



A new order picking system for breweries and dairies

MultiPick[®], developed for the order picking of products delivered in plastic crates, has recently been joined by the super-efficient MultiPick[®] Dolly. The system, which has proved very beneficial, is based on gantry robotics and gripper technology and can handle dollies and 1/4 pallets in the beverage industry as smoothly as dairy roll-in containers.

This innovation makes the order picking of dollies, 1/4 pallets and roll-in containers even more efficient than before. The system operates with minimal labour costs, since the use of MultiPick Dolly requires only one operator in the control room to keep a watchful eye on the order picking operations. The transfer of picked products onto delivery vehicles is taken care of by forklift drivers or loaders.

However, the most highly desired cost-effective feature of automated dolly picking is that the system does not restrict the number of items to be handled. The floor space under the robot can in fact be used very flexibly depending on different volumes and item variation. The system saves significantly on space, because it functions simultaneously as both a warehouse and an order picking system. This kind of storage space is also easier to keep clean, because the warehouse can easily be emptied automatically in order to wash the floor.

Dolly order picking in dairies and the beverage industry

Beverages are sold to customers in many different packages. Consumers can buy their drinks in glass or plastic bottles or in cans.

For larger amounts, plastic crates or the ever more popular multi-packs (six-packs, twelve-packs etc.) are used. In distribution all kinds of rolling solutions, such as wheeled dollies and roll containers are preferred.

Beverages can be stored in high-bay warehouses, where they wait to be dispatched to the customer on product pallets containing the same product. Products are delivered from the high-bay warehouse for order picking on product pallets either by forklift, AGV (automated guided vehicles) or EMS (electric monorail systems).

In the Multi-Pick Dolly order picking area the product pallet is moved first to the pallet conveying system, where the products are registered into the Cimcorp order picking system by means of barcodes. Then the dollies are unloaded off the pallet at the depalletizing station and the pallet is moved to the empty pallet magazine. The dollies themselves are moved by transfer cars in groups of four along the conveyor below the robot to the robot collection point. The robot picks the dollies one at a time from the collection point and transfers them to the floor storage under the robot. There are special rails in the floor, onto which the dollies that are ready for dispatch are lowered. Since they are

not resting on their wheels, they are no longer able to move out of place.

In the delivery stage, the MultiPick system picks dolly products from the floor storage onto the conveyor one full dolly at a time. A single dolly is picked for transfer by a MultiPick gripper, and its tubular construction supports the stack and holds it together throughout the transfer. When the system has collected a batch of four dollies on the conveyor, the whole batch is moved by transfer car to the outbound conveyor, where customer-

specific notes are attached to the dollies. They are then transferred to the loading bay and loaded onto the delivery vehicles in the correct drop-off sequence. The same method can be applied for I/4 pallets.

In dairies, dollies and roll-in containers come to the MultiPick Dolly order picking area either directly from production or from production facilities elsewhere. Those from production are automatically registered into the Cimcorp system on the conveyor. Those from other production facilities are registered

into the system by hand. Next, the MultiPick Dolly transfers the incoming goods to the floor storage under the robot and picks the goods to be delivered from the floor storage according to customer order. In dairies the smallest unit handled is a dolly formed of plastic crates stacked on a dolly base or a full roll-in container used for very large volume goods.

TEXT | CARINA BERG PHOTOS | HARRI PÄLVIRANTA



MultiPick[®] Dolly is a robotics application for warehousing and order picking, where a simple floor storage under the robot is managed automatically by means of a computer system. It enables the management of a large amount of different items with minimal labour costs.

The flow of goods in the order picking area and all order picking functions are managed by the Cimcorp WCS warehouse control system, which plans order picking on the basis

of customer order data and divides order picking tasks to different picking areas. Data on the customer orders is sent to the system directly from the customer's operations control or production control system.

MultiPick[®] Dolly is generally connected as part of a wider system, which may include automated subsystems such as plastic crate order picking and split-crate order picking as well as manual order picking. The smallest unit MultiPick[®] Dolly can store and pick is one dolly/1/4 pallet/roll-in container.

The main user monitors the functioning of the system, releases customer orders for order picking by route and corrects any malfunctions and errors in registration. Forklift drivers receive replenishment requests on the RF terminals, deliver the products for order picking onto the pallet conveyor and transfer the picked customer pallets to the loading bays or to the manual order picking area.