

BENCHMARK BRIEFINGS

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SITE
Value Drug Mart
Edmonton, Alberta

APPLICATION
Order Fulfillment For Retail Operations

EQUIPMENT
Six Horizontal Carousels With Pick To Light Technology

SUMMARY
Six Horizontal Carousels Provide 90% Faster Picking And 72% Labor Reduction In 58% Less Floor Space



To meet increased demand, Value Drug Mart replaced two zones of shelving with two zones of three horizontal carousels each with a 10 position batch station and pick to light technology.

Value Drug Mart Adds Value to the Supply Chain with Horizontal Carousels

In 1978, thirteen pharmacy owners centralized their purchasing and distribution power. Today, there are 32 member shareholder stores under the Value Drug Mart banner, as well as 11 Apple Drugs stores, Eight Rxexcellence Professional Dispensaries, and approximately 300 affiliated stores—all served by a central distribution center in Edmonton, Alberta.

The Value Drug Mart distribution center inventories over 18,000 pharmacy and front store items (from bedding and soap to pantyhose and chapstick). Orders for front store items were increasing rapidly. “We couldn’t hire fast enough to keep up with the growing demand,” said Dwayne Bilawchuk, Operations Manager.

An Automated Solution

To meet increased demand, Value Drug Mart replaced two zones of static shelving with six horizontal carousels integrated with pick to light technology from Kardex Remstar. The horizontal carousels were stacked and arranged in two zones of three carousels, each zone with an eight position batch. Bilawchuk has since added two additional picking positions, which would allow for 10 orders to be picked at a time, further increasing pick productivity and order throughput.

Faster Picking... Much Faster

The previous shelving consisted of two levels of mezzanine, with front store items stored on the top level and pharmacy items on the bottom level. Using remote scanners workers traveled through shelving as directed by pick routing software to fulfill orders. “We were picking as fast as staff, shelving and technology would permit, but it wasn’t fast enough,” said Bilawchuk.

All 10,000 SKUs were moved from the two shelving zones into the two horizontal carousel zones. The lower carousel zone manages 3,100 front store SKUs with an average pick rate of 350 lines per hour. The upper carousel zone manages 7,100 pharmacy SKUs and boasts a pick rate of 575 lines per hour. With a previous pick rate of 50 lines per hour from shelving, these two zones are averaging a 90% faster pick rate!

Less Labor

Not only are orders picked faster, but the labor required has been reduced by 72%. The shelving zones required three people for six hours per day to manage each zone. Each horizontal carousel zone is managed by one person working a five hour shift. Reducing the total number of man hours for both zones from 36 hours per day to 10 hours per day of picking.



A scanner, similar to a retail check out scanner, is mounted at each end of the batch station for accuracy verification.

Orders requiring SKUs from the horizontal carousel zones, the operator first assigns a shipping tote to a location on the batch station, each tote represents an order. The operator can fill up to 10 orders at one time. With the push of a button the three carousels spin to retrieve the SKU's required.

Using pick to light technology, the operator is directed to the exact cell to pick from within the horizontal carousel. The light tower displays the quantity to pick. The operator picks the quantity required and turns to distribute them among the orders on the batch station.

Each position on the batch station is fitted with a put light. This displays the quantity to put into each order tote. Before placing the SKU into the tote, the operator scans the SKU for accuracy using the scanner mounted at each end of the batch station. When the SKUs have been distributed among the orders, the operator pushes a confirmation button and is directed by the pick to light to pick the next SKU.

Completed orders are sent from each horizontal carousel zone via conveyor to the consolidation area where they are held until the rest of the SKUs required for the order arrive from other zones. Once all SKUs required for an order arrive at consolidation they are matched and forwarded via conveyor to shipping.

Space Savings

The previous shelving zones occupied 3,900 square feet on each level. All SKUs were moved from the mezzanine shelving into the six horizontal carousels, stacked to create two zones. Each carousel zone now occupies 1,625 square feet on each level, saving 2,275 square feet of floor space - a 58% space savings! The recovered floor space is now used for bulk goods storage, much of which was previously stored in an offsite location.

Scanning For Accuracy

A scanner, similar to a retail check out scanner, is mounted at each end of the batch station. Before each item is placed in the order tote it is scanned for accuracy verification. The consolidation area spot checks orders for accuracy. "Our order accuracy has always been high, these measures help us maintain near perfect pick accuracy," says Bilawchuk.

Facility Flow

Shareholder stores place several orders throughout the day. Orders for each store are consolidated into one order before they are sent through to the warehouse for fulfillment. This allows the distribution center to pick one order per store, but invoice it as the multiple orders that were placed.

The distribution center is divided into 28 zones (nine flow rack zones, five bulk picking zones, 12 shelving zones and two horizontal carousel zones). Using a parallel picking strategy, each order is divided up among the zones based on the SKUs the order requires. Each zone fulfills the order with the SKUs from that zone and sends the partial order to consolidation.

Managing Seasonal Growth

In the fall, Value Drug Mart manages a back to school program allowing schools to preorder supplies for children. Value Drug Mart provides the school one order per child with the supplies requested by the school. "This is a growing seasonal program that we would not have been able to expand without the addition of the horizontal carousels," said Bilawchuk.



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