

# BENCHMARK BRIEFINGS

**kardex**remstar

## SITE

TSC  
Mississauga, Ontario

## APPLICATION

Order Fulfillment and Distribution

## EQUIPMENT

Three 29 foot tall Megamat RS vertical carousel combined with Power Pick Global inventory management software

## SUMMARY

Three Megamat Vertical Carousels with inventory management software enable batch picking for jewelry distribution – using 54% less labor and increasing productivity by 600%



“Because of the small size and high value, jewelry was perfect for carousel technology,” said Sue McGibbon, Jewelry Manager. Just over 8,000 jewelry and coin SKUs are now managed in 75% less floor space.

## TSC Chooses Megamat Vertical Carousels for Jewelry Distribution

Headquartered in Mississauga, ON, TSC is a leading interactive, multi-channel retailer, offering a vast assortment of exclusive products and top brand names to customers throughout Canada. With roots as a televised shop-from-home service reaching into over 7 million Canadian households,

TSC expanded to online, growing into one of Canada’s most innovative retailers. Over 15,000 quality products are available to customers 24-7 with the click of a button or quick phone call. Managing and distributing 15,000 rotating SKUs can be quite the challenge, but TSC is meeting customer delivery expectations at every turn.

TSC is supported by a 300,000 square foot warehouse equipped with the latest material handling technology, shipping roughly 10,000 orders a day. Accounting for 20% of the business, jewelry was prime for an operation makeover.

### Operations Makeover

Three, 29 foot Kardex Remstar Megamat RS vertical carousels combined with Power Pick Global (PPG) inventory management software are used to manage the jewelry and coin inventory.

“Because of the small size and high value, jewelry was perfect

for carousel technology,” said Sue McGibbon, Jewelry Manager.

Previously, jewelry was stored in open shelving within a cage area managed by a security officer. With growth year after year, jewelry was quickly running out of space and struggling to keep up with customer demand. With the transition to automated vertical carousels, over 8,000 jewelry and coin SKUs are now managed in 75% less floor space.

### Order Fulfillment Flexibility

TSC has a flexible system that is driven by customer demand. “Our order volume is highly variable, depending on the shows and promotions some days have 600 orders and some days 100 orders. That was a big labor challenge for us in the past, especially at the peak when lines required to pick per day are as high as 2,000 lines per day with one shift,” said McGibbon, “but with the carousels we’re able to manage the fluctuation easily.”

With the implementation of the carousels and moving returns handling to another department, jewelry distribution requires 10 people; down from 22 previously required to receive, pick, pack, ship and process returns. Further, throughput has increased from a previous average of 40 lines per hour per person to an



Display monitors at the batch station show the operator the exact tote cell to place the item, allowing fulfilling 120 orders in a single batch.

average of 165 line per hour per person, now a standard facility KPI. At peak times the system handles 240 lines per hour per person. Meaning jewelry distribution now requires 54% less total labor and has increased productivity by 600%.

As a leading employer in the area, TSC employs a dedicated and seasoned workforce, most employees in the jewelry area have been there for over 20 years. "The three carousels reduce the work area of the operator to 32 feet, and with ergonomic delivery there is no wear and tear on the body," said McGibbon, "There is definitely an element of employee satisfaction that comes with the carousels."

### Order Processing Details

"Once the order is placed, then the fun really begins," says McGibbon. Orders for jewelry are downloaded into PPG for easy fulfillment. To start, the operator scans a paper order followed by a tote license plate, placing the order paper into the tote cell - this ties the order to the cell location. Each tote has 12 compartments and there are 10 totes in a batch – allowing the operator to fill 120 orders simultaneously. Once each order is assigned a tote location the operator is ready to pick.

As directed by PPG, the Megamat vertical carousels deliver the required SKUs to the access window, pinpointing the exact location and quantity to pick using the transaction indicator

center (TIC) located at the work counter. The operator picks the correct quantity and turns to the batch of 120 orders to distribute them.

Above each batch position is a display monitor that shows the operator the exact tote cell to place the item, and the quantity required. As each SKU is deposited into the tote cell, the operator confirms the put.

When all SKUs are picked, completed, orders are sent to the shipping area where they are checked for accuracy by scan of the paper order and a scan of the item(s) within the compartment. "The pick to light on the carousels works, accuracy is steady at 99.9%," said McGibbon.

### Handling Returns

Jewelry sees an average of 2,500 pieces returned weekly. Returns starts as a manual process with all jewelry thoroughly inspected and cleaned before it can be returned to inventory.

Once the item is deemed acceptable to return to inventory by the returns processing center, it is returned to jewelry. Upon receipt, the operator processes each return individually, assigning a storage location within the Megamat vertical carousel using the PPG software.

### Jewelry Shines

Jewelry distribution is managing and filling orders faster than ever. "The carousel system has given us the flexible solution we need for our operations," Said McGibbon, "the installation and service support by our local distributor has been great."



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