

360° FROM PELLET TO PALLET EXPERTISE

PALLETIZATION AND DEPALLETIZATION SOLUTIONS



Genius

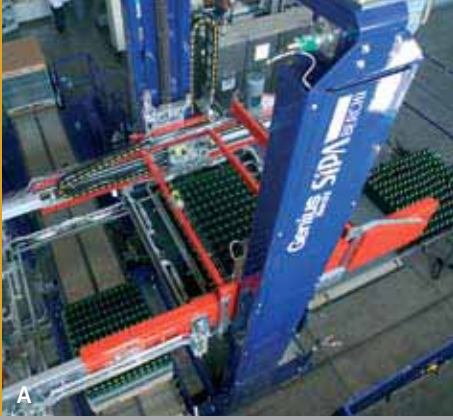
Traditional palletization and depalletization solutions

Genius is a global project based on a standard double braced central unit which, by adding the different modules in the series, can create customized solutions according to speed, container type and programmes.

The range includes fixed and mobile pallet palletizers and depalletizers which match the highest performances available in the market today, and is designed to allow every user to find the best solution to suit their own specific needs.

More than forty years' experience and the continuous drive towards innovation have made Sipa Berchi one of the worldwide leading companies in this sector. A range of complete, reliable end-line solutions able to satisfy all the needs of the bottling, food processing and chemical/pharmaceutical sectors.








Integration into complete lines

Considering the various sizes and types of packaging, end-line management is becoming increasingly important to assure the final efficiency of a complete line. We have applied all of our design experience to creating increasingly flexible and reliable solutions to serve efficient, high-performance complete lines.

General features and advantages

The main driving forces behind the recent updates to the Genius project were:

- Ability to handle new generation containers in a "soft" manner.
- Operational flexibility and further reduction in change-over times.
- Increase in structural rigidity.
- Optimization of cycle to increase performance, with improved control of the different movements using state-of-the-art electronic solutions.
- Improvement of operational management by the operator, limiting mechanical regulations and simplifying access to the different components.
- Limiting maintenance and components subject to wear (e.g. lubrication-free transmission).
- Green approach: reduced consumption and operating noise. Attention to the recyclability of materials used.

		Products							
									
Palletizers range	Gripping system	Halving platform	Halving platform	Jaws Hooks	Pliers Caps	Pliers Caps	Halving platform	Halving platform	Magnetic
	Steady pallet	PTF	PTF	PM PG	PP PR	PP PR	PTF	PTF	PH
	Moving pallet	PTF/A	PTF/A	PM/A PG/A	-	-	PTF/A	-	PH/A
Depalletizers range	Gripping system	-	-	Jaws Hooks	Sweep-off Inflatable pipes	Sweep-off Inflatable pipes	Sweep-off	Sweep-off	Magnetic
	Steady pallet	-	-	DM DG	DS DB	DS DB	DS	DS	DH
	Moving pallet	-	-	DM/A DG/A	DC/A -	DC/A -	DC/A	DC/A	DH/A

The table indicates the main application of the different types of machines, the working flexibility of the range allows anyhow to handle different products with the same gripping system.



B



C



D



E

- A) Genius DS for rectangular glass bottles.
- B) Genius PTF steady pallet type for cartons. Detail of the layer preparation.
- C) Genius PTF steady pallet type for packs with triple infeed in line.
- D) Genius PTF steady pallet type for cartons high level infeed.
- E) Detail of magnetic head.



Genius

Automatic palletizers steady pallet type

The steady pallet palletizer range have infeed from below (in some cases the product can also be fed from the top). According to the product to be handled, the standard central unit can be integrated with various heads and accessory elements:

- PTF: layer transfer by halving platform for packs and cartons (even crates with the same head), clusters and multipacks.
- PM-PG: layer transfer by centralized jaw head (PM) and hook head (PG) for plastic crates.
- PP- PR: layer transfer by pliers-type head. (PP) and cap-type head (PR) for full or empty PET and glass bottles.
- PH: with magnetic head for tin containers or jars with metal lids.

Technical Features

- Product infeed can be at 90° or in line, often used for high operating speeds.
- The whole range is designed to accept a variable number of product infeeds (from 1 to 4).
- All models can be integrated with the robotized Fastlayer layer preparation device.
- Depending on the customers' production requirements, multi-pallet or multi-layer versions are available.
- Fully automatic system requiring limited operator intervention, operating in complete safety.
- Extremely simple, complete operator control panel. Can be integrated with an advanced control and supervision system.
- Possibility to handle all main pallets on the market trouble-free, with highly customizable solutions (half and quarter pallets, displays, dollies, etc.).

Output

Up to 330 layers/hour.
Up to 420 layers/hour with the double mobile platform solution.

