions
- Easy integration with existing packers and Distributed Control Systems (DCS) systems
- Reduced downtime and maintenance
- Improved safety and ergonomics for plant operators

And because all modules are designed and manufactured in-house, every element, from bag storage to the bag applicator, is optimized to operate as a single, efficient ecosystem.

Efficiency begins before filling

Empty bag handling is no longer a side process. It's the first step toward higher productivity, cleaner operation and smarter logistics.



Detail of NORIAMAT™ H Empty Bag Storage forks



INFILROT™ Bag applicators suction cups



VENTOFEED™ SR Empty Bag De-palletiser
 Designed to feed storage and applicator units with bundles of empty bags



NORIAMAT™ H Empty Bag Storage
 Designed to buffer and feed bundles of bags to the applicator



INFILROT BU® Bag Applicator
 Applies glued-valve paper and WPP bags to rotary packers

INFILROT BU® SB Bag Applicator

Applies stitched paper or plastic bags to rotary packers

INFILROT BU® XS Bag Applicator

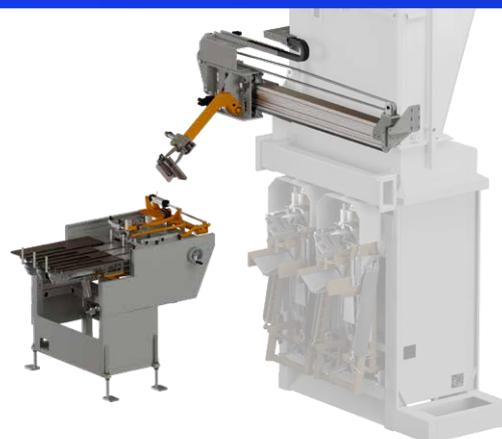
Applies glued or stitched bags to rotary packers



INFILROT™ Z 40 Bag Applicator
 Applies glued-valve paper and WPP bags to high-capacity rotary packers



INFILROT™ Z 60 Bag Applicator
 Applies glued-valve paper and WPP bags to high-capacity rotary packers



LINEAR™ EVO Bag Applicator
 Applies paper, WPP or plastic bags to in-line packers

RECOMMENDED MACHINE CONFIGURATION AND CAPACITY

We offers a complete portfolio of automatic solutions for handling and applying empty valve bags, whether glued or stitched, made of paper or woven polypropylene, ensuring the highest performance for all the specific bag type and packing configuration.

| BAG TYPE |  |  |  |  |
|---|---|---|---|---|
| | GLUED PAPER BAG* | GLUED WPP BAG* | PAPER STITCHED BAG | STITCHED BAG |
| VENTOFEED™** Empty Bag De-palletiser | Up to 6000 bags/h de-palletized | Up to 6000 bags/h de-palletized | NA | NA |
| VENTOFEED™ SR Empty Bag De-palletiser | Up to 6000 bags/h de-palletized | Up to 6000 bags/h de-palletized | NA | NA |
| NORIAMAT™ H Empty Bag Storage | Up to 1,600 bags stored | Up to 1,600 bags stored | Up to 1,600 bags stored | Up to 1,600 bags stored |
| INFILROT BU® Bag Applicator | Up to 3000 bags/h applied | Up to 3000 bags/h applied | NA | NA |
| INFILROT BU® SB Bag Applicator | NA | NA | Up to 2400 bags/h applied | Up to 2400 bags/h applied |
| INFILROT BU® XS Bag Applicator | Up to 3000 bags/h applied | Up to 3000 bags/h applied | NA | NA |
| INFILROT™ Z 40 Bag Applicator | Up to 4320 bags/h applied | Up to 4320 bags/h applied | NA | NA |
| INFILROT™ Z 60 Bag Applicator | Up to 6000 bags/h applied | Up to 5000 bags/h applied | NA | NA |
| LINEAR™ EVO Bag Applicator | Up to 1500 bags/h applied | Up to 1500 bags/h applied | NA | NA |

* Capacity data are intended for standard valve bags (no sealing valve).

** Designed to operate with strapped empty bag bundles.

BAG APPLICATORS OPERATOR PANEL

SMART CONTROL FOR SMARTER BAGGING

The Operator Panel is the digital heart of the bag applicators. Developed to simplify supervision and maximize reliability, it gives operators full visibility and control over every step of the bag application process, from bag pick-up to valve opening and synchronization with the packer.

Through an intuitive, multilingual HMI and a powerful Industrial Personal Computer (IPC)-based control system, the panel ensures quick setup, precise adjustments and real-time monitoring of machine performance.

Every function is designed to reduce human intervention and increase consistency, guaranteeing stable operation even at the highest capacities.

Full control at a glance

- Recipe management for different bag types and formats
- Automatic synchronization with rotary and in-line packers
- Real-time monitoring I/O and mechanical movements
- User-friendly interface with clear graphics and guided setup screens

The system automatically logs operating data and alarms, giving supervisors complete traceability of machine performance over time.

Digital integration ready

Plant Integration Interface L1/L2/L3 is available for all bag applicators, enabling two-way data exchange. Machines can not only provide data but also receive external instructions, allowing for real-time refinement of recipes and operating parameters.

