



## Palletising Systems





# End-of-line handling and palletising solutions

Mariani designs, manufactures and installs automated product palletising and handling systems for the main manufacturers of consumer goods. The Company offer solutions to a wide range of industrial production and distribution companies in the sectors of milk and dairy products, food and beverage, home hygiene, tissue paper, pharmaceuticals and cosmetics, hardware and other manufactured goods.

Our expertise is based on the following technological assets:

- 1 Fifty years of experience** and exclusive, constantly innovated know-how that responds to the market's evolving technological trends
- 2 Ability to offer** each company the solutions that best respond to its needs, and with proactive real-time response to the development of its production lines
- 3 Excellence in every corporate function** and in the comprehensive services offered, including the capacity to handle several projects simultaneously
- 4 Flexibility, solidity and reliability**, combined with high production effectiveness even in terms of energy efficiency, are the outstanding features of our machinery
- 5 Skills in proposing customised solutions** for each production plant, fully respecting the integrity of products, and the quality of the final packaging
- 6 Our machines are able to "work in synergy"** with one another and can be **easily inserted into the ERP and MES management systems** of other companies, so as to furnish nonstop processing data in real time
- 7 Consultancy services** for packaging issues and patented solutions placed at the disposal of our customers

# Our field of expertise

We totally dedicate our attention to each customer who requests particular processing, and in a flexible way, offer the best assistance so they would realize the highest profits from their own investments.

This may imply for some, the possibility to acquire new **machines with superior performances**. For others, it may be a means of obtaining support in designing packaging for a new product targeting the best solutions for pre-existing lines, with the objective of maintaining **market competitiveness**.

The company is formed by a group of specialized technicians who have a common goal and work together to **bring about innovative systems** that are subsequently offered to clients, in response to all their specific needs.

Our engineering service avails of staff with **long-standing experience** and who supervises the construction and installation of each plant which plays a central role under all aspects, as single machines and as an overall system, to achieve customer satisfaction at all times.











# Customer relations

Our strength consists in technological competence, insight, a proactive view of the events, and planning abilities that make us set our customers' needs as our top priority, from the plant's design phase to its commissioning.

- 1** | Analysis of demands, defining of project specifications and layout of proposals
- 2** | On-site inspections and management of the final project
- 3** | Pre-delivery inspection at Mariani's facilities
- 4** | Installation and connection with technical services
- 5** | Start-up and staff training
- 6** | After-sales assistance and maintenance solutions
- 7** | Safety and sustainability
- 8** | Upgrades of existing machines

# Systems designed for your business

Mariani's core business is automation engineering, and designs integrated packaging solutions for the industry, from secondary packaging of products up to the delivery of palletised loads or other transport packaging to the warehouse or to the distribution centers.

Efficient end-of-line management is a strategic asset for businesses and each operation has to be carried out fast, with precision, utmost care and attention in handling products. And to each product, Mariani dedicates a specific palletising solution that involves optimised space management and ensures all the flexibility new technologies can offer.

Mariani, a world leader in the secondary packaging sector, has contributed to the development and implementation of plants in the various sectors of industrial products:

