



distri**Sort**[®] **Whitepaper**
Sorting



What does sorting mean in a logistics process?

Sorting literally means: putting together everything that belongs together. This definition needs to be elaborated in lots of ways. With regard to sorting in a distribution centre, we talk about sorting articles that belong to one order or occupy one unique position in the stock (SKUs). It is important for automatic sorting that the volume is large enough, because major cost benefits arise when as many products as possible are handled by as few people as possible.

If sorting means ordering articles that belong together, the picking process of articles may be described as chaotic. When we identify the various picking processes, these processes can be reasonably ordered. When multiple orders are collected simultaneously, chaos seems just one small step away, especially when the distribution centre has not kept pace with commercial activities. Through a sorting process, this picking routine is transformed into a complete, flawless delivery. Sorting creates an efficient process for high volumes.

In a distribution centre or a logistics process, the sorting of articles needs to be divided into various flows. The flows do not all have to take place at the same time or in every company; the regular ordering process, replenishment, cross-docking, returns and e-commerce.

The distribution centre is the gathering place for the full or partial product range made by a company. Within a distribution centre, products are collected based on a variety of criteria.

These criteria are company-related and originate from many causes such as, e.g. finance (turnover rate/value), marketability (new/old), sales figures (fast movers/slow movers) and appearance (small/large).

If the various conditions have been met and the products are in in-stock position, sorting has, in fact, already taken place.

Automatic sorting is complementary to the picking process. Where picking becomes more complex with increasing amounts of orders, ordering rules and numbers of products, automatic sorting provides a solution. When a number of orders are merged into one large order picking instruction (batching), the sorting machine can sort the batch back into individual orders. Order batching means merging the customer's instructions. It does not matter for a sorting solution whether 50 or 500 orders are provided simultaneously. For the initial configuration of the machine this information is indeed important, but expert data analysis offers a solution to this. When the initial configuration is no longer sufficient because of growth, extension of a sorting solution may be one of the technical possibilities for solving this problem.



Conclusion:

Sorting is a very attractive logistics process in order to reduce order lead times, handling costs and costs per product.

What logistics flows need to be sorted?

The key logistics flows in a distribution centre are: ordering process, returns, cross-docking, e-commerce, replenishment.

One of the key flows for sorting is: the ordering process or the (store) orders.

What does automatic sorting add to the ordering process?

This method provides great efficiency since there is no need for every individual order to be made in the distribution centre. Since a large number of orders are merged into one picking instruction (batching), there is less traffic in the picking area (fewer people do more work), the distances to be covered are significantly shortened (time gains) and the productivity (number of items) per order picker is increased.

Also, picking errors are discovered in the automatic sorting process.

If a picker picks e.g. 51 items of 1 article and 50 are needed for the batch, then two checks are possible:

1. The first check takes place during induction of the product in the system. The inductor has one product left over if the number of required products in the batch is counted down on the screen.

2. The second check is confined inside the batch; if the batch has already processed this product for all orders, the system will automatically send the product to the "reject" exit, because it cannot be placed in an order; these are, after all, fully equipped with the product offered.

Conclusion:

Sorting provides a conclusive final check on the complete picking process.

Sorting for the purpose of returns

If returned goods form a major part of the incoming goods flow, e.g. in e-commerce, automatic sorting is a good way of putting the products back into stock. The articles can be sorted by countless variables such as SKU, product group or other desired variables, if predefined in the software.

Sorting for the purpose of cross-docking

For entry into storage/incoming goods, there are two possibilities:

Cross-docking

Goods are offered unordered at the entrance. The offered goods are sorted into orders via the sorting solution and, if necessary, pre-sorted for the next batch(es). These pre-sorted goods must then be introduced into the sorter with the following batch. The remaining goods can also be carried across the sorting solution to be sorted by stock position. A major advantage is that checks can be carried out on the number of expected goods and the number of delivered goods. It is also possible not to allow all remaining goods to pass over the sorter and to be directly included in the stock.

Reception check variant

As described above, it is possible to first check all incoming goods (number, type and version) and to sort them by stock. Stock picking then takes place for the ordering process.

Example:

A container with unordered products enters. Experience shows that what is delivered is not always what is promised or there is an agreed + delivery margin. The products are sorted by (in the case of clothes) size, colour and type and are counted. As a result the stock is accurate, with the correct number, and immediately afterwards the products can be sorted into orders.

Conclusion:

Sorting solutions are to be used as a cross-docking solution and as a solution for delivery inspection.

Sorting for the purpose of e-commerce

In current times, the “traditional” retail companies are increasingly asked to process e-commerce orders too. Often e-commerce is started as a separate activity but because of its increasing success, e-commerce is being integrated into normal daily business. In order to integrate e-commerce orders into the normal process, there are some important differences; the most important one being that e-commerce orders are characterised by a high number of orders with relatively few products per order. The hallmark of the “traditional” order is that many products are requested. By configuring a sorting machine with pre-sorting or special e-commerce exits, there is no problem combining e-commerce orders and others in the ordering process.

Automatic sorting solutions are also very suitable for e-commerce orders.



Software

The most important item in automatic sorting is the software used. It is the software that allows the various logistics flows to be handled.

The ideal situation occurs when the software works as a standalone module and is not integrated into an ERP or WMS system. Of course, the software must communicate well with the internal systems but operate entirely separately. This prevents the entire operation from becoming bogged down with problems. With this separate application, the automatic sorting solution or the entire WMS or ERP system still operates in the case of faults.

