

Benchmark Briefing

ASRS Helps Finding the Right Fit



kardexremstar



Case at a glance

Site

Bristol Hose, Melrose Park, IL, USA

Application

Automated storage solution for specialized fittings and connectors

Equipment

3 Vertical Lift Module Kardex Shuttles with Kardex Power Pick System

Automation fitting right in

Bristol Hose outfits new warehouse with ASRS

Bristol Hose provides fitting and connector group parts (hoses, fittings, adapters, quick couplers, etc.) to municipalities, utility companies, and manufacturers. Their Melrose Park facility doubles as a primary distribution center and storefront for over-the-counter sales.

A combination of increasing order volume and rising on-hand inventory had Bristol Hose constantly reshuffling bins and rearranging inventory, decreasing efficiency. When Bristol Hose acquired a new 65,000 ft² facility to accommodate their growth, they seized the opportunity and made the leap to automated storage during the transition.

By equipping their new warehouse with three Vertical Lift Module Kardex Shuttles with Kardex Power Pick System inventory management, Bristol Hose has increased labor productivity by 30%, saved 90% floor space, and improved order picking accuracy.

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New space, new storage

As part of the move to the new warehouse, Bristol Hose made the leap to automated storage and consolidated 85% of their existing inventory into three Vertical Lift Module Kardex Shuttles (VLMs) with Kardex Power Pick System software to support their inventory management.

Bristol Hose's new facility and VLMs replaced an entirely manual process that involved a large footprint of static shelving with workers traveling up and down aisles to pick parts for orders or restock inventory.

The VLMs are positioned in the heart of the facility to optimize material flow for both order picking and replenishment. They are grouped into one zone where two workers pick and prepare orders for distribution. The remaining 15% of inventory, including fast-moving parts and bulk items, is stored in flow racking and static shelving.



3 Vertical Lift Module Kardex Shuttles



Kardex Power Pick System



Pick-to-light Display

Cramped quarters

Bristol Hose has steadily grown from a small, family-owned "truck parts place" to a respected distributor and critical part of the region's manufacturing landscape over the course of 40 years. During that time they've undergone two moves to address the need for more space in their warehouse.

The first transition was to a 30,000 ft² facility over 20 years ago, but Bristol Hose wasn't done growing. After a rapid spike in orders, Bristol Hose started having space problems once again and began exploring solutions to help scale their warehouse operations with their growing business.

As the pandemic was coming into effect and business was slowing down, Bristol Hose capitalized on an opportunity to sell their existing warehouse space and made the move to a brand-new 65,000 ft² facility.

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Tony Tuminaro, Director of Operations at Bristol Hose



Labor efficiency, boosted

Tony Tuminaro, Director of Operations at Bristol Hose, commented, "Our business has grown 30%, and instead of increasing headcount, we were able to increase our labor efficiency by 30% with automation. If we were in our old location without the VLMs right now, it would be chaos. Before Kardex, we had three people picking orders every minute of their shift. Now our pickers are done picking by three o'clock and have time for other tasks like maintenance or auditing. Kardex made our existing employees more efficient so we don't need to hire more people."

The VLMs have also helped streamline onboarding. Tuminaro says, "previously, when we hired a new person, it took them two months to learn the layout and where to find parts... now with the Kardex machines people are already picking on their first day."

Language barriers in the greater Chicago labor market, like many parts of the US, had been a challenge in Bristol Hose's manual picking process. Tuminaro explained further, "now we can teach anybody how to fill orders in the warehouse using the VLMs." The language can be set per user, opening up a wider swathe of the labor pool to Bristol Hose.



Floor space, optimized

In their previous warehouse, 50% of their total floorspace was occupied by static shelving holding parts inventory. In their new, 65,000 ft² facility, 85% of their inventory is stored in three VLMs occupying 1,200 ft², a mere 1.5% of their total floorspace, amounting to a net floorspace reduction of 90%.

These space savings lead to efficiencies in the whole warehouse. Tuminaro commented, "Before, we had work cells clear across the warehouse. Now, everything is logically put together. The warehouse has a directional flow. Parts come in the dock, go into the back of the Kardex zone, get picked from the front of the Kardex zone, and finally sent on to shipping and receiving."

When parts became scarce during the pandemic, Bristol Hose's improved space utilization and inventory control gave them a leg up on their competitors. Tuminaro said, "We used to be very selective about adding inventory, because so much work went into adding new items and finding available space. With Kardex, we can easily add new inventory. The investment into our inventory has paid off during the supply chain disruption. Having an expanded inventory has been an advantage for us."



Accuracy issues, resolved

Prior to transitioning to automation, Bristol Hose faced inventory management issues that stemmed from their manual process. Many of their parts look almost identical, with some parts having as many as 32 different sizes. With all those identical-looking parts, it's easy to see how a worker could pick or put the wrong part, leading to errors down the line. "At any given time in our old system, there was eight to twelve people in the same bins without even knowing it sometimes. Now with the Kardex Shuttles, orders must drive through our ERP to generate that pick ticket, so inventory is always accurate," said Tuminaro.

Inventory management wasn't the only issue facing Bristol Hose before their automation project, they also had order accuracy challenges. Tuminaro reported, "With the Kardex Shuttles we go six months without an error just because inventory is where it's supposed to be," – an improvement on the near weekly errors reported previously – "It's very rare that I see errors anymore."



Embracing automation

Bristol Hose replaced an entirely manual picking and replenishment process with three Vertical Lift Module Kardex Shuttles storing 85% of their inventory in 1.5% of their total floorspace.

Previously, Bristol Hose's order picking process was entirely manual. An order pushed through their ERP system and workers received printed pick tickets with item locations. They pushed a cart through the warehouse to pick the order's parts, using stickers to track which parts were going where. They then consolidated the parts at a centralized processing location and passed to shipping and receiving.

Now, Bristol Hose has 85% of their inventory in three VLMs, organized into one zone with two workers. The remaining inventory not managed in the VLMs is mostly parts sold to over-the-counter customers stored in flow racking near their customer service counter, and larger bulk items stored on static racking.

When orders are released to the warehouse from their ERP, a printed pick ticket and labels are generated at a pick station and the order is sent to the Kardex Power Pick software. The worker takes the printed pick ticket and labels, finds the corresponding order in the VLMs software, and confirms it.

Once confirmed, the VLM presents the parts needed for the order to the access window. The worker picks, labels, and places the parts in a bin. Then, the worker pushes the bin down a short conveyor line to the second worker in the zone who either finalizes the order or passes it to the static shelving zone if needed. Once finalized, that same worker boxes the order and sends it off for distribution.

The VLMs are positioned centrally in the warehouse, strategically placed near shipping and receiving to create an efficient flow of material for both order picking and inventory replenishment.



Built for the next generation

In the face of an ever-corporatizing landscape of Chicago-based FCG distributors, Bristol Hose remains a final bastion of family owned and operated values in the area. These values enable them to deliver high quality parts and outstanding service to their customers. Bristol Hose's commitment to automating their storage system with Kardex will help them continue providing this service by improving the overall efficiency of their warehouse workers, saving them floor-space and logically organizing their warehouse for optimum throughput, and raising order accuracy to ensure customers always gets what they ordered.