This level of connectivity transforms INFILROT™ Bag applicators and LINEAR™ EVO Bag Applicator from a stand-alone machine into a smart, data-driven component of the entire packing process.



Touch screen Operator Panel

Key highlights

- HMI with 8" touch screen (INFILROT Bag applicators) and 12" touch screen (LINEAR EVO Bag Applicator) for an easy menu scrolling
- User friendly HMI for a quick setting of the parameters according to the variable bag
- Machine alarms, messages display and historical log of alarms
- Diagnostic data and trouble shooting support
- Machine data local back-up
- Easy to be interfaced to a supervision system for data exchange
- Field-bus control network
- Recipe-based automation, instant changeover between bag types
- Standard data interfaces (L1/L2/L3) – full digital integration with DCS



VENTOFEED™ SR EMPTY BAG DE-PALLETISER

VENTOFEED SR Empty Bag De-palletiser is the latest evolution in automatic empty bag handling, serving as the first link in a fully automated chain that extends from pallet unloading to bag application on the packer.



The first link in a fully automated chain

VENTOFEED SR Empty Bag De-palletiser automates the entire empty bag de-palletizing and feeding process, eliminating direct operator interaction while ensuring smooth, continuous operation. With a compact, robust and energy-efficient redesigned picking system, it delivers reliable continuous operation during long shifts, ensuring a smooth and consistent bag flow toward INFILROT™ Bag applicators or LINEAR™ EVO Bag Applicator.

New bag-picking head

A completely redesigned head manages unstrapped bag bundles, adapting dynamically to real pallet conditions. Using a servo-driven cartesian portal, the system scans, grips and transfers each bundle with exceptional precision.

- Laser scanning at the start of every cycle identifies the actual pallet position
- The head automatically adjusts its trajectory based on real-time laser feedback
- Vertical toothed belt ensures safe lifting of even deformed or irregular bundles, distributing the pulling force across multiple teeth
- Bundle-locking system stabilizes the bags during separation and lifting

This combination of mechanical robustness and smart sensing delivers unmatched reliability and consistency over time.

Cartesian portal

The system is built around a cartesian portal architecture that grants great stability and control. This design is simple, proven and easy to maintain, relying on well-known industrial technologies such as servo motors, belts, pulleys and linear guides.

- 20+ years of proven operation in cement plants worldwide
- Unified control system, HMI and recipe management
- One supplier for the entire system: machine, service and future upgrades



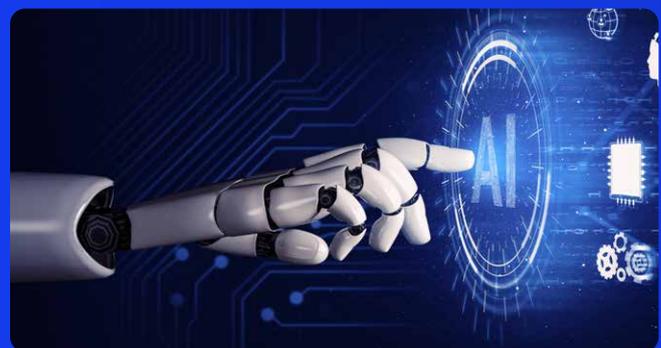
PATENT PENDING

AI features: smart detection for smarter handling

The latest generation of VENTOFEEED™ SR Empty Bag De-palletiser integrates AI-assisted laser technology to deliver unmatched precision in bag and pallet detection. Unlike conventional vision systems, which rely on cameras and stable lighting, our solution uses a single-point laser managed by intelligent algorithms that continuously learn and adapt to the actual position of the bundles on the pallet.

This smart detection system analyses the height, tilt and deformation of the pallet layer in real time, allowing the picking head to automatically correct its position before each cycle. The result is a stable, operator-free process that maintains accuracy even when bag bundles are misaligned, unstrapped or slightly deformed.

AI turns mechanical precision into intelligent autonomy, transforming empty bag handling from a repetitive task into a self-optimizing process.



