

BENCHMARK

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BRIEFINGS

SITE

Nazarene Publishing House,
Kansas City, MO

APPLICATION

Picking and returns
system for books and
literature distribution

EQUIPMENT

Twelve horizontal carousels
(three workstations of four
carousels), Pick Light sys-
tem, pick & pass operation

SUMMARY

Space saving system
provides high throughput &
productivity for picking and
returns



**Nazarene
Publishing
integrates
e-commerce &
traditional sales
into one high
speed pick &
return system**

"Now with the carousels, we're filling orders faster than we can pack them for shipment."

Nazarene Publishing, the printing arm for the Church of the Nazarene, needed to combine all their sales and returns into one high throughput, labor efficient and accurate system. The heart of their system is a bank of 12 horizontal carousels supplied by Remstar International Inc.

Nazarene, located in the middle of downtown Kansas City, currently ships up to 1,475 orders consisting of 4,000 to 8,500 lines per day. They have traditionally supplied wholesale books and literature to Christian bookstores as well as individual churches and direct mail houses. These traditional sales are now combined with an expanding e-commerce web site.

The online business started in 1997 and has quickly increased from

a few orders a week to over 200 and growing. "Orders are coming in faster than ever, but it's no problem for the carousels to keep up." Says Barry Russell, customer service manager for Nazarene Publishing House.

With the horizontal carousels arranged into three workstations with four carousels per workstation, Russell says the overall productivity of the distribution operation had increased up to 30%. In addition, the carousels will help eliminate downtime previously associated with the cycle counting.

The horizontal carousel system is located in the distribution center. Nazarene integrates conveyors to transport orders from one carousel workstation to the next. This pick-and-pass methodology allows SKUs to be located in any one of the

carousels, eliminating multiple positions and reducing inventory. An order is sent from workstation one to workstation two and on to workstation three. If none of the carousels in a workstation have any SKUs for the tote, the tote is automatically routed to the next workstation via take-away conveyor. A large carton area has SKUs that are stored on static shelving due to their large size or low velocity and are combined to complete the order.

"One of the stickiest problems we encounter involves the bookstands that we often send out to our field representatives," said Russell. "We host 250 to 300 events a year which requires us to pack kits for each event and send them to our representatives." He continued, "Each kit contains a bookstand plus

“66% reduction of labor, the system takes only four people to run in comparison to the 12 pickers with the previous system.”

over 5000 pieces of literature packed in 100 cases. Each case has over 1000 lines with varying quantities of each line ranging from 1 to 100 pieces.”

A significant portion of the literature distributed to representatives is sent back to the distribution facility to be returned to stock and distributed again. Up to 50 out of the 100 cases sent out are returned with each containing up to 1000 lines per case. Due to the large number of SKUs



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returned daily, a system providing not only efficient picking, but also fast returns was required.

The returns are broken down by SKU. Each SKU is scanned, associated with a tote by scanning its license plate and put on conveyor to the correct carousel workstation or shelving area. The operator then

scans the tote and the carousels position to the correct carrier, the pick-to-light trees indicate which carousel, carrier, shelf, and cell to place the SKU.

The carousel system has dramatically reduced the required man-hours. The system takes only four people to run the carousels, in comparison to having required 12 pickers with the previous system that utilized static shelving and printed packing lists to direct their pickers activities.

“We used to pick and pack orders directly in the box,” Russell added. “Now with the carousels, we’re filling orders faster than we can pack them for shipment, so we’ve separated the picking process from the packing to capitalize on the increased speeds. We are quite pleased with what we see.”

The carousels are an integral element of the overall expansion and improvement of Nazarene’s overall distribution capabilities. Nazarene, which opened its doors in 1912, has grown over the years from a small one-room shop to eight buildings and over \$30 million per year. In fact, as part of their expansion, Nazarene constructed a new building for their production facility and linked this to their 40,000 square-foot distribution center by installing conveyors to interface with the carousel system.

“We began growing to the point where we were simply out of room and had to figure out a faster way to process orders while eliminating errors. We could have thrown more people at the problem, but then we’d have people tripping over each other,” Russell said. “Ultimately, we needed to stay competitive, and going to a horizontal carousel



Nazarene currently ships up to 1,475 orders consisting of 4,000 to 8,500 lines per day plus handling up to 50,000 lines of returns.

system was the route that would work best.”

“We began to look at what we should do, how we could design it, and what was important to us,” Russell said. “Many of the sites we visited featured carousels in their operation. After brainstorming, we began to draw up plans, changing the design four or five times until we found one that worked best for us”.

Once the carousels were in place it took employees a very short time to become comfortable with the system. How committed were the employees to the process? “Some employees who were at retirement age stayed to see the process through,” Russell marveled. “They had nothing but good things to say. The employees do not want to go back to the static shelving and the walking and searching that we used to do. The carousels have provided us with a major morale boost.”

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