Benchmark Briefing

Automated Parts Stockroom

kardexremstar

ASRS parts stockroom supports growth

High density automation supports production expansion & increases stockroom efficiencies

Plasser American, provides innovative cost-effective track maintenance solutions for the North American rail industry through safe and high-quality performance products and services. Supporting freight railroads and high speed intercity and commuter systems with machines designed to maintain, straighten and strengthen existing railroads and transit systems, Plasser helps keep America running at top speed.

Their facility in Chesapeake, VA focuses on manufacturing of new machinery, as well as overhauling and upgrading services to extend the useful working life of machines, providing customers the benefit of the latest technologies and developments without the new price tag. The 35,000 square foot (sq ft) stockroom inventories over $16 million in spare parts with the support of eight Vertical Lift Modules Kardex Shuttle with Kardex Power Pick System inventory management software.

Saved
70% floor space

Increased
accuracy
to 99.7%

Reduced
labor by 20%

Case at a glance

Site
Plasser, Chesapeake, VA, USA

Application
Order fulfillment & distribution of small parts

Equipment
Eight Kardex Shuttles with Kardex Power Pick System inventory management software

Making room for expansion

The previous stockroom was split into two sections with the front section storing smaller parts and the back section storing larger parts. Using a list of printed labels, a worker would travel through the mezzanine bin shelving to each part location collecting the parts required.

With steady market growth and production operations at capacity, Plasser needed to expand production capacity to grow sales. They sought to consolidate the stockroom to make space for production.

Stockroom upgrade

The stockroom replaced a sizable two-story mezzanine bin system with eight Vertical Lift Modules Kardex Shuttle integrated with pick-to-light technology and Kardex Power Pick System inventory management software. The new solution not only saved space, it also increased productivity, improved worker ergonomics and increased pick accuracy.

Positive pressure

“We don’t measure success by the number of shipments but by getting the right part to the right place at the right time in a clean and usable condition” says Daniel Boone, Quality Manager. Each Kardex Shuttle is fitted with a dehumidifying unit to keep the parts inside preserved and clean. The dehumidifier controls the air within each unit and adds positive pressure. When the shutter doors open to deliver a tray, clean air blows out of the unit preventing