Key AI functions

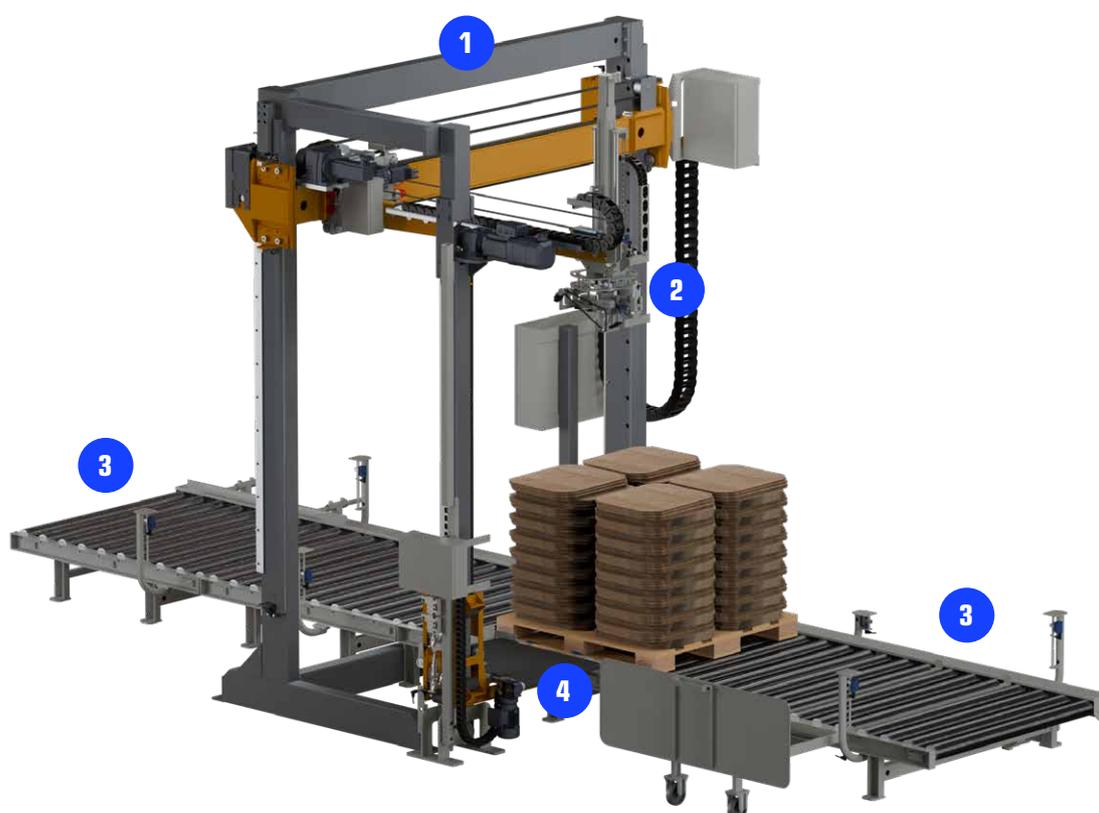
- Real-time scanning and auto-correction of bag and pallet position
- Adaptive learning algorithms that refine motion accuracy
- Seamless integration with servo-driven axis and PLC logic
- Higher reliability in dusty or variable lighting environments
- Simplified system: no camera calibration or model training

Design objectives

- Eliminate the need for strapped bag bundles
- Reduce layout footprint for easier plant integration
- Lower energy consumption and minimize compressed-air use
- Increase reliability of the bag-picking process
- Maintain a cost-effective solution accessible to all cement plants

Main features

- Handles a wide range of pallet configurations and bag formats
- Autonomous operation for continuous feeding
- New deposit belt with independent lift system
- Compact modular design, ideal for retrofit or new installations
- Fully compatible with all modules of the empty-bag handling system



Design Features

1

Cartesian portal

Updated with servo-driven axes for improved performance. A single supplier for machine, service, spare parts and future upgrades

2

Bag picking head

Able to handle unstrapped bag bundles. A laser device mounted on the head detects the real pallet position for accurate alignment.

3

Set of driven roller ways

For autonomous operation, continuous feeding twenty-four hours a day. The operator has only to take care of feeding full pallets of bundles of bags and withdrawing empty pallets on these rollers.

4

Deposit belt

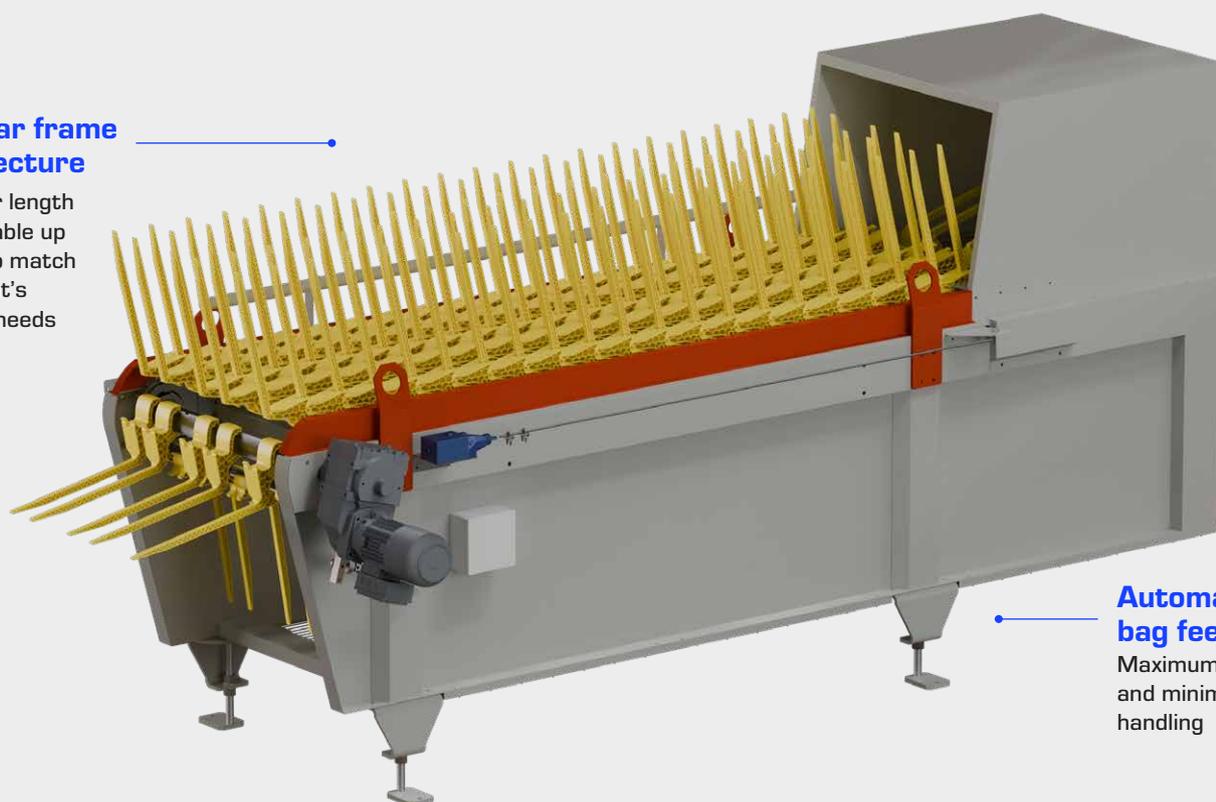
Equipped with an independent lift system. The belt continuously moves between the vertical head position and the exit conveyor.