**1** | milk and dairy products  
food and beverages

**4** | pharmaceuticals  
and cosmetics

**2** | personal  
and home care

**5** | hardware

**3** | tissue paper

**6** | durables  
consumer goods









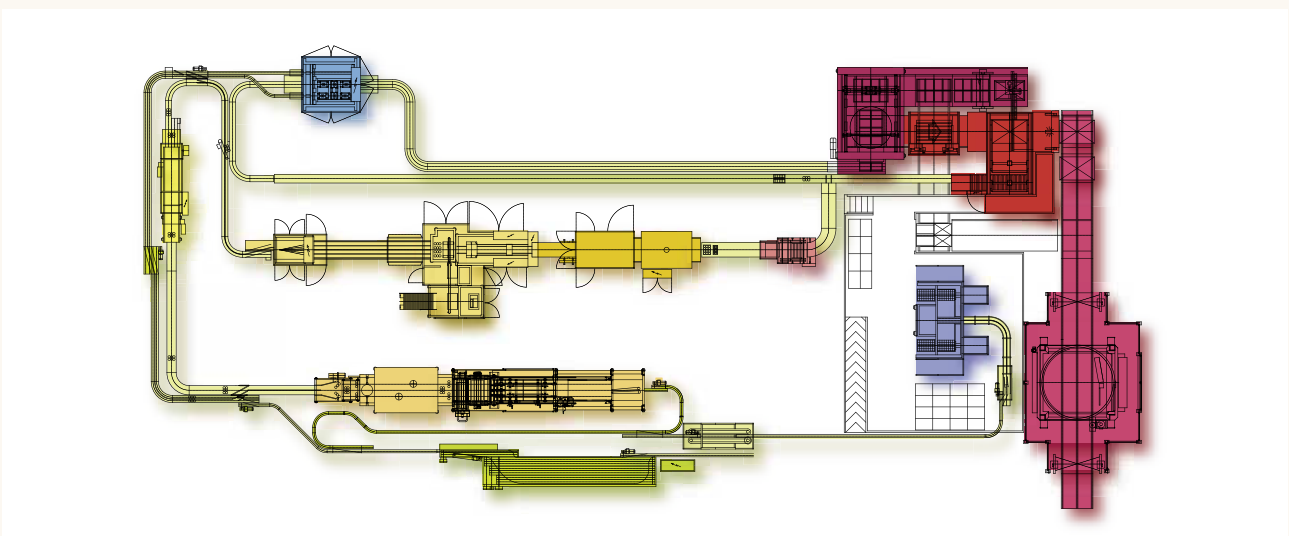
# The packaging process

Mariani can handle the entire packaging process from the primary packaging outfeed up to complete end-of-line solutions.

Our vast experience and know-how of the technical aspects of end-of-line systems allows us to formulate the best solution for the industries for milk and dairy products, fruit juices, fresh and frozen foods, pharmaceuticals and cosmetics, products for personal care and home hygiene, tissue paper, hardware, etc.

Our services include:

**concept design and simulation/sample models > research and development in the specific sector (packaging automation) > mechanical design and production > development of PLC and PC software > integration into local systems > installation and commissioning > assistance and after-sales support > global maintenance programmes for intensive, problem-free usage and continuous updates**



# Benefits

The palletisers can be easily integrated into existing end-of-line packaging systems and are suitable for various uses with numerous, consequential benefits:

- 1** | **reduced maintenance**
- 2** | **rapid turnover of investments**
- 3** | **immediate improvement of global performances**
- 4** | **real-time controls of production data**
- 5** | **enhanced occupational safety**
- 6** | **simplified installation and commissioning**
- 7** | **optimized space management and direct expansion possibilities**

With a single machine, compact and space-efficient, it is possible to run products from up to 6 production lines to the same palletiser, by accumulation of 1 layer or 1 pallet of each product at a time. It is also possible to palletise from 4 lines at a time, without accumulation.



# Product and pallet handling systems

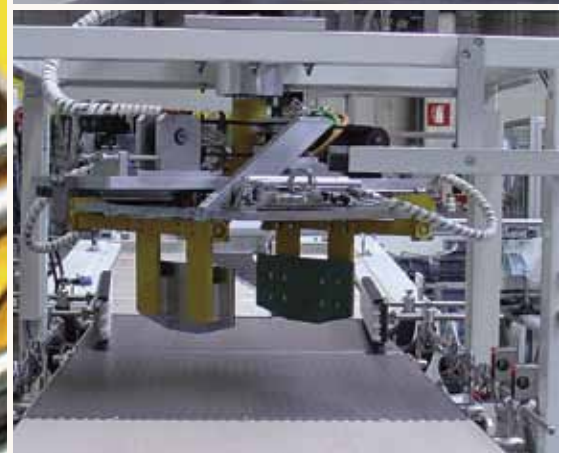
The end-of-line processing and palletising phases of products, are as important as their packaging, and each of these is indispensable in achieving a pallet type that facilitates the handling of products through a distribution line. Due to this, the stacking systems, distribution and conveyor transport systems are created by Mariani to handle the continuous flow of products and protect the packaging features, though adapting them to the different types of secondary packaging: film-wrapped, cardboard boxes, trays, packets, bags, plastic crates, etc. The range of conveyors and end-of-line devices are structured in belts, chains, plates and rollers, elevators, dividers, manipulators, pack metering and orientation devices, rotating platforms and overlaying pallet loading devices, conveying trolleys, etc.