Products that can be processed

-  Packs
-  Cartons
-  Crates
-  Loose PET bottles
-  Loose glass bottles
-  Cans
-  Glass jars
-  Tin containers





- A) Genius PTF triple infeed type for packs.
- B) Genius PTF double infeed type for cans. Detail of the pusher.
- C) Genius PTF single infeed type for crates.
- D) Genius PTF 4-infeed type for packs.
- E) Layer preparation by double pusher.
- F) Group of PTF palletizers with multilayer configuration for cartons.



Genius

Automatic palletizers moving pallet type

The range of moving pallet palletizers has been designed mainly for high production needs and/or to solve logistics and space problems. Product infeed is from above.

The appropriate head must be chosen according to the different products to be handled:

- PTF/A: layer transfer by halving platform for packs and cartons (even crates with the same head), clusters and multipacks.
- PM-PG/A: layer transfer by centralized jaw head (PM) and hook head (PG) for plastic crates.
- PH/A: with magnetic head for tin containers or jars with metal lids.

Technical Features

- Product infeed can be at 90° or in line, often used for high operating speeds.
- The whole range is designed to accept a variable number of product infeeds (from 1 to 4).
- All models can be integrated with the robotized Fastlayer layer preparation device.
- Depending on the customers' production requirements, multi-pallet version is available.
- Fully automatic system requiring limited operator intervention, operating in complete safety.
- Extremely simple, complete operator control panel. Can be integrated with an advanced control and supervision system.
- Possibility to handle all main pallets on the market trouble-free, with highly customizable solutions (half and quarter pallets, displays, dollies, etc.).
- Possibility to include empty pallet loading module to increase application speed.

Output

Up to 700 layers/hour.

Products that can be processed



Packs



Cartons



Crates

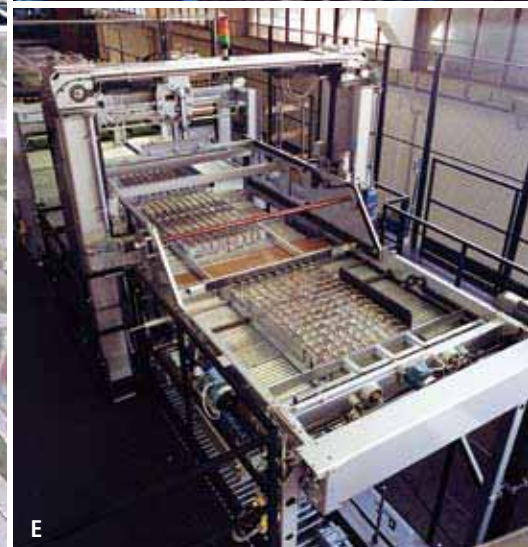
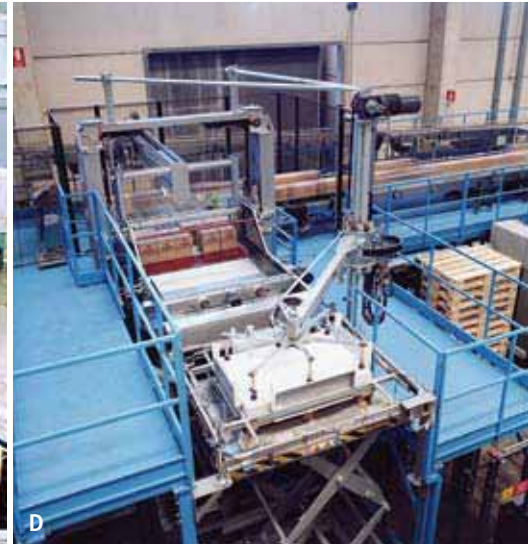


Cans



Tin containers





A - B) Overall view of PTF/A palletizers for packs.

C) Genius PTF/A for packs 4-infeed type in line.

D) Genius PTF/A for cartons in multi pallet configuration.

E) Genius PTF/A for cans.



Fastlayer

Robotic layer preparation with active pack orientation and arrangement.

This solution offers an innovative alternative to conventional layer preparation composed of a divider, conveyors and layer formation area with pack-turning device and can be integrated upstream of any kind of palletizer.

The application is composed of 1 or 2 anthropomorphic robots mounted in parallel which move continuously and synchronously with the conveyor belt below. The packs are delivered along the layer forming conveyor in single row, appropriately spaced, and the robots work against the flow, orienting and arranging the packs to prepare the layer, according to the selected palletization layout.

Considering the most recent drinks market trends, which require lighter bottles, and the increasingly aggressive marketing needs which generate a multiplication of sizes to be handled, this solution achieves three important results:

- 1) improves transport of some containers and assures extremely delicate handling, in order to avoid any kind of damage to the product.
- 2) Reduction of change-over times or adaptation to new products.
- 3) Increased performance with small footprints.