NORIAMAT™ H EMPTY BAG STORAGE

NORIAMAT H Empty Bag Storage is our horizontal empty bag storage unit for INFILROT™ bag applicators and LINEAR™ EVO Bag Applicator.

Modular frame architecture

Conveyor length configurable up to 6 m to match your plant's storage needs



Automated bag feeding

Maximum autonomy and minimum manual handling

The bridge to uninterrupted bag handling

With a length up to 6 meter, NORIAMAT H Empty Bag Storage can store up to 1,600 bags depending on configuration. Its robust mechanical design and smooth transfer motion protect bag integrity and guarantee precise alignment at every stage of the process. The new generation includes plastic supporting forks, which improve bundle stability, reduce wear, and make maintenance faster and easier.

The smart buffer for empty bag bundles handling

NORIAMAT™ H Empty Bag Storage ensures that the bag applicator always has a perfectly aligned, ready-to-use stack of empty bags, even when the de-palletizer or packer cycle temporarily pauses.

This buffering capacity protects the entire line from downtime, optimizing efficiency and reducing operational stress on every component. Its simple, linear design and reliable chain-based transfer system make it exceptionally durable and easy to service: a truly “install and forget” solution.

Consistent flow. Zero interruptions

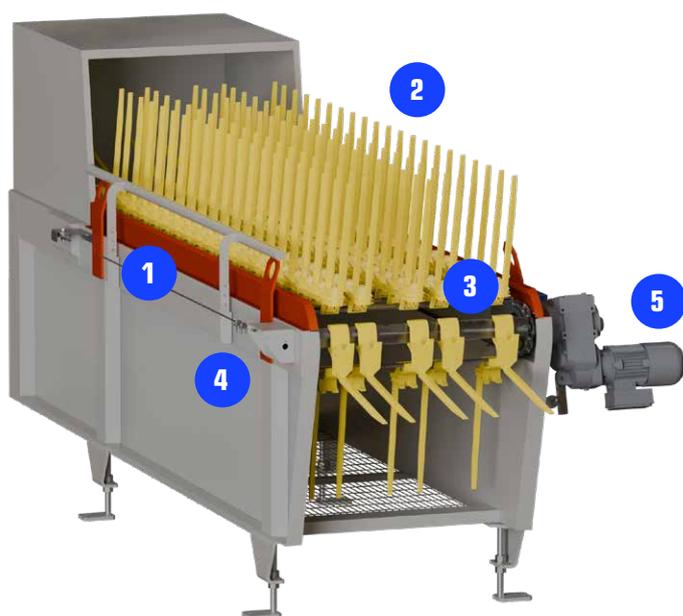
Compact, reliable and low-maintenance, NORIAMAT H Empty Bag Storage ensures steady bag feeding throughout the shift, with no need for operator continuous intervention. It acts as an intelligent buffer, maintaining a constant and controlled flow, ensuring uninterrupted operation of the packing line.

Key benefits

- Storage capacity up to 1,600 empty bags
- Compact modular design: up to 6 m lengths available, easy to integrate into any plant configuration
- Continuous and smooth automatic transfer of bag bundles to keep the applicator constantly supplied
- Plastic supporting forks for improved stability, smoother motion and reduced friction
- Easy access for cleaning and maintenance
- Reliable synchronization: works seamlessly with our bag applicators



