Combining packaging and palletising

Why it might not be ideal to purchase packaging and palletising equipment from one supplier

palletising

August 2022

Now that automatic palletising has become a standard function at the end of a production line, some purchasers will consider buying packaging and palletising equipment from the same supplier

CONTENT

Introduction
Relevant variables
Pros and cons
Conclusion
How can we help you?

© 2022 CSi palletising

Introduction

Up to a few years ago, automating the palletising function in FMCG/CPG manufacturing was relatively uncommon. It was easier and cheaper to continue with manual palletising. Even when a company purchased secondary packaging equipment, the next function on the line continued to be manual handling. However, this is rapidly changing, all over the world.

The cost of manual labour is increasing substantially and the availability of people who want to perform this repetitive and burdensome work is no longer guaranteed.
Moreover, manual palletising, risking soft tissue injuries, is not acceptable in companies that place value on being a good employer.



So the question arises: where can we obtain professional palletising equipment to replace the manual work? In some cases, companies turn to the supplier of their packaging equipment and ask them to also supply palletising or vice versa: one-stop shopping. In this white paper, we elaborate on the aspects that influence this choice.

Relevant variables

Packaging

The input for the secondary packaging equipment is the primary packaging. The primary packaging of a product is the first material wrapped around it, and that defines its smallest unit of sale. Packs, cans, bottles, boxes, shrink wrap: there are many different types of packaging. Apart from keeping the product in good condition, it is important that the primary packaging is eye-catching and appealing, as it will be the first image that the end customer sees when coming into contact with the product. The functions of primary packaging are to separate, protect, secure, communicate characteristics and expiry, and in some cases, attract attention and build brand loyalty. Therefore, each type of packaging has its own unique characteristics. All the aspects of the primary packaging have to be clear before you can think about secondary packaging. A careful analysis is necessary to be able to choose the right solution.

The purpose of secondary packaging is to create unit loads, grouping various types of primary packaging in order to make storage, transport and handling easier. Generally, this type of packaging adds reinforcement and/or allows grouped items to be marketed together in order to be communicative and eye-catching. In most cases, secondary packaging uses cardboard boxes or other materials of different sizes and thicknesses, but plastic film can also be used. Secondary packaging may be removed from the items without changing the qualities or attributes of the goods.

Choosing packaging machinery involves an assessment of technical capabilities, labour requirements, worker safety, maintainability, serviceability, reliability, ability to integrate into the packaging line, floor space, flexibility (change-over, materials, multiple products, etc.), energy requirements, quality of outgoing packages, compliance with regulations (for food, pharmaceuticals, etc.), throughput, efficiency, productivity, ergonomics, etc. Machinery must be compatible with the expected operating conditions. For example, cold temperature operations require special considerations.

All in all, it requires high levels of expertise and knowledge to be able to design and realise an adequate piece of packaging equipment. Because of capacities and demands concerning dimensions, technical tolerances are very small. As there can be direct contact with the primary product and the equipment is typically located in the production area, stainless steel is the most commonly used material for product contact in this type of equipment.

Palletising

The variables that are important for automatic palletising are very different. In addition, for palletising you need to investigate many different variables before you can decide on the best solution. These variables include the type of packaging that goes into the machine (cases, shrink wrap, bundles, etc.), type of pallet (Chep, Euro, GMA, Düsseldorfer or one of the many others, including customer-specific variants), usage of bottom/slip or intermediate sheets, available footprint and height in the factory at the end of the production line, desired stacking height and accuracy because of storage and distribution demands, accessibility of the equipment (to add pallets or intermediate sheets, for maintenance or to grant access to upstream equipment), etc.



The number of cases going into a palletiser is typically 5 to 10 times fewer than the number of primary packages going into a secondary packaging machine. Whereas secondary packaging is typically organised per production line, palletising equipment is frequently chosen to handle products across multiple lines. In that case, capacity calculations have to be made for different production scenarios, taking into account sufficient buffer spaces.

Palletising equipment does not have to be located on the production line. Footprint, accessibility and other factors can support the choice to locate the palletising system in a separate area or in a warehouse. Designing conveyor routing and capacities in dense factories also needs to be a competency of a palletising supplier. Palletising is a specialism between the production and the warehousing area. Industrial automation and warehouse automation with an in-depth understanding of logistics are all necessary.

Accuracy concerning stacking cases on a pallet is important, but tolerances are in millimetres and the dimensions of pallets are not always consistent. Palletising equipment therefore needs to be more robust and less vulnerable to small deviations from the standard.

Safety is a very important aspect, as the palletising area is typically large and whole body access to the area is needed. Accidents in the transportation area tend to be relatively serious, so everything needs to minimise the risk.

Designing equipment for this complex and risky environment requires many years of experience and knowledge accumulation. As the field is very wide, only the larger palletising specialists are able to build and maintain this type of knowledge.

Pros and Cons

Purchasing packaging and palletising equipment from one supplier certainly has advantages, as there is:

- Only one supplier, so no discussions about interfacing (mechanical, electrical, software) between packaging and palletising equipment;

- Easier realisation of identical operator platforms, in situations where this is required;

- Combined benefit in bringing together project management and administration, and hence reducing costs and making communication easier;

- More pressure to stick to the supplier standards, as this enables the supplier to manage the broad range of solutions.

On the other hand, there are also benefits if a customer chooses a packaging equipment supplier that is different from a palletising equipment supplier:

- A specialist can be chosen for both types of equipment, as there are almost no companies that specialise in both technology platforms;

- A wider range of technological choices is possible for both types of equipment. It is easier to make bespoke adjustments, as the specialists know how to deal with these;

- Professionals experienced in packaging equipment prepare and install this type of machinery, whereas palletising professionals stick to their field of expertise;

- Being experienced in engineering and building packaging equipment can lead to designing palletising equipment with too narrow tolerances and hence increases the initial investment.

Conclusion

CSi is convinced that supplying good palletising equipment requires a very high level of experience and knowledge relating to a range of solutions. Only the companies that specialise in these technologies are capable of repeatedly delivering high quality, very reliable and safe systems.

Therefore, we would always advise our customers to buy the palletiser from a specialist (after all, you don't buy bread at the butcher!).

One-stop shopping is also possible by appointing one of the specialist suppliers to lead the project and be the contact party, while another supplier has a supportive role. Parties can mutually agree to manage all interfaces between themselves.



How can we help you?

CSi has almost 60 years of experience in realising all forms of projects around palletising and conveying equipment. Based on that history, CSi is highly capable of executing all types of palletising projects. Having built experience with both robotic palletising and layer palletising since the beginning of the 1980s, CSI has truly become a specialist in this field. We are always happy to be able to share our wealth of knowledge and experience with customers that are thinking about automatic palletising.

If you would like to receive more information, do not hesitate to contact us.

CSi palletising

Lissenveld 39

4941 VL Raamsdonksveer

The Netherlands

Tel. +31 162 575 000 or info@CSiportal.com

