Segment: Machinery

BENCHMARK**BRIEFINGS**

kardexremstar

SITE
Mark Andy, Inc.
St. Louis, MO

APPLICATION
Point-of-use storage for manufacturing parts

EQUIPMENT
Three Shuttle® Vertical Lift Modules (VLMs) & Two Horizontal Carousels & FastPic® Software

SUMMARY
Reclaimed 1,600 square feet of floor space for added production and increased parts inventory by over 40% while maintaining current productivity and accuracy levels

Using automated storage and retrieval systems with software, Mark Andy has been able to create additional assembly area and manage their parts inventory more efficiently.

Automation Allows Growth While Freeing Up Production Floor Space & Adding More Part Numbers

Like most manufacturers today, Mark Andy's product mix is continually changing to keep up with the marketplace. Continual change takes more production space and requires keeping more part numbers on hand than ever before. While Mark Andy's process was running smoothly, there wasn't enough room for the growth they needed to keep up. Incorporating three Kardex Remstar Shuttle Vertical Lift Modules (VLMs) into their existing manufacturing process Mark Andy was able to free up valuable floor space to add an additional assembly area and increase inventory while maintaining current productivity and accuracy levels.

Mark Andy is a leading manufacturer of narrow web printing equipment for the label and packaging markets. The company's product line offers a full range of web flexographic printing press capabilities for the tag and label industry, packaging and folding carton markets.

Mark Andy builds presses by constructing a series of sub-assembly modules that are connected together to create a completed press. The press is then broken into sections, shipped and reassembled at the customer's facility. In the past, components for the module assembly operation were stored on racks that were 8-foot long, 36 inches wide and 8 feet tall. To build the press, each printing module had different picking board. Picking boards are flat boards with labeled cubby holes for every part the specific module requires for assembly. The material presenter would use a cart with a specific picking board and using the grocery store concept, walk up and down the shelving to gather the required parts. When all the cubby holes on the picking board were filled, the order was complete and delivered to the module assembly area.

"The main drive behind purchasing the Shuttle VLMs was space savings. We simply ran out of enough floor space to add anymore racks," said manufacturing engineer John Wolf. "We could have installed taller racks, but that would have required the use of a lift device to raise the order picker to the higher level, reducing our efficiency."

Mark Andy performed a justification analysis and determined that economically the best approach would be to replace the existing shelving with three Shuttle VLMs equipped with FastPic inventory management and control software. "The automated storage and retrieval systems offered the additional storage capacity we were seeking to support the module assembly operation. In addition, the floor space we were able to recover was converted to additional assembly area, adding value to the area." Wolf added.

Gaining Efficiencies

The three Shuttle VLMs were installed in the workzones where the modules are built. With the shelving condensed into the VLMs the free floor space was used for a value generating module assembly area while the parts were kept close at hand. "The installation

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of the Shuttle XP VLMs allowed us to free up approximately 1,600 square feet of floor space to use for production, rather than storage," Wolf said.

"Our goal was to increase our storage capacity by 40%," Wolf said. "We found that using the tray dividers in the Shuttle VLM trays we significantly increased the storage density and exceeded our 40% objective." The added capacity allowed Mark Andy to increase the inventory level of parts for the module assembly operation stored in the Shuttle VLMs.

Mark Andy is still using only one material presenter or operator to pick all part orders for the module area, but due to the increased capacity the Shuttle VLMs provide, that person is now responsible for more than before. "We are still using one person in that picking area, but they are performing additional duties like picking parts that were not in that area in the past," said Wolf. "We've also maintained our 98% picking accuracy, which is imperative to our operation."

Making It Work

The Kardex Remstar Shuttle VLM is an enclosed system of vertically arranged trays, an extraction platform and a series of computerized controls that allow operators to stay in one place as the Shuttle VLM delivers items to an ergonomically positioned workstation. They hold a wide range of parts, from screws, nuts and bolts to large motor assemblies. "When the supervisor of the area indicates that he needs additional parts, he contacts the material presenter or operator who is responsible for picking parts from the Shuttle VLMs," Wolf said. "The operator selects the order to process in the FastPic software that has been downloaded from our ERP system and the Shuttle VLMs automatically start to move."

The Shuttle VLMs automatically locate and retrieve stored items with the push of a button. The operator picks the parts from the Shuttle VLMs and places them into the existing picking board. The complete picking board is delivered to the sub-assembly area where the module is put together.

All three Shuttle VLMs at Mark Andy are linked together as one workzone, and parts for a particular module are stored throughout the three individual units to improve overall storage efficiency through effective space management tools in the FastPic software. When an order is processed, all three units begin to retrieve the required parts simultaneously. As the operator puts one item in the picking board, the next item is being delivered to the access window in the VLM and is waiting to be retrieved when the operator is ready to pick the next part. The operator moves from unit to unit with little dwell time until the order is filled.

Mark Andy also has two Kardex Remstar horizontal carousels to serve as the central distribution point to supply the machine shop and welding workzones. Both the VLM's and the horizontal carousels are controlled by FastPic software and are interfaced with the company's ERP system. "When our planners create a job that requires parts from the VLM or horizontal carousels, the ERP system automatically sends that inventory list to the FastPic software. When the operator is ready to pick that job, they select it from a list of orders in the FastPic software and it activates the horizontal carousels or VLMs to retrieve the parts required. The FastPic software then sends all the transaction information back to the ERP system, processing transactions real time." Wolf said.

Managing Parts

By installing automated storage and retrieval systems and software, Mark Andy has not only been able to create additional assembly area, they have been able to manage their parts inventory more efficiently.

"We are now able to consolidate and move more parts out to our module areas to support those operations," Wolf said. "The FastPic software lets us track low usage parts, and parts with zero on hand and no usage. That is information we didn't have in the past, and having it now allows us to more creatively and effectively manage our manufacturing operations."

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