

R-PAL: one thousand of these palletizers from EMS GROUP

We recently spoke to Giordano Colli, Sales Director at EMS Group, about an important milestone reached – that of having more than 1,000 of their R-PAL palletizers up and round around the world.

EMS Group recently announced that the number of its R-PAL palletizers installed, up and running around the world has exceeded 1,000, and has thus become the most used system in glassworks.

R-PAL is a state-of-the-art palletizing system for the container glass sector:

- The palletizers are equipped with innovative push or grip stackers for the feeding and preparation of the rows of articles.
- They can be equipped with patented MPH (Multi-Purpose Head) universal palletizing heads.
- They include also last-generation ZET-APP interactive supervision system, the most user-friendly application for the control of every component of the installation, even from tablets or smartphones.

This article, in the form of



an interview with Giordano Colli, Glass & PET Sales Director at EMS Group, gives us an idea of how this important success has been possible.

WHAT DOES IT MEAN FOR YOU AND THE COMPANY

TO HAVE REACHED THIS IMPORTANT MILESTONE OF MORE THAN 1,000 SYSTEMS UP AND RUNNING?

Giordano Colli, Sales Director at EMS Group: First and foremost, it is a source of great satisfaction for the whole EMS



Group. At the same time, while it is important to celebrate this important goal, we must also consider the goal as a new challenging starting point.

It is a commitment towards ourselves and our customers, giving continuity to the incredible 'group' work, with quality and passion of all of us here in the company, which have led to this important result.

I would also like to add a more personal comment: just like many of my colleagues, I was born and grew up here in Montecchio Emilia, which has always been the headquarters of the parent companies of our group, so this goal of absolute global excellence is a further source of pride linked to the love for our territory and the par excellence of Made in Italy products.

These results are the strong driving force that pushes us to grow and develop, to honour those who were here before us.

Our companies, in fact, now have more than 50 years of history, and are continuing to create employment and development opportunities for young people.

WHO ARE THE KEY PEOPLE BEHIND THIS SUCCESS?

EMS Group: The team, without a doubt. Building plants and systems is, and has always been, stimulating and fascinating team work. There are no shortcuts or alternative routes to take when creating a top level product in plant engineering: everyone needs to work together with and for colleagues, combining their skills and experience. The longevity of the success of R-PAL is a clear indication of how – over the years – we have all managed to group together to meet the needs of our customers.

This has been, and will continue to be, our main commitment: to repay market trust by working together to excel in the solutions

and services we provide.

WHAT IS R-PAL?

EMS Group: R-PAL is an automatic rotating column palletizer for empty glass bottles; the letter 'R' in the initials of the model highlights the concept of 'Rotating'.

The bottles leaving the annealinglehr, move along chain conveyor belts through inspection and control machines and then, divided into an appropriate number of single rows, they reach the entrance of a stacker, which is the first element of the palletizing system.

This unit prepares and transfers the appropriate number of rows of articles on a motorized table for the preparation of complete layers. Each layer is then picked up by the palletizing head installed on the main column, and then placed on the pallet.

Stability and squaring of the layer are guaranteed by the centring system; the TAI feeder device then places an interlayer



separator (flap/tray/cap) on each layer. This cycle is repeated by the palletizer until the expected number of layers has been transferred to the pallet.

WHAT ARE THE MAIN ADVANTAGES OF THIS SYSTEM?

EMS Group: The system has been very successful in glassworks because it combines a series of characteristics particularly appreciated in this sector:

- compact layout;
- flexible operations;
- the highest level of reliability;
- total accessibility.

All palletizer operations are carried out at a low level, thus allowing easy access to the work and maintenance areas by the operator.

EMS' know how concerning mechanical design and automation software allow R-PAL to operate non-stop for several years, 24 hours a day, 365 days a year.

24/7 operations and reliability

for such a long time are essential features for a sector such as glassmaking, where processes never stop during the lifetime of the kiln (except for short programmed periods during which format changes and maintenance are carried out).

The strong points of the system are:

- suitably oversized components for 'around-the-clock' operations;
- ad hoc software developed in-house;
- interpolated speed and acceleration control;
- precise management of axes and dedicated axes cards in the event of servo-motors.

R-PAL therefore guarantees:

- progressive and extremely accurate movements;
- speed variations based on production lines;
- reduced wear of components installed as there are no vibrations or stress;
- absolute delicacy in products

handling and maximum precision in the pallet filling.

IS THIS PALLETIZER MADE IN DIFFERENT VERSIONS?

EMS Group: Yes, the R-PAL can be manufactured with different levels of automation, as well as in many types of general layout.

R-PAL has a modular design with the advantage of allowing to initially install a semi-automatic machine (which involves the manual execution of some operations: insertion of layer separators, loading of empty pallets, etc.), and increase the level of automation during the following phases by adding additional modules.

