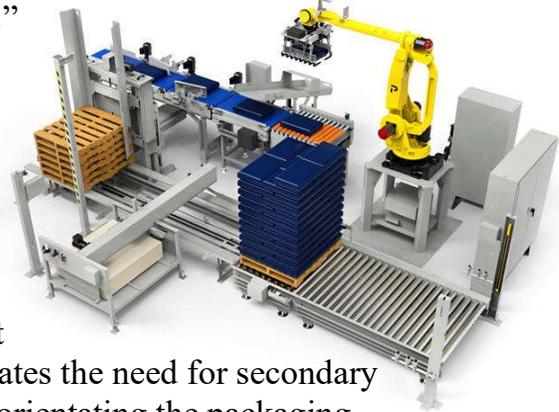


For many decades, layer palletisers have been considered robust workhorses, especially for agricultural producers. Yet, like most aspects in automation, technological advances in robotics is seeing more packaging and processing lines choose faster and more flexible robot palletisers over mechanical layer systems.

Demand for robotic solutions is by far outstripping requests for layer palletisers. Regardless of whether you are stacking bulk produce, food, beverages, aggregates, pharmaceuticals or beauty products onto pallets, efficiency, accurate loads, damage-free products, and safe operation are the prevailing requirements. In truth, it's now much harder for layer palletisers to compete with robots in terms of footprint, speed, flexibility, and cost of ownership. They are only really a contender in specific applications, and even then, there's usually a thoroughly trialled and viable robotic palletising equivalent at an equally competitive price tag."

Pattern palletising - who does it better?

The ability to handle smaller case sizes at much faster speeds have been the catalyst for some of the most recent developments in palletising. Increasingly, retailers, especially the discounters and wholesalers, display pallet loads directly onto the shop floor. This eliminates the need for secondary packaging but creates a challenge in terms of orientating the packaging labels to face out on all four-sides. Patterns like this can be trickier to accomplish with traditional layer palletisers. Essentially, it's much easier to programme complex stacking patterns with a robot and switch between products.



Another consideration is stability. Leaving gaps between boxes can help to create a stable stack, yet this isn't always feasible when using a layer palletiser. What's more, a robot can be configured to differentiate light from heavy packages, which is another benefit as they can palletise a variety of case sizes of products on one pallet without compromising the stability. Mixed product pallets are much more commonplace nowadays, especially in smaller stores, which have limited stockroom storage facilities.

Factory footprint - which palletiser is smaller?

Because plant space is always at a premium, the size of palletising equipment can restrict the options. Typically, a mechanical palletiser takes up a much

larger footprint, around 50% more and requires higher clearance headroom due to the tall mast required to elevate layers above the pallet a lower into position. “In comparison, to layer palletiser that is strong, fast, and compact, they don’t rely on pushers to adjust the positioning of the product being packed.

Cost:- Robot palletiser Cost approximately half that of a layer palletiser, this option is faster and more flexible, and has a footprint that is not much larger than a pallet itself. In fast-paced packing environments speed is naturally critical, and here too robots excel. However, it’s the added flexibility and endless layout permutations, where palletising robots really add value. No doubt there are some quick layer palletisers available, however, robotic end effectors can be multi-functional, some handling six loads simultaneously, and the robot can even pick up different format products, place down the pallets and add layer or slip sheets, without the need for additional peripheral equipment.

Housekeeping and machine maintenance - what are the associated costs?

There are a wide choice of pre-owned robot arms, most of which have at least two thirds of their 100,000 hours of expected life remaining. The only areas requiring servicing is the end of arm tooling and greasing of the robot joints. Compare this to maintaining a layer palletiser, where every movement involves a belt, chain, pulley, bearing or guidance system, it’s easier to comprehend why packers are switching to robotic equivalents.



Housekeeping costs today are much higher for mechanical palletisers as there are so many fabricated parts. Replacing a chain inside a lifting mask, for example, is a big job and labour intensive. The reliability factor is also a consideration. Naturally, a mechanical machine has more moving parts and if one component fails it has a knock-on effect on the overall operation and productivity. It’s inherently much quicker to troubleshoot and fix a problem on a robotic installation, especially with the remote diagnostics and telephone support available today. Also, there are many options for training for those wanting more in-depth knowledge of the robots for clients wanting to have enhanced support internal to the business.

Layer or robot - which palletiser has the upper hand?

Although layer palletisers are certainly viewed as the ‘older’ technology, they are far from redundant. Because layer palletisers have plates that push the bags tightly together, they can squeeze oversized sacks to make a tighter layer than a robot could. Thus, making especially suited to more bulky sacks of flour, root

vegetables and grain.

Summing up:- When selecting a palletising solution, it comes down to choosing a supplier that truly understands the dynamics of your packing line. Each customer's needs are as varied as the products being handled, and they should ask the supplier to explain what the benefits are for the system being offered over the alternatives available. Realistically, outlay and cost of ownership are always going to be the swing factor. But in terms of future-proofing your investment, robots have the upper hand as they can be easily reprogrammed to perform another task.

THE END.

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