NORIAMAT™ H Empty Bag Storage forks



1

Frame

Modular, up to 6 m length

2

Storage forks

Convey the bundles of empty bags to align them properly

3

Self-braking gearmotor

Move the chains step-by-step

4

Positioning microswitch

Positions the forks alternately horizontally

5

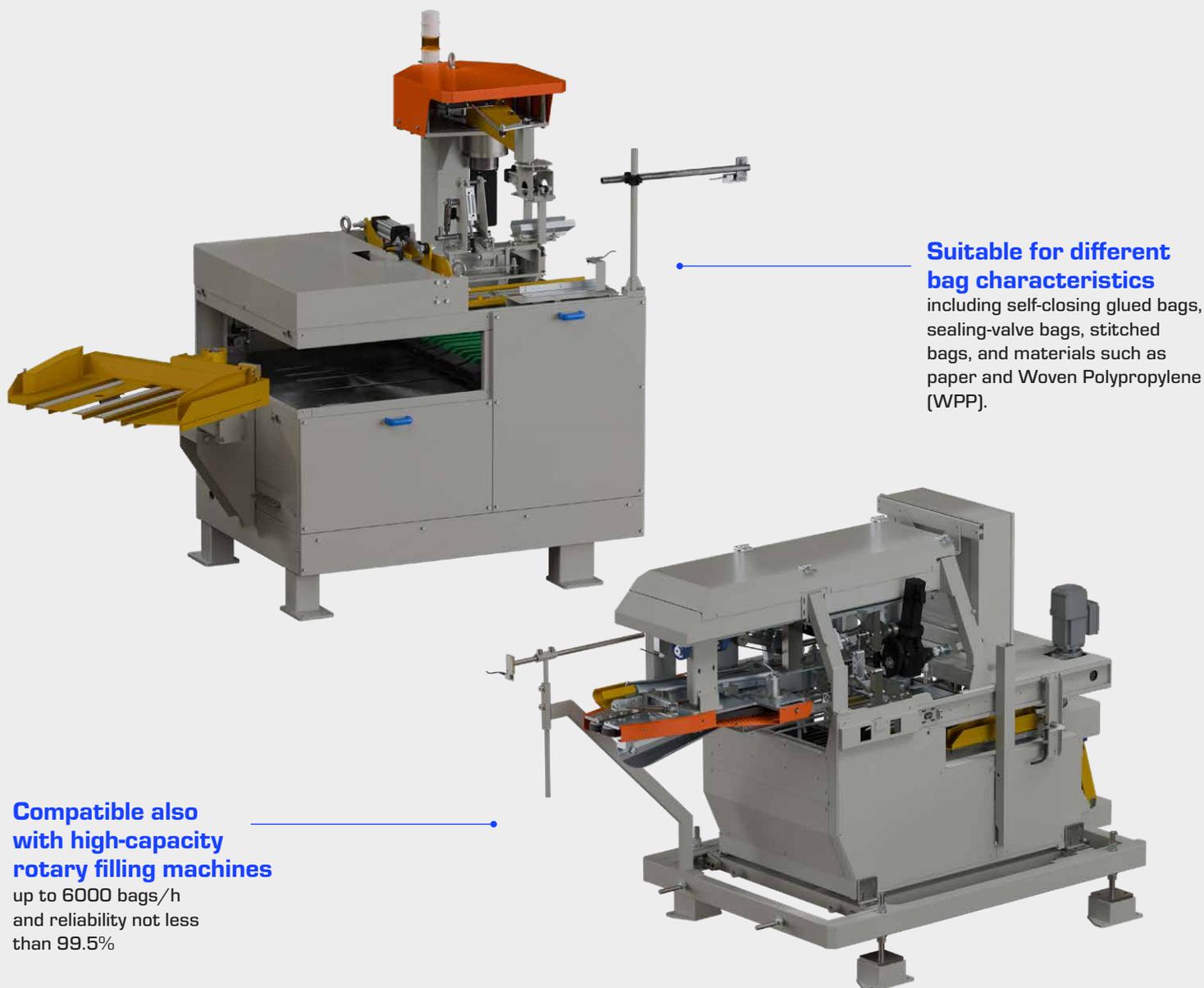
Rotation control

Avoids any breaking or overvoltage of the rotating devices

EMPTY BAG APPLICATORS FOR ROTARY PACKERS

INFILROT™ BAG APPLICATORS SERIES

Designed specifically for rotary packers, our automatic bag applicators ensure precise and reliable performance, handling different bag types and materials with minimal operator intervention.



Suitable for different bag characteristics

including self-closing glued bags, sealing-valve bags, stitched bags, and materials such as paper and Woven Polypropylene (WPP).

Compatible also with high-capacity rotary filling machines

up to 6000 bags/h
and reliability not less than 99.5%

Choosing the right bag applicator for your plant

Different applications require different solutions, and we offer two distinct design concepts: **Mechanical arm type (INFILROT BU® / BUSB / BUXS Bag Applicator)** and **Shooting type (INFILROT Z 40 / Z 60 Bag Applicator)**. The choice depends on several factors such as: capacity, packer characteristics, bag dimensions, bag quality, environmental conditions, etc.