The modularity of R-PAL also ensure the highest level of flexibility with regards to the layout configuration, along with reduced footprint, and therefore able to adapt to the different the plants in which the system is to be installed. Available areas, already existing in most cases, are always different and have



EMS

"R" PAL

Rotating Column Bulk Palletizer
Operating in pickup mode
Inflating Tubes or Vacuum Plate



EMS

"R" PAL - MPH

Rotating Column Bulk Palletizer
Operating in sweep off mode
Self-Adjusting Multipurpose Head
Patented

obstacles to consider: the modular layout of R-PAL meets each and every need.

The TAI sheet insertion column rotates to move to the pickup points of flaps, trays and caps; with two basic construction types: 'Twin-Boom' and 'Two-Boom'.

- Twin-Boom: the sheet insertion column is installed on the same slewing ring as that at the base of the palletizing column. This results in extremely reduced overall dimensions of the system, without compromising its operations.
- Two-Boom: the sheet insertion column is installed on a slewing ring that is independent from that of the main column. This version, which has two columns that operate independently, allows to reach higher production levels compared to the previous version, without significantly affecting the footprint at ground level.

This means that we can provide customers with the configuration

of system perfectly corresponding to their needs, being aware that we can offer consolidated reliability and technology in step with the times.

Our work is, and has always been, the result of constructive synergy with customers. The Customer First approach that we have means knowing how to listen to propose effective and efficient solutions for specific needs.

WHICH UPDATES HAVE BEEN MADE OVER THE YEARS TO IMPROVE THIS PRODUCT?

EMS Group: The patent for our MPH (Multi-Purpose Head) is definitely one of the most important implementations.

R-PAL was already able to palletize diverse type of products using the most suitable pick-&-place head, such as: vacuum head, finger head, bell head, etc..

The universal MPH was developed to respond to the requirements regarding the palletization of particularly unstable shapes

and formats, which need sweep-off functions. This head has head with a retractable surface capable of handling almost all types of items – from small pharmaceutical vials up to magnum-sized bottles for wine – also without space between the necks. The design of the retractable top has been perfected so as to ensure seamless movement of the containers, both during loading on the preparation table and during unloading on the target pallet (zero jump).

This patented head allows to carry out format changeover completely automatically from the operator control panel.

Moreover, the considerable flexibility of the MPH also allows to palletize both bulk bottles and vases, as well as boxes and bundles, making it the ideal solution for combined cold-end lines.

In glassworks in North America and Mexico, for example, articles are often palletized in bulk or in boxes according to the needs of

the final bottling customer.

The ZET-APP interactive supervision system is one of the latest upgrades. This tool, which has been developed entirely in-house thanks to our know-how, facilitates system management, ranging from the simplest to the most complex, thanks to a complete and user-friendly operator interface.

The control of every single component of the system, unlike the past, now easy for our customers, even from tablets or smartphones, by means of an APP that can be downloaded onto iOS or Android devices.

Generally speaking, ZET-APP supervision represents a remarkable evolutionary step in the automation of transport and palletizing plants, immediately recognized and appreciated by the market.

WHICH NEW IMPLEMENTATIONS ARE FORESEEN FOR THE NEAR FUTURE?

EMS Group: The R-PAL palletizer, along with all other EMS Group products, is continuously monitored by our I&D Department with regards to the development of upgrades: cutting-edge components for performance optimization, modules for the completion of available machine configurations, general usability of the systems.

For example, the implementation of tools to facilitate technical interventions and maintenance activities such as:

- AR (augmented reality) glasses that allow employees to establish a two-way audio-video communication to solve problems through images and instructions shared in real time;
- the MaintenEasy 3D interactive manual providing direct online access to technical documents with video tutorials, QR code reading for the immediate identification of spare parts to be ordered, monitoring of the



system in real time, and, last but not least, error reports.

In addition, the new tray former and the new line of carton packaging machines are also in the pipeline, which will enable us to provide an even wider and more flexible range of products to the market with regards to the configuration of complete palletizing systems.

Our mission is to become the Unique Handling Partner for all our customers, developing handling, palletizing and storage solutions with them, and that best meet their needs.

WHAT IS BEHIND THE SUCCESS OF R-PAL, AND WHAT WILL ITS FUTURE BE?

EMS Group: Market trust with regards to plant engineering is gained machine by machine from a technical point of view. In sectors such as glassmaking, where plants must never stop for 365 days a year, important results are the consequence of competitive-, reliable- and technically performing products, as well as prompt and efficient service and assistance.

Having supplied more than 1,000 R-PAL palletizers to the most important glassmakers in almost 100 countries around the world – is a clear demonstration of how our passion and efforts over

the years focused on developing complete machines from all points of view, and reliable for 24/7 operations, have reached the goal.

The fact that there are R-PAL palletizers still up and running after 30 years of 'hard work', and the renewed requests for R-PAL models by those who already have several units in their factories, we comfort us about the future of this solution.

R-PAL is already one of the best options on the market today, and we believe that thanks to the integration and daily commitment of the people who are part of the family of our group, this type of palletizer will continue to be a reference product, leader in performance, available services and variety of solutions offered, and will contribute in making EMS Group the ideal partner for all customers. ■



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