These results are achieved by designing a solution with the following features:

- the six-axis robots are mounted above the conveyor, with a forward inclination of 40°, which optimizes the working area.
- The patented gripping system, which adds a further two movement axes, allows several packs to be handled at the same time without compromising on the accurate and delicate handling of the packs.
- The size change is managed simply through a selection process on the operator panel, and usually no mechanical components need to be replaced.
- The pack transfer conveyors, with modular chains, represent a flat, regular and continuously moving support base. This avoids excess friction on the pack bases and assures handling stability.
- The innovative 8-axis configuration and the optimization of the different cycles leads to high performance and limits the working speed of the different components. This guarantees reliability and reduction in wear over time.



- A) Detail of gripping head for packs.
- B) Detail of robots and layer preparation area.
- C) Overall view: Fastlayer and Genius PTF palletizer.
- D) Detail of layer compacting devices and pusher.
- E) Detail of Genius PTF palletizer transfer unit.





Genius

Automatic depalletizers steady pallet type

The range of steady pallet depalletizers with product outfeed from the bottom is extremely flexible, and was designed to allow every user to create the most appropriate solution for their own needs. Based on a standard central unit and customizing with different heads and accessory modules, it is possible to handle the widest range of container shapes.

- DS: sweep-off depalletiser with complete layer transfer by independent jaw head and intermediate table for loose containers such as glass, PET bottles and jars.
- DSV: similar to the DS model but with a special head which increases overall productivity.
- DM-DG: layer transfer by centralized jaw-type head (DM) and hook head (DG) for plastic crates, with or without window.
- DH: with magnetic head for tin containers or jars with metal lids.
- DB: with inflatable pipe head for empty glass bottles with special shapes or partitions.


Technical Features

- Depending on the customers' production requirements, multi-layer and multi-pallet versions are available for the depalletizer.
- The depalletized layer is fed onto the line both on chain and air conveyors.
- Fully automatic system requiring limited operator intervention, operating in complete safety.
- Extremely simple, complete operator control panel. Can be integrated with an advanced control and supervision system.

Output

Up to 180 layers/hour.
 Up to 230 layers/hour with the DSV.
 Up to 320 layers/hour with the DM for crates.

Products that can be processed

-  Crates
-  Loose PET bottles
-  Loose glass bottles
-  Cans
-  Glass jars
-  Tin containers





- A) Detail of layer discharge table of Genius DS for empty glass bottles.
- B) Genius DS for empty PET bottles.
- C) Detail of inflatable pipes gripping system: Genius DB.
- D) Overall view: Genius DS for empty glass bottles.
- E) Detail of layer discharge: Genius DS for empty PET bottles.
- F) Detail of jaws gripping system: Genius DM.
- G) Detail of layer transfer: Genius DS for empty glass bottles.



Genius

Automatic depalletizers moving pallet type

This e range of moving pallet depalletizers has been designed mainly for high production needs. In some cases, on the other hand, this configuration is particularly useful for solving logistics and space problems. The appropriate head must be chosen according to the different products to be handled:

- DC/A: with independent movement jaws-type head for glass, PET bottles and jars.
- DH/A: with magnetic head for tin containers or jars with metal lids.
- DM-DG/A: layer transfer by centralized jaw-type head (DM) and hook head (DG) for plastic crates, with or without window.

Technical Features

- Depending on the customers' production requirements, multi-pallet versions are available for the depalletizer.
- The depalletized layer is fed onto the line both on chain and air conveyors.
- Fully automatic system requiring limited operator intervention, operating in complete safety.
- Extremely simple, complete operator control panel. Can be integrated with an advanced control and supervision system.
- Full height sides on three sizes in the full pallet lift area. As an option, complete closure with infeed doors to stop containers from falling.

Output

Up to 400 layers/hour.

Products that can be processed



Crates



Loose PET bottles



Loose glass bottles



Cans

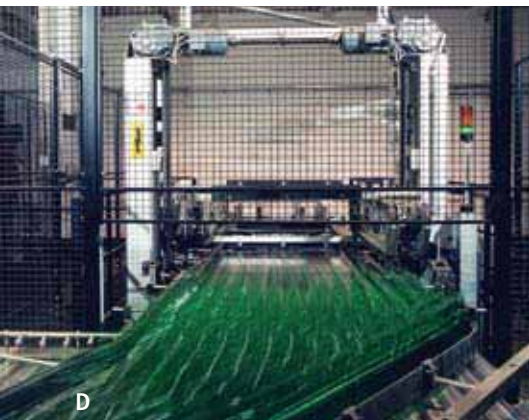


Glass jars



Tin containers





- A) Detail of layer discharge: Genius DC/A for empty cans.
- B) Group of depalletizers DC/A for empty glass bottles for beer.
- C) Genius DC/A for glass jars.
- D) Detail of layer discharge table of Genius DC/A for empty glass bottles.
- E) Detail of layer discharge with open jaw: Genius DC/A.
- F) Detail of jaws transfer with independent movement: Genius DC/A.



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