



Successful Logistics Concept

Display Pallet Picking (DPP)

Automated storage, picking,
and consolidation of half and quarter pallets

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DPP Function

After delivery to the distribution center, the single-product quarter and half pallets, delivered without any kind of carrier pallet, are bundled and placed onto a slave pallet. They are then stored in a conventional pallet HBW. The HBW is also used for storage and replenishment for other order picking areas.

Fully automatic order picking of the quarter and half pallets is carried out with the system option DPP HBW or DPP Module depending on the makeup of the order. After picking, the completed orders are then delivered to shipping. Order picking and staging in shipping can be done at different times.

The picking result of DPP is logistical units on Euro pallets consisting of:

- Two different half pallets on a dispatch pallet
- Four different quarter pallets on a dispatch pallet
- Two different quarter pallets and one half pallet on a dispatch pallet
- Equivalent logistical units can also be formed on roll containers

DPP Principle

It is becoming increasingly attractive for retailers and wholesalers to stage fast-moving articles, goods from specific merchandise groups, and items for special promotions using quarter and half pallets. Transferring these dispatch units from the manufacturer via the distribution center straight to the store means that no picking of single cases is required.

The value to the customer is obvious – and even today, many retailers are handling a considerable proportion of their volume using quarter and half pallets. However, the process does not deliver benefits all the way – it causes headaches for logistics managers at the distribution centers. Handling these logistical units often leads to time-intensive, labor-intensive, and un-ergonomic operations and space problems. The constantly growing number of items staged on quarter and half pallets and the resulting ever-increasing dispatch volumes are also confronting warehouse operators with new challenges. To this extent, there is an enormous amount of catching up to be done in optimizing these processes.

With the DPP solution, WITRON is now offering its customers a fully automatic concept for the formation of customer orders consisting of different quarter and half pallets. With DPP, orders can be picked onto both pallets and roll containers.

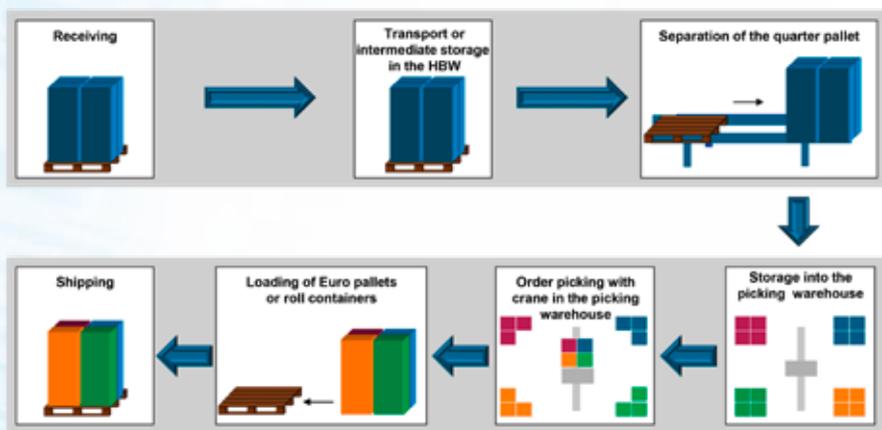
The automation covers all operations – from placing loose incoming quarter and half pallets onto a slave pallet in receiving, to storage, order picking, intermediate buffering, consolidation, and securing for transportation to staging in shipping.

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DPP Picking of Quarter Pallets

Customer orders consisting of quarter pallets are not put together directly in the HBW, but in a DPP module. The quarter pallets stored in the pallet HBW as single-product units are removed from the HBW, sent to stretchwrap removal, separated

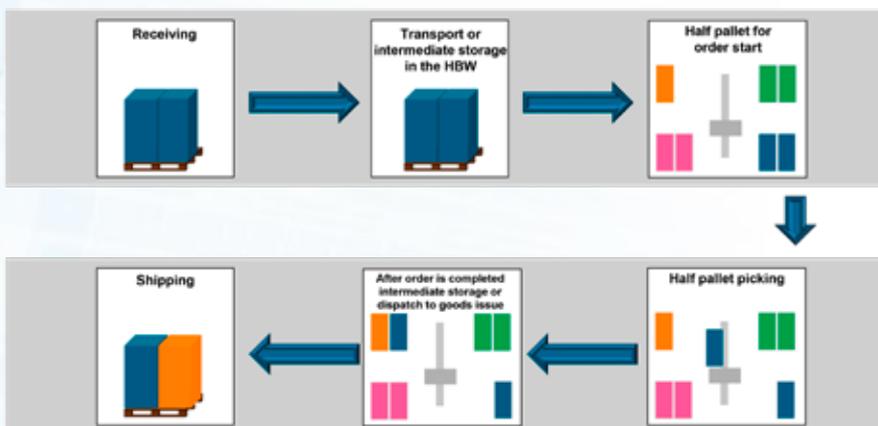


from the slave pallet, and stored in the separate DPP module using a crane. A DPP crane specially designed by WITRON for this application can store one unit consisting of four quarter pallets at a time with each cycle. During the picking process, the DPP crane can put up to four different quarter pallets together directly to form a customer order. The logistical unit formed by this means is then removed from the DPP module, placed on a dispatch pallet, and conveyed either to the pallet HBW for intermediate storage or directly to shipping after securing for transportation.

DPP Picking of Half Pallets

If a customer order consists of two different half pallets, it can be put together either directly in the pallet HBW or in the DPP module. Picking half pallets onto a dispatch pallet is done using standard pallet cranes. After picking, the customer order is either conveyed to the high bay warehouse for intermediate

storage or directly to shipping. The total optimization process is based on software developed by Witron for half pallet picking.





Benefits of the DPP solution

- ▶ Automatic storage of half and quarter pallets
- ▶ Order picking and consolidation of half and quarter pallets in one system
- ▶ High cost-efficiency because of the mechanization of all processes
- ▶ Minimization of un-ergonomic manual operations
- ▶ Optimum, error-free order picking quality
- ▶ Generation of stable dispatch units
- ▶ Customer orders picked onto either dispatch pallets or roll containers
- ▶ Minimum space requirement due to compact, space-saving storage
- ▶ Low energy and construction costs due to modular and compact design



Provision of quarter and half pallets



Telescope technology especially developed for DPP cranes



Completely automated storage, order picking, and consolidation of quarter and half pallets



Formation of stable picking units



About WITRON:

WITRON Logistik + Informatik GmbH, established in 1971 (headquarters Parkstein, Bavaria, Germany), designs, realizes, and operates customized logistics and material flow systems that generate sustainable competitive advantages for its clients. WITRON has all the decisive key elements of a successful project under one roof: logistics design, information and control technology, mechanics design and production, as well as functional responsibility as general contractor for logistics.

The WITRON Corporate Group has 3,100 employees worldwide. WITRON's annual revenue in 2017 amounted to 515 million Euros. Other WITRON branches are located in Rimpar (Germany), Arlington Heights, Illinois (USA), Toronto (Canada), Venray (The Netherlands), Stoke-on-Trent (UK), Madrid (Spain), Strasbourg (France), and Singapore.

WITRON
Logistik + Informatik GmbH
Parkstein
Phone +49 9602 600-0
info@witron.de



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