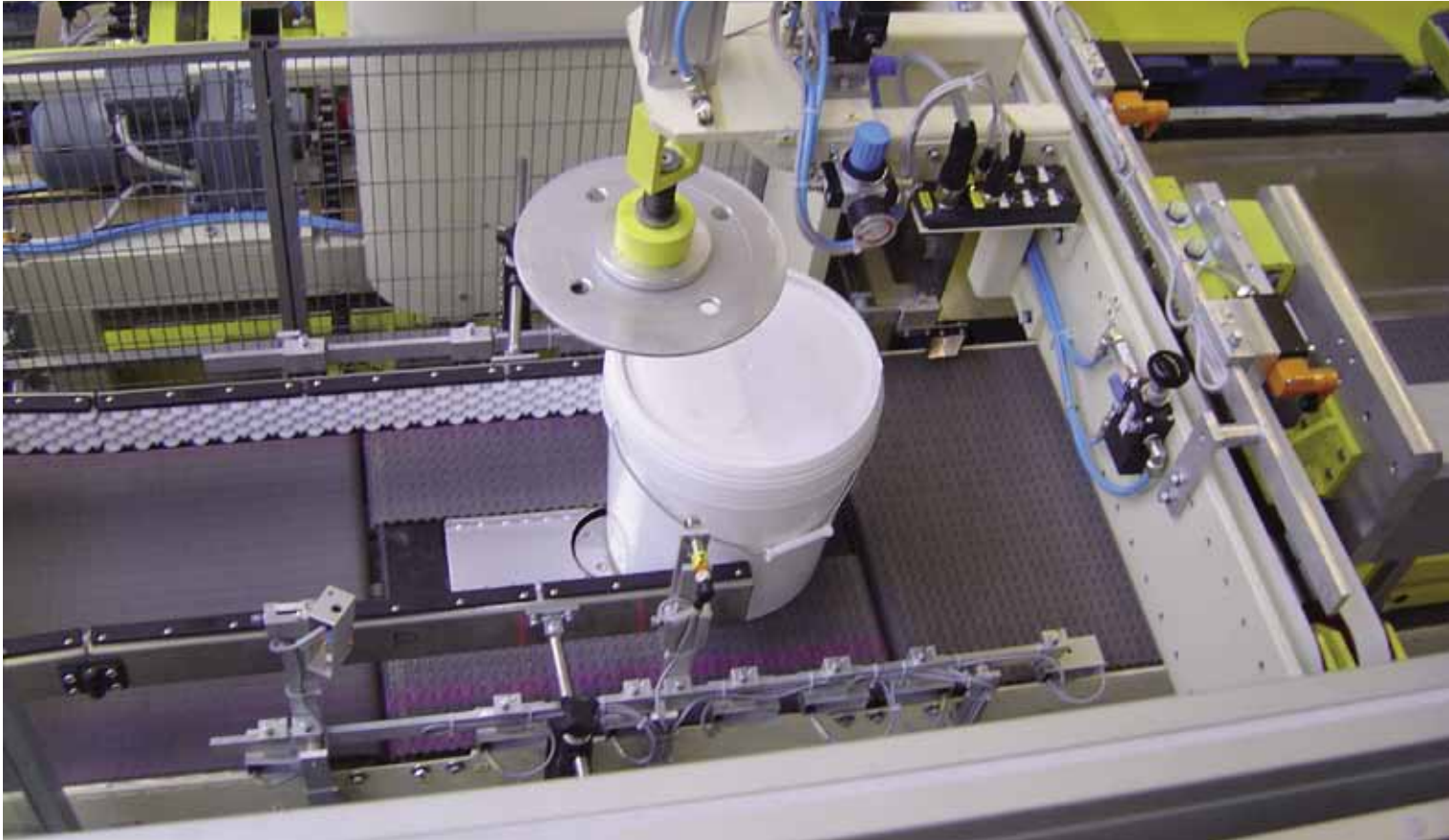












# Low-Level Palletizers

Automatic universal layer palletisers Series NPM, with comfortable operating height

Using a stationary pallet and withdrawing the loading plate system to palletise : cartons, bundles, multipacks, cases, etc. with an optimal view of the production cycle. These palletise infeeds are set at the level of the operator, at a standard height of 900 mm. The models available are those with layer preformation, single, double or triple infeed of the product and several product codes processed simultaneously, operating at a speed of 1,500 products/hour.