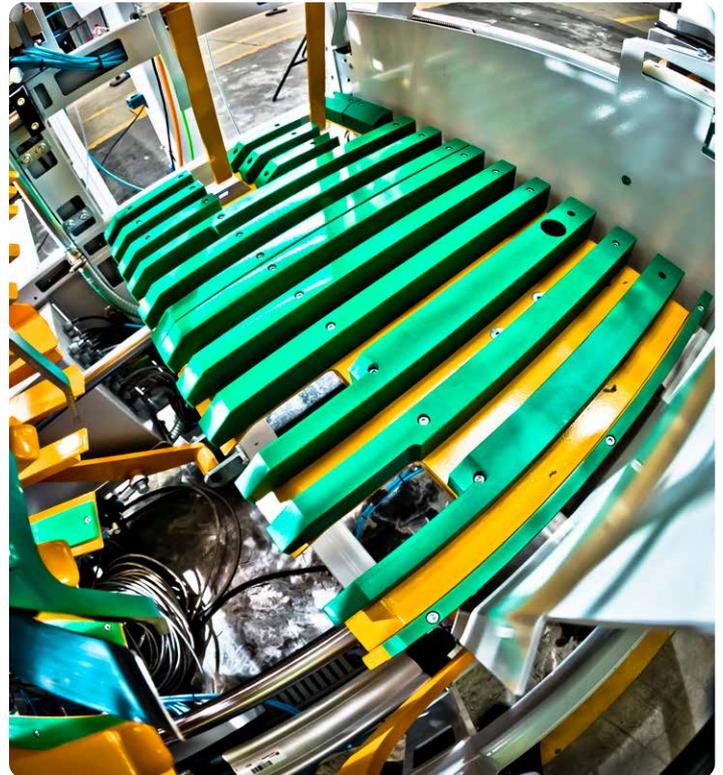
INFILROT™ Bag applicators represents the core of our empty bag handling technology. Designed specifically for rotary packers, these automatic bag applicators ensure precise, reliable and high-capacity performance, handling different bag types and materials with minimal operator intervention. Every INFILROT Bag applicators unit is equipped with fully electronic axis control and automatic synchronization with the rotary packer.

The result is a smooth, repeatable process that guarantees:

- High capacities: up to 6000 bags/hour with 99.5% reliability
- Adaptability to different bag dimensions and manufacturing tolerances
- Quick changeover and minimal maintenance
- Consistent, operator-independent performance

Key benefits

- 99.5 % reliability
- Electronic axis control for smooth and synchronized motion
- Automatic adjustment for bag size and dimension (optional)
- Low sensitivity to bag manufacturing tolerances
- HMI recipe management and full integration with the Operator Panel
- Recipe-based settings for different bag types
- Compact design and easy access for maintenance
- Compatible with VENTOFEED™ SR Empty Bag Depalletiser and NORIAMAT™ H Empty Bag Storage



INFILROT® BU lifting table

Mechanical arm type bag applicators

The INFILROT BU bag applicators range is built around a fully electronic axis system that delivers precise, repeatable motion and seamless synchronization with the rotary packer. This mechanical-arm concept ensures accurate bag pick-up and placement, while maintaining low sensitivity to bag manufacturing tolerances.

With capacities up to 3,000 bags/h, the BU Series is ideal for a wide variety of rotary bagging lines, offering fast format changeover, high reliability, and consistent operation with minimal operator dependency.

Available in multiple configurations, the range adapts to different plant layouts, bag sizes and performance requirements, ensuring versatility without compromising precision or durability.

Shooting type bag applicators

The INFILROT Z Bag applicators range represents our highest-capacity concept for empty bag handling. Based on a shooting-type design, the system projects each empty bag directly onto the packer spout with millimetric accuracy, ensuring exceptional speed, reliability and repeatability even under demanding production conditions.

Developed from decades of rotary bagging automation experience, this series guarantees smooth, continuous operation on the fastest rotary packers, while maintaining outstanding performance in terms of capacity, process stability and uptime.



INFILROT® Z suction cups and planes

How to select the right bag applicator model

Selecting the ideal bag applicator depends mainly on your capacity target, bag characteristics, and the performance level of your rotary packer.

INFILROT BU® Bag Applicator

- For glued valve paper and Woven Polypropylene (WPP) bags
- Up to 3,000 bags/h

INFILROT BU SB Bag Applicator

- For stitched paper and plastic bags
- Up to 2,400 bags/h

INFILROT BU XS Bag Applicator

- For glued valve paper and WPP small size bags
- Up to 3,000 bags/h

- 1 Bags translator**
A sensor detects the discharge of a new bundle and starts the rotation of the bags translator
- 2 Lifting table**
The bundle of bags is moved inside the machine and positioned in the pickup area
- 3 Supporting forks**
Driven by a pneumatic actuator
- 4 Valve-opening group**
Lifts the valve of the bag by means of suction cups for pickup by the applicator arm
- 5 Bag-applying arm**
Carries out an angular rotation synchronized with the packer and apply the bag on the nozzle



INFILROT™ Z 40 Bag Applicator

- For glued valve paper and Woven Polypropylene (WPP) bags
- Up to 4,320 bags/h



1

Bag translator (optional)

