



The hub of the Robbinsville distribution center, and where the DC realizes its most profound efficiencies, is with its sortation and conveying systems, which reduce manual labor, top. The SortDirector® warehouse control system, above, integrates with the Robbinsville WMS and coordinates all product movement inside the DC.

Energy efficient distribution center boasts high reliability

LIFETIME BRANDS' newly upgraded 700,000 sq-foot Robbinsville, NJ distribution center, with its energy-efficient conveying and sortation equipment, stands as a model of DC energy conservation, boasting a substantial reduction in electrical power consumption while handling an average volume of 425,000 cases each month.

Edited by Jack Mans,
Plant Operations Editor

In 1999, Lifetime Brands Inc. began laying plans for a greenfield distribution center in New Jersey that would consolidate its three manual distribution operations into a single, highly efficient and very automated facility. In a staged approach over eight years, the company extended not only the distribution center's material-handling equipment, but also its physical size to accommodate its needs, expanding its total space to 700,000 sq ft.

Lifetime Brands brought in **Dematic Corp.** to engineer, build and install conveying, picking and sorting equipment that would optimize energy usage and maintain the highest possible uptime reliability.

Growth spurs expansion

Lifetime Brands is a leading designer, developer

and marketer of kitchen ware, cutlery and cutting boards, bakeware, cookware, pantry ware, tabletop, home decor, picture frames and bath accessories. The company markets its products under some of the industry's best-known brands, including KitchenAid®, Farberware®, Mikasa®, Cuisinart®, Calvin Klein® and Nautica®, as

Uptime is critical to an efficient DC, and the Robbinsville center is running more than 99 percent.

well as environmentally-friendly products such as EcoWorld®.

Lifetime Brands' products are distributed through almost every major retailer in the U.S. In 2007, the Garden City, NY-based company had net sales exceeding \$493 million, a 7.9-percent increase over the prior year. This growth has been influenced

by the company's vigorous brand acquisitions.

The company's newly-upgraded Robbinsville, NJ DC (near Trenton) handles Lifetime Brands' lines of kitchenware, distributing nationally some 7,600 SKUs of food-prep items including baking products, kitchen gadgets, dinner ware, barware, cutting boards and cutlery sets. The

original 550,000-sq-ft building was completed and operational in 2001.

Pick-tower equipment additions were made in 2004, and the building was expanded by 150,000 sq ft in 2006 to accommodate additional conveying and high-speed sortation equipment, another pick tower and additional very-narrow-



Lifetime Brands' DC can handle 45,000 shipping cases/day at a high accuracy rate, according to Craig Phillips, senior vp for distribution, above.

aisle (VNA), high-rise pallet racking to accommodate 100,000 pallets. The DC has 4.7 miles of VNA wire-guided aisles. Finally in July, 2007, a fifth pick tower was added, as were a third high-speed sorter and additional conveying equipment.

Energy-efficient systems

Ninety-five percent of Lifetime Brands' 7,600 SKUs come into the Robbinsville DC in containers, which are opened. The products are palletized, and then stored or used in current orders using a cross-dock operation.

A warehouse-management system (WMS) helps direct picking, as well as replenishment of the product, from the stored pallets. Batch waving is utilized through the picking and sortation process. Full cases make up the majority of the products handled.

The higher-volume items are selected directly onto conveyors in five multi-level pick towers using pick labels.

About 20 percent of the DC's products are split-case, manually picked and scanned to carts using radio-frequency scanning technology. These products are then inducted into the sortation at one of several induction points.

Split-case items include kitchen gadgets and food-preparation items, which are usually picked-and-packed for a specific store, rather than shipping bulk to wholesale. Normally, the DC ships in bulk, but split-case items are packed for each store and then consolidated for shipping.

The hub of the Robbinsville DC, and where it realizes its most profound efficiencies, is its sortation and conveying systems, which reduce manual labor.

"We have energy conservation built in throughout the entire conveyor and sortation material handling systems," says Dematic's Bob Poth. "Lifetime Brands is able to determine when product is moving through any part of the facility, and turns off a section

of the system automatically, when it is not in use, and then turns each section back on when the product volume comes back.

"This is achieved through Dematic's control system by using photo eyes strategically located throughout the conveyor equipment," Poth says. "This operates in conjunction with selectable timers, so the equipment

is only running at planned intervals. It is a very simple and very effective energy conservation module that we developed and integrated into the system for Lifetime Brands."