## SPECIFIC FEATURES

- format changing and palletising schemes commanded from a touch screen
- maximum access to the layer formation zone
- double infeed belts composed of two modular mats with independent motors
- perfect layer squaring by means of driven layer tightening fences
- possibility to have a dual pusher to optimise palletising schemes

# High-level palletisers

## PMT series of automatic fast layer palletisers

These are designed to palletise with high-level loading of cartons, bundles, multipacks, cases, plastic buckets, sacks, packets, etc. with excellent optimization of floor spaces and logistics. Layer forming and, therefore, the final part of the route followed by the products, take place overhead, leaving free passage areas before the palletiser. The machines work with pallet vertical indexing principle having fast layer depositing times by means of the symmetrical opening of two moveable loading plates. The layer depositing system allows the creation of particular pallet configurations with spaces (gaps) between the bundles with the possibility to load two distinct half pallets.

The product infeed is normally positioned at a height between 1,950 and 3,400 mm. The range consists of machines with layer preformation, single, double or triple infeed lines, and multi-product codes simultaneously operating at a speed of 3,000 products/hour.



### SPECIFIC FEATURES

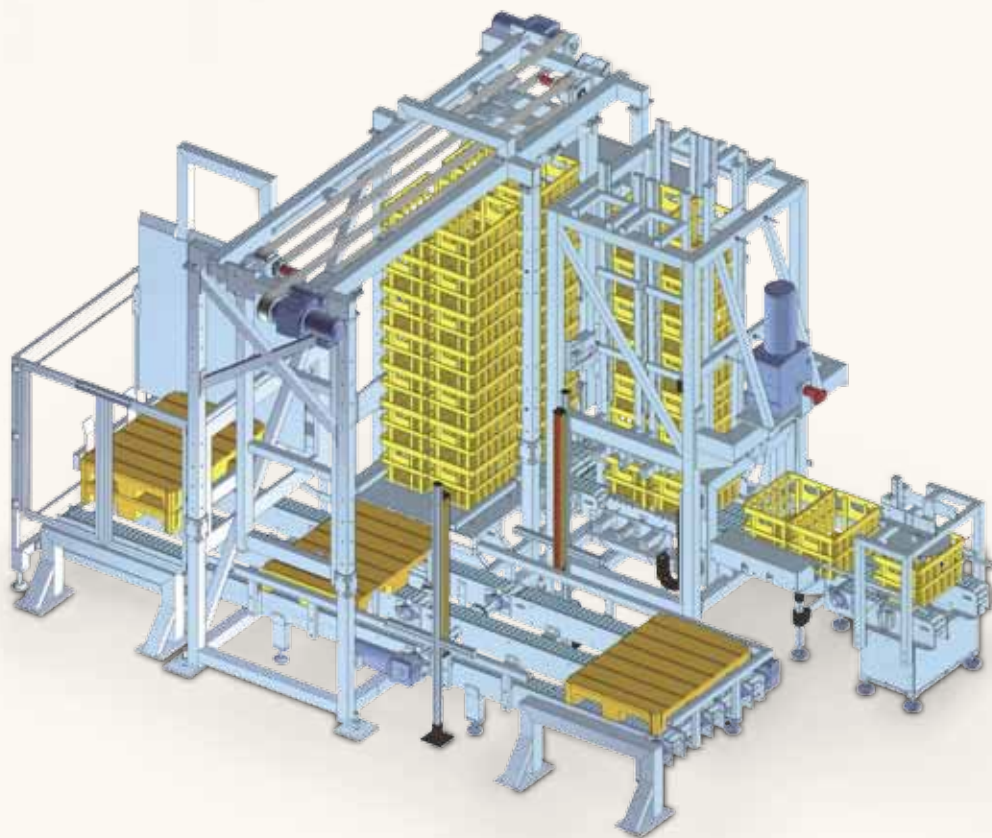
- product infeed with divider, distributor with grippers, buffers, belts and rotations, motorized rotating devices, etc.
- Layer forming on step-by-step belt conveyor
- changes in format and palletising scheme from the touch screen
- maximum access into the layer-forming zone
- pusher plates with low friction and minimum thickness
- perfect layer squaring by means of driven layer tightening fences
- possibility to have a double pusher to optimize particular palletising programmes



