

Empticon[®] - ergonomic container unloading by remote-control

With Empticon, unloading containers is as easy as playing computer games. You can empty an entire container without lifting a single box, just by using Empticon's remote-control joysticks.

Just like many computer games, Empticon uses joystick controls. Unlike computer games Empticon works in the real world. After only a few hours of training, one man can empty or load over 600 packages with individual weights of up to 40 kg in one hour. In so doing he avoids all the potentially damaging lifts involved in manual container emptying/loading.

Full control via two joysticks

The operator exercises complete control over the machine via a moveable panel. Every move the machine makes is controlled via this wireless remote control. The operator uses one joystick to control the conveyer belt's lateral movements, while the other joystick controls the vacuum cups and their lateral movement. In addition, band speed, traversing etc. are controlled remotely.

Flexible platform

Empticon consists of six belt modules, a lifting belt and a vacuum-based grabber, which transfers the packages to the belt. A mobile unit moves the belt modules backwards and forwards as necessary. When fully extended, the machine is 24.4 meters long, making it long enough to empty a 45-foot container. The grabber features vacuum heads, each with their own vacuum pump. The grabber can handle packages weighing up to 40 kg, and transfer them onto the conveyer belt, which transfers them to warehousing at the other end of the belt.

Empticon can be used with a number of ports simultaneously as the machine can traverse from port to port.

Safety first

Safety is a top priority. When the machine is in use the operator must sit or stand on a small platform featuring an ergonomically formed seat. Only when the operator is positioned on the platform can the vacuum cups be activated. Similarly all the machine's movements occur at half-speed when the operator leaves the platform. A monitor provides information as to the causes of operational problems in the unlikely event that these should occur. Empticon uses high-voltage electricity, e.g. 400 V, which is then converted to 24 V. For safety reasons, all motors and other electrical components run off 24 V electricity, ensuring that there is no high-voltage electricity within the container.

A range of applications

Integrating Empticon with other automatic warehousing equipment such as robot palletising machines, grading machines or mini loaders is a simple matter. In an international clothing retailer's distribution centre Empticon empties containers of boxes that are sent to the retailer's automatic sorting system via a series of conveyer belts.

A Third Party Logistics Provider, which distributes shoes on behalf of a shoe retailer, receives the shoes loosely loaded in containers. They are sent via Empticon to a sorting machine, are palletised and driven to warehousing. A second Third Party Logistics Provider empties, amongst other things, crates of wine for a supermarket chain. A robot has been installed which palletises the goods directly from Empticon.

A duvet and pillow manufacturer uses Empticon when receiving goods from their factories abroad. 80% of the time, however, Empticon is used to load non-palletised goods into containers and trailers.

Further information:

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