Receives the bags and positions them inside the machine

2

Bag thrust group

Conveys the bags onto the lifting table, where they are positioned

3

Supporting forks

Ensure continuous bag feeding

4

Bag take-up and firing group

Lifts the bag with suction cups and transfers it to the launch area

5

Launch group

Feeds the bag into the launch cone to shape the valve for nozzle application

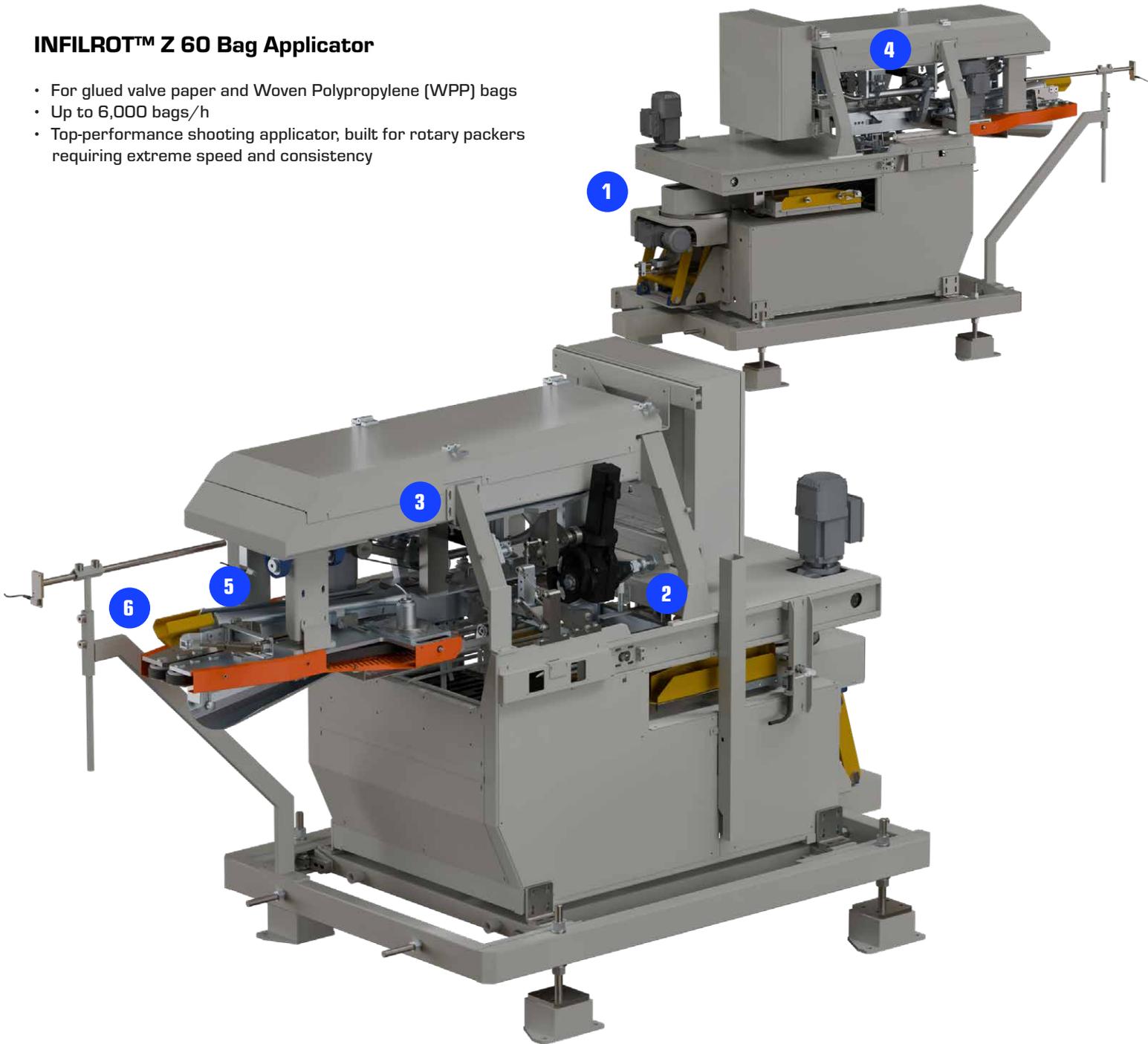
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Launch extension group

Ease the application of the empty bag onto the nozzle of the packer

INFILROT™ Z 60 Bag Applicator

- For glued valve paper and Woven Polypropylene (WPP) bags
- Up to 6,000 bags/h
- Top-performance shooting applicator, built for rotary packers requiring extreme speed and consistency



- | | |
|--|---|
| <p>1 Bag translator Receives the bags and positions them inside the machine</p> | <p>4 Bag take-up and firing group Lifts the bag with suction cups and transfers it to the launch area</p> |
| <p>2 Bag thrust group Conveys the bags onto the lifting table, where they are positioned</p> | <p>5 Launch group Feeds the bag into the launch cone to shape the valve for nozzle application</p> |
| <p>3 Supporting forks Ensure continuous bag feeding</p> | <p>6 Launch extension group Ease the application of the empty bag onto the nozzle of the packer</p> |

EMPTY BAG APPLICATORS FOR INLINE PACKERS

LINEAR™ EVO BAG APPLICATOR

Automatic bag applicator for in-line packers, combining precision and reliability with a compact linear architecture.