# Stack palletisers

PMP is a series of versatile machines for pallet stack loading of stackable containers such as trays, crates, cases and similar items

The stacks of containers are preformed at the infeed of the machine and are aligned and positioned by opposite sets of pushers onto the loading pallets, in such a way as to ensure the maximum stability of the load during the moving and storing phases. Production capacity, according to the type of container, can reach 200 stacks/hour.



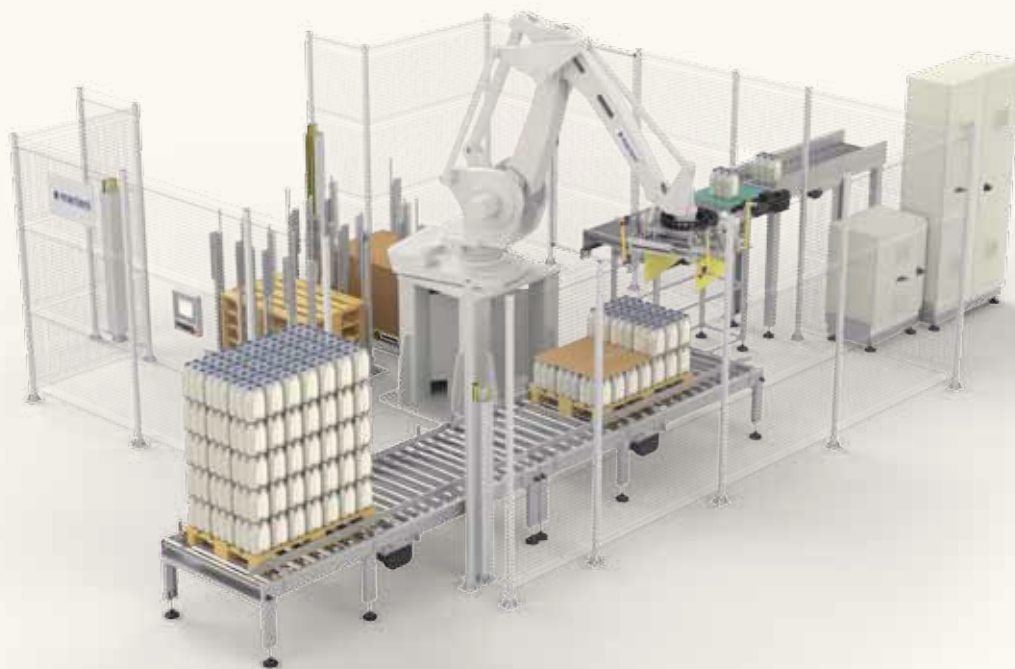
## SPECIFIC FEATURES

➤ compact machines, suitable for installation in restricted spaces ➤ the shifting devices are designed to guarantee the perfect stability of the product being handled ➤ sturdiness and precise stacking operations ➤ maximum access into the stack formation zone ➤ low friction and minimum thickness of pusher plates ➤ perfect squaring of stacks through motorised compacting plates ➤ possibility to create particular stack configuration schemes

# Robot palletisers

MA-ROB is a series of palletising robots that work by layers (rotation and positioning of packs) and by rows, and are equipped with multiple pick-up grippers or complete layer pick-up forks

These machines can process bundles, cartons, crates, multipacks, plastic crates, sacks, etc., up to a speed of 9 cycles/minute. The robots offer a level of flexibility, remarkably superior to the traditional palletisers since they can adapt to format and product changes, and at times, even change in the layout of the line. Operator-machine interaction is performed through a “touch screen” that provides information on the state of the system’s peripheral devices with the aim of allowing custom work cycles through precise routes and outlines. The system is equipped with a dedicated software and joystick.



