

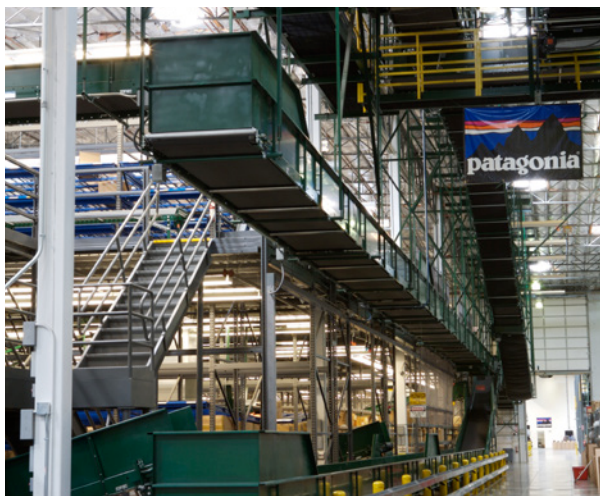
Case Study

Dave Abeloe

Patagonia Distribution Center Director
Reno, Nevada

“Green” Distribution Center with Dematic Eco-friendly Conveyors

Patagonia’s newly-expanded distribution center in Reno, Nevada, which has been certified by the U.S. Green Building Council, took an environmentally-green step forward by integrating Dematic’s new modular conveyors, increasing man-hour efficiency by 20 percent and reducing power consumption up to 30 percent over traditional roller conveyors. For Patagonia, this conveyor system fits right in to the distribution center’s ideal “green” operating environment.



The challenge

In recent years, Patagonia’s catalog and web business has grown quite significantly. During peak season, several thousand orders a day move through this channel. The process for handling direct to consumer was manual and unwieldy, resulting in orders shipped to the wrong address, unmet delivery promises, and high returns costs. This situation is what led Patagonia to automate this process.

Our solution

The solution has both cartons and mail packages move on the same conveyor through the weigh station. A sorter then sorts the orders into different shipping containers, based on whether the goods are to ship parcel or LTL.

To convey the packages Patagonia chose Dematic’s modular conveyor. The conveyor is implemented by snapping the pieces together like legos. Each conveyor section has its own control logic and internal wiring. This means the messy and time consuming electrical cabling labor associated with typical conveyor implementations goes away. Consequently, the conveyor

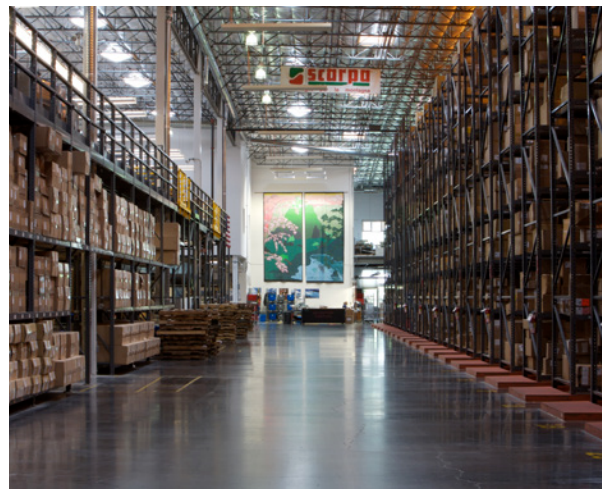
was implemented in the five day period without any problems.

Secondly, the conveyor not only handles goods of different sizes and weights, it has intelligent controls that gave individual sections the ability to speed up or slow down. This is important because the weighing station is the bottleneck for the downstream material handling process. The more uniformly items are spaced before entering the weigh station, the better the whole system works.

“With the Dematic all-belt conveyor solution, we’ve virtually eliminated our ‘non-conveyables’. All of our products are now able to be handled by the Dematic conveyor. This has drastically reduced our manual labor requirements.”

Dave Abeloe,
Patagonia Distribution Center Director,
Reno, Nevada

In short, accumulation with superior package control improves the overall system performance.



Eco-friendly Modular Conveyors

The conveyor can maintain user-selectable gapping between conveyable items. This uniform spacing leads to fewer package jams. Jams, of course, cause product damage, but jams also cause more system downtime than mechanical and electrical failures. In contrast, most roller accumulation conveyors allow more than one package to fill a zone. This may create problems since the zone will treat several packages as a single package, causing jams and side-by-sides. Using the Dematic solution, without changing hardware, the user can select a desired gap for maximum buffer, for sorting, or for proper pitch prior to an in-line scale. The user can also select the speed from 70 feet-per-minute up to 400 feet-per-minute.

These new conveyors are extremely flexible. If process needs change, the modular conveyance units can be unbolted from the floor and moved to fit a new process. In contrast, traditional conveyors, with their extensive electrical wiring, air piping, and long sections, usually have to be junked.

Intelligent controls give individual sections the ability to speed up or slow down. This was important for Patagonia because the weighing station was the bottleneck for the downstream material handling process. The more uniformly items were spaced before entering the weigh station, the better the whole system worked.

System Flexibility

One of the largest risks associated with purchasing inflexible material handling systems is that order profiles will change (for example, more case or item shipments, fewer pallets) necessitating new processes and new

hardware configurations. Modular, flexible systems lower the risks of a system becoming outdated.

“We designed the conveyor system from the ground up to provide superior availability, high performance, and lower total cost of ownership,” says Michael Hirsch with Dematic. “Compared to conventional conveyor systems, it reduces power consumption up to 30%, reduces labor up to 20%, and conveys a wider variety of product.”

“The Dematic Plug & Convey modules are engineered to reduce maintenance, and designed for fast installation,” Hirsch continues. “Integrated distributed controls provide diagnostics and new levels of user control - with system and unit adjustments to maximize performance and reliability.”

Such a material handling advance helps to solve some of the increased pressures that logistics personnel are facing: increasing numbers of SKUs; the growth of the direct-to-consumer channel because of the Internet; and increasing demand for more frequent but smaller shipments. All of these developments mean companies will increasingly need to convey goods with a greater diversity of dimensions.

Patagonia's Reno DC ships more than 7 million items annually. These SKUs are a mixture of various sizes and quantities being shipped to end consumers, retail stores and wholesalers. The DC can handle it all with facility. And much to the liking of Patagonia, it runs its DC as a very “green” operation.

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Michael Hirsch,
Dematic

The results are in

Patagonia has been using the new conveyor, and a new sorter, for nine months and has had excellent results. They have gone from 3.5 FTEs to one half an FTE for this part of their process. Returns have disappeared. And they got an unexpected bonus - the system has the ability to turn itself off if not needed. This run-on-demand capability can reduce power consumption by as much as 30 percent over conventional roller conveyors. For Patagonia, this conveyor system fits right in to the distribution center's ideal “green” operating environment.

Customer benefits

- Reduced power consumption up to 30%
- Increased man-hour efficiency by 20%
- Conveys a wider variety of product