Two Dematic RS Series high-speed sliding-shoe sorters are utilized in the DC. The interleaving extruded aluminum slats in the sorters provide a wide, flat carrying

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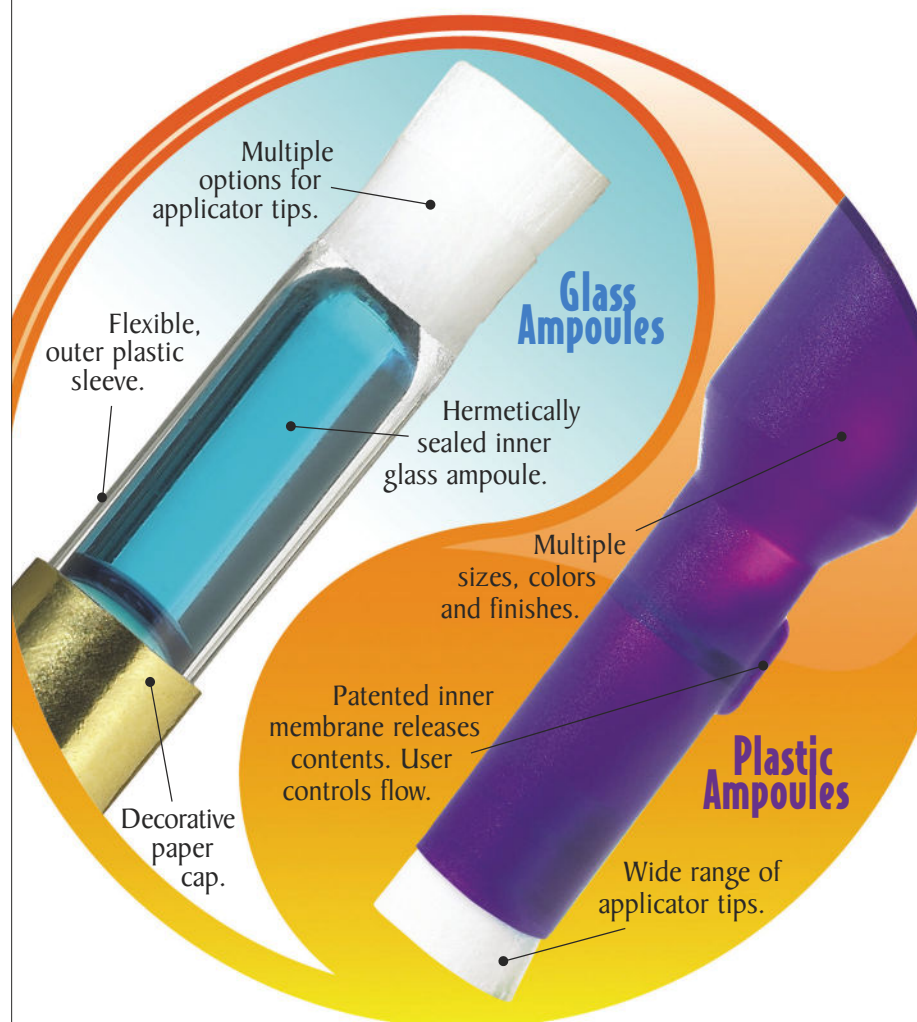
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surface that prevents jams. They allow the sorting of a wide range of product sizes and types with quiet and positive sortation and ultra-high throughput.

For cases coming in and out of the sorters, the DC utilizes zero-

**We have reduced
our distribution
expense by 3.75
percent over the
past five years.**

pressure accumulation conveyors to temporarily stop, hold and release material. They allow product accumulation along a line without pressure buildup.

The DC's energy-conservation module, conveyors and sortation are run under Dematic's SortDirector® warehouse control system (WCS), which integrates with the Robbinsville WMS and coordinates all product movement inside the DC.

SortDirector runs on a Windows-based Pentium PC using an SQL (structured query language) database. It uses modular components of code to

make it easily configurable. Providing graphic system monitoring for the entire conveying operation, it gives operators real-time control of product movement and real-time reporting.

Increased payout

By mid-year 2007, Lifetime Brands' Robbinsville DC had the capability of handling 45,000 cases/day at an extremely high accuracy rate. "The energy efficiencies at our New Jersey facility have helped cut our distribution operating costs," says Craig Phillips, senior vp for distribution at Lifetime Brands.

"We have reduced our distribution expenses as a percentage of sales, by 3.75 percent over the past five years.

"Uptime reliability is also critical to running an efficient DC," continues Phillips. "A key operational metric we look at is our system's uptime, and at Robbinsville, it is more than 99 percent. We also attribute much of our inventory and order accuracy to the systems we have in place."

More information is available:

Dematic Corp., 616/913-7287.
www.dematic.us



The Lifetime Brand's DC handles 7,600 SKUs of food-prep items, including baking products, kitchen gadgets, dinnerware, barware, cutting boards and cutlery sets.