## SPECIFIC FEATURES

- possibility to handle nonconventional pallets such as display pallets, mini-pallets and trolleys
- the gripping heads are designed for each type of product to be handled, built with suitable materials with an excellent weight/stress ratio and designed to guarantee high rigidity and limited bulk
- possibility to mount on the head a gripping and depositing device for pallets/ or interlayers
- the robot palletising areas are equipped with safety systems that ensure the protection of assigned staff and also the equipment from possible collisions with foreign or wrongly positioned objects
- rapid and simple changing of the heads
- possibility to handle production processing data with interfaces on the corporate database
- thanks to the construction characteristics, the machine requires minimum periodical maintenance

# Portal frame robot palletisers

## MA-ROB CART Series of automatic cartesian type robot palletisers

Used for products like boxes, trays, bundles, multipacks, etc. in the most diverse types of plant logistics, with speeds of 6 cycles/minute. The different pick-up grippers studied for these machines are suitable for the moving of both single and multiple products and also in rows, and can handle display pallets and similar items. The system was created in turnkey stations structured also in multiple modules. The single base module occupies a floor surface of only 5 square meters.



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# Additional equipment

mechanical empty pallet magazine > automatic layer-pad feeding device > pallet integrity control system > depalletisers > additional working programs > wrapping and hooding machines > spiral elevators > product and pallet conveyors, shuttles and other internal-transport solutions

All our machines operate with standard pallets for logistic purposes and are tested with the clients' products during the trial run before the plant is dispatched. This is your warranty for an excellent product.



# 50 years of experience in automation, packaging and end of line processing

Mariani is a leader in design, development and implementation of innovative solutions in the automated secondary packaging and end-of-line packaging processes

Established in the market since 1960, today Mariani exports its products to over 45 countries worldwide. The Company initially expanded by producing packaging machines and plants for the dairy products sector. Subsequently, thanks to the experience and know-how acquired in this field, along with **constant research on new technologies** and continuous innovation, Mariani has diversified its line to cover other industries such as the food industry in general, as well as those for beverages, graphic designs, home detergents, beauty care products, pharmaceuticals and many other industrial sectors that increasingly demand packaging and palletizing systems. Mariani has continued to acquire new expertise that has made it one of the most **important and renowned producers in the world**.

The Company designs and constructs machines and plants in a context of constant innovation which can offer Mariani's clientele increasingly advanced, cutting-edge products that are high performing, reliable, and strategic in shaping **the future of packaging technologies**.

Mariani operates as a reliable partner for its clientele, and is a company that is able to contribute to the economic growth of society, maintaining harmony through environmental sustainability and the sense of civil responsibility.









# We daily set new frontiers for our machines

The customer loyalty we have seen in our clients for over 50 years is a proof that they share our passion for essentials and an outstanding openness of mind expressed in the pursuit of innovation

They recognize furthermore, our extraordinary ability to look beyond the objective limits, and our determination to place the operator before all else, and succeed in transforming a challenge into a new opportunity.

Throughout the years, innovation has always been the fulcrum of Mariani designs.

The underlying foundation of the Mariani innovation revolves around three main aspects: firstly, **flexibility**, followed by **reliability**. Both are necessary values that guarantee efficiency and performance (reduction of space for packaging installations and reliability of the ever flexible packaging lines).

Last but not least, is the **continual research** on technologies in order to offer excellent performances, without foregoing safety, practicality, ergonomics and environmental sustainability.

Given the many and continuous novelties in machines and devices, you are welcome to visit our website which will keep you informed. You will certainly not want to miss the next Mariani novelty!

**Mariani: innovative packaging and palletising solutions.**



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**Mariani Sas**

via Fondovilla 80  
36010 CARRE' (VI) Italy  
Tel. ++39 0445 808 222 - Fax ++39 0445 808 232  
info@mariani-it.com - www.mariani-it.com

