Benchmark Briefing

Automation Speeds Fulfillment

kardexremstar

Case at a glance

Site
Cambridge, Kitchener, ON, Canada

Application
Order fulfillment & distribution of consumer goods

Equipment
Three Kardex Shuttles with Kardex Power Pick System inventory management software

Batch picking supports order fulfillment

Automation increases picking speeds, recovers floor space and expands inventory capacity

Diversco emulates their name in every way. With roots as a Liquid Propane Gas tank and parts distributor, Diversco now owns seven unique, diversified companies. The largest of six warehouses is located in Cambridge, Ontario. There Diversco inventories and distributes parts and supplies for their watersports, scuba and marine divisions.

Managing a combination of smaller parts (valves, regulators, hoses, snorkels, fins, etc.) and large parts (kayaks, paddle boards, etc.) added another layer of complexity to the fulfillment process. Diversco uses three Vertical Lift Modules Kardex Shuttle with Kardex Power Pick System inventory management software to manage their small parts inventory.

Increased throughphut by 460%

Saved 92% floor space

Increased storage capacity by 84%

Meeting customer needs

As the 52,000 square foot (sq ft) warehouse was quickly running out of space, Diversco set their sights vertically. “With a 40-foot ceiling, adding more rack didn’t make sense,” said James Huddle, purchasing and operations manager at Diversco Supply, “it was more economical to go up than out.”

A winning combination

Diversco now uses a combination three Kardex Shuttles with Kardex Power Pick System inventory management software to manage the smaller parts inventory (4,500 SKUs) and standard rack and shelving with handheld RF scanning technology for large item inventory (400 SKUs). “It was a complete transformation from a manual picking environment of walking and searching to a semi-automated process,” said Huddle, “The compact storage, time savings and ease of use completely offset the cost of the system.”

- 3 Kardex Shuttles each 32 feet tall
- Kardex Power Pick System inventory management software
- Pick to light technology

Automation – benefits and processes

Increased picking speed

While labor requirements have remained the same, efficiencies have skyrocketed. With five full time workers (one worker in the small parts Kardex Shuttle area, two workers in the large item rack area and two workers in shipping); Diversco is filing orders faster than ever. Productivity has increased from 25 lines per hour to 115 lines per hour (and added a bag and tag step) resulting in a 460% increase in productivity.

Going vertical

Small parts inventory was previously stored on 5,000 sq ft of shelving. Using handheld RF scanning technology workers would walk through the shelving scanning and picking parts as directed by the RF scanner, each worker often walking several miles per day. Now, these parts are inventoried in three Kardex Shuttles occupying just under 360 sq ft – a 92% floor space savings.

Expanded capacity

With the floor space recovered, Diversco has expanded large item inventory by 84%, previously handling 8 containers of inventory per season to now handling 50 containers of inventory per season. This has specifically expanded inventory for the watersports division, giving customers more options and quicker delivery times.

Diversco always delivers

Now, the web-based ERP sends small part zone orders to the Kardex Power Pick System inventory management software for fulfillment. The operator selects up to eight orders from the order list in Kardex Power Pick System for fulfillment. A tote is assigned an order ID and a customer ID and is placed in an open position on the batch station. When ready, the operator starts the fulfillment process with the click of a button and the Kardex Shuttles move to retrieve the parts required for the selected orders.

Using pick-to-light technology located on the front of the unit in combination with a laser pointer located inside the workstation, the operator is directed to the exact location within the tray to pick from. The pick-to-light displays the part number and location to pick, while the laser pointer uses a light beam to highlight the location of the item required. The operator picks the correct quantity of the item, confirms the pick and turns to the batch station to distribute the items among the orders as directed by the put lights on the batch station.

While the operator is picking this item from the Kardex Shuttle and putting it into the individual orders on the batch station, the other VLMs are retrieving additional inventory required for the batch of orders. The operator is rarely waiting for parts, the units are always working one step ahead of the operator.

The operator works round robin picking from the Kardex Shuttles and putting into the orders until all parts for the order are filled. When an order is complete, the operator pushes the tote onto take away conveyor as directed by the put batch lights. The order is then taken to the large item fulfillment rack area for additional inventory or routed directly to shipping.

When an order arrives at the large item inventory rack zone for further fulfillment, the worker scans the order ID with a handheld RF device and is directed through the zone to gather the parts required. Once these additional parts are added and the order is complete it is then routed to shipping where the order is repacked and shipped via common carrier.

Customer commitment

Diversco has a small amount of walk-in orders that they need to accommodate within the picking process. To handle this, they use the hot pick module within the Kardex Power Pick System software. This allows the operator to suspend the batch picking order they are working on to pick another hot order, usually for a waiting customer.

"Even though walk-ins represent only about 5% of our orders, it was critical to our customer commitment that we had a way to fill these orders quickly and efficiently,"

James Huddle, Purchasing & operations manager at Diversco Supply