Automatic operation with precise bag handling

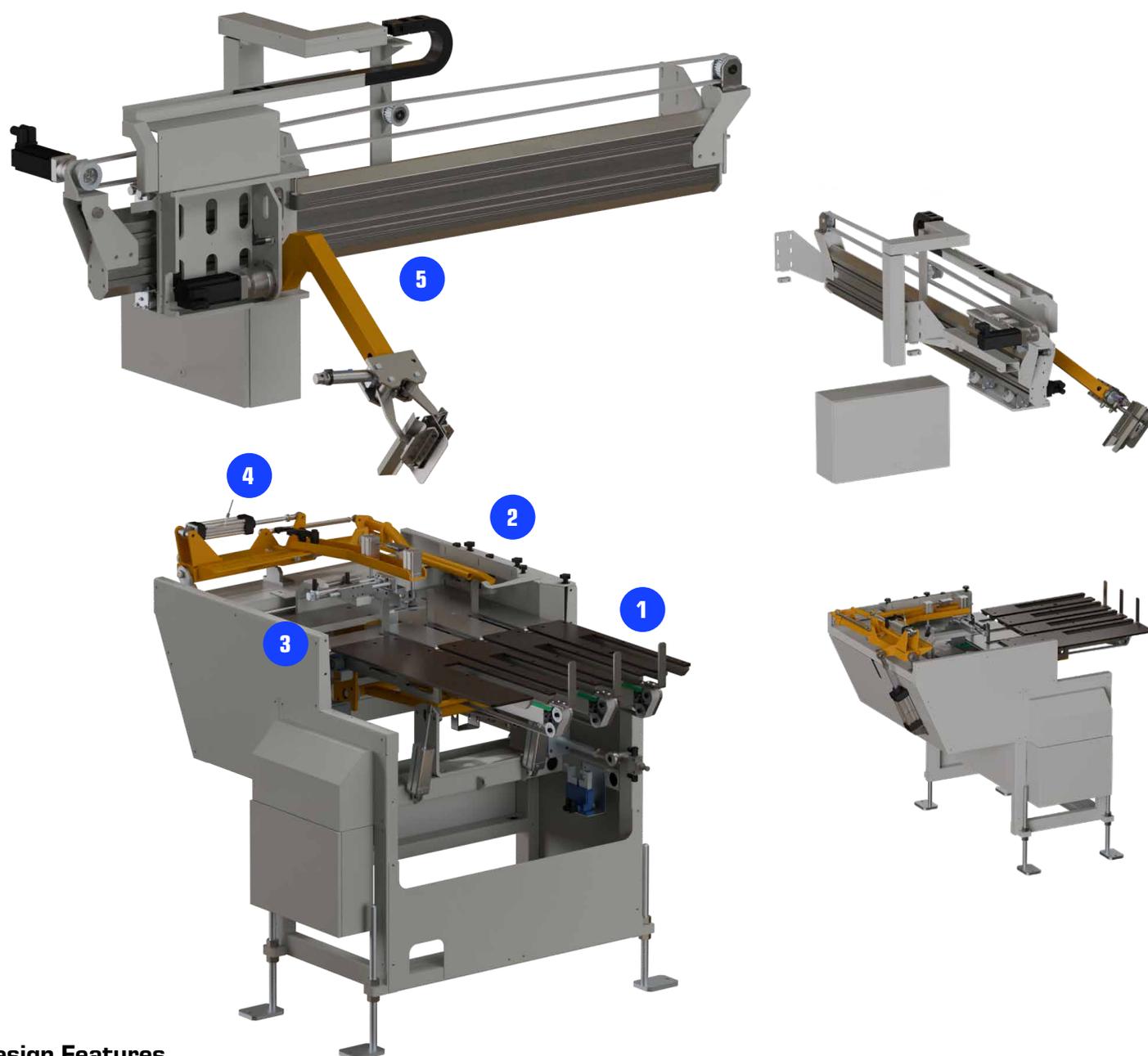
Advanced mechanical design and fully electronic control system

Up to 1,500 bags/hour

Consistent bag handling performance for glued paper and woven polypropylene bags.

Key Features and Operational Advantages

LINEAR EVO Bag Applicator delivers 99.5% reliability within an in-line configuration optimized for space and accessibility, combining electronic axis control for precise motion with smooth, repeatable operation. The system performs automatic valve opening and accurate bag positioning, while recipe management and parameter control are handled directly through the Operator Panel. Its compact and robust construction ensures simplified maintenance, supported by an intuitive HMI for complete supervision of timing, recipes and adjustments. As with all our equipment, LINEAR EVO Bag Applicator is engineered for long-term reliability, easy servicing and seamless digital integration within the plant's control network.



Design Features

- 1 Bags-deposit table with pushers**
 The deposit table detects the bag bundles by means of a sensor, tilts via pneumatic actuators, and transfers the bundle using electrically driven pushers.
- 2 Lifting table**
 The lifting table positions the bags in the pick-up area and adjusts its height through pneumatic actuators to compensate for bag thickness during the taking operation.
- 3 Compactor group**
 A pneumatic actuator ensures precise longitudinal alignment, while a manual adjustment allows quick adaptation to different bag sizes.

- 4 Valve-opening group**
 The valve-opening group uses a dual pneumatic actuation system with vacuum cups to grip the bag, open the valve, and tilt it into the correct position for pick-up by the applicator.
- 5 Pliers group**
 The bag-taking pliers grip the bag under the open valve, apply it onto the packer nozzle once authorization is received, then release the bag and return to the home position.

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TECHNOLOGIES

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