

Case Study

Fossil
Dallas, Texas

Maximizing Sortation Functionality at Fossil's Central Distribution Center

Most of us know the name Fossil, those wonderfully designed vintage watches that truly replicate styles reminiscent of earlier time periods. Handling 25,000 SKUs and shipping 80,000 fashion accessories daily, Fossil's 517,000 square-foot Dallas distribution center knows how to get the most out of its sortation equipment. Designed and built by Dematic, the DC's cross-belt sorter does triple-duty – orders are routed through it three times before exiting the warehouse destined for its 350+ company-owned stores, retailers, or direct to consumers throughout the United States and in over 90 countries worldwide.



The challenge

Fossil, Inc. started out from a modest watch design shop in the 1980's, and subsequently grew into a \$1.55 billion global design, marketing and distribution company specializing in consumer fashion accessories.

Central to the company operation is its 517,000 square-foot distribution center located in Dallas, Texas, from which it distributes 80,000 fashion accessories each day to department stores, specialty retail stores, watch and jewelry retailers and direct to customers throughout the United States and in over 90 countries worldwide.

Our solution

Fossil's DC is using a Dematic high-rate SC 100 cross-belt sorter to perform multiple basic throughput functions involving picking, put-to-light and pack/shipping.

The company's ERP (Enterprise Resource Planning) system initiates orders into its WMS (Warehouse Management System). The WMS integrates with Dematic's warehouse control system (WCS) which controls the cross-belt sortation equipment and conveyors.

Cross-belt sorters usually perform a singular sortation function in distribution centers, moving packages through storage, picking, packing or shipping lanes. A second or third sorter may then be used to provide additional sortation when needed at these different points on the distribution line.

"Between 5,000 and 8,000 cartons are processed through the DC daily. At seasonal times, mid-September to the end of November, when volumes are highest, the DC handles more than 12,000 cartons daily."

Craig Flournoy,
Fossil

Using one sorter for one distribution function is normally how it is done. This is not the case, however, at Fossil's Dallas, Texas central distribution center where the company utilizes one cross-belt sorter for three distinct functions within its DC.



The high-rate, cross-belt sorter, designed and built by Dematic, sorts packages coming from Fossil's pick stations, then again from its put-to-light area, and finally from its pack-out stations. Using one sorter to perform the functions normally done by three maximizes the sorter's utilization, and has optimized Fossil's capital investment.

The sorter's individual 24-inch-long belt-top carriers perform the sort either to the left or to the right, so that the belts on the carrier run perpendicular to the movement of the carrier as it goes around the sorter loop. Larger packages, such as those that are 25 - 40 inches long, are assigned to two carriers when it is being inducted, so that the package spans both carriers, and those two carriers, in turn, act like one. This high-rate sortation unit is the cornerstone of the DC's speed and versatility.

The SC 100 can run at speeds of up to eight feet-per-second (FPS), and can convey and sort a diverse range of products weighing up to 110 pounds reliably and gently. Items are tracked and controlled through the induction and offload processes. Products can be offloaded from either side of the loop. Selectable offload speed for items of different size and dimension allows for high precision.

Fossil's cross-belt provides a multi-use, state-of-the-art sortation solution for its high-volume distribution needs. It

also provides a much more compact layout, roughly half the size of other sorter types.

Automated Picking and Waving Facilitate Sortation

The WMS integrates with Dematic's PickDirector®, a software program that controls the warehouse's put-to-light. It generates its picking lists, manages its wave picking and produces tracking lists.

The program's flexibility allows a variety of ways to set up waves, such as by different numbers of stores, by varied SKUs, by particular zones in the warehouse, or by variations in transit time.

"We are constantly evaluating our workload and process flows," says Craig Flournoy, with Fossil. "We are able to quickly shift around workloads and staff to meet our ever changing production needs. At any given time products from retail, wholesale, direct-to-store and e-commerce could be in process. The flexibility of our WMS and sortation system makes this possible."

Our throughput is 80,000 units a day on the average," continues Flournoy. "A unit could be one watch, or one pair of sunglasses, a belt or other clothing item. We will usually have about 12 units to a shipping carton. Between 5,000 and 8,000 cartons are processed through the DC daily. At seasonal times, mid-September to the end of November, when volumes are highest, the DC

handles more than 12,000 cartons daily. Much of the additional volume is from direct website orders which tend to be single SKUs."

Room for Expansion

Fossil's DC has enough expansion space available to accommodate double the company's sales volume.

"We have passed the five-year benchmark with the cross-belt sorter, and it is performing as expected," says Flournoy. "We are now looking at how it will perform at the 10-year and 15-year timeframes. We have a team of techs that do routine maintenance on the sorter, going through every function of the equipment thoroughly. This has been critical to maintaining the longevity of the cross-belt. We fully expect it to continue to execute these multi-functional operations at its high level of performance for some time to come."

Customer benefits

- System throughput is 80,000 units a day, on average
- Able to quickly shift around workloads and staff to meet our ever changing production needs
- Optimized capital investment by using one cross-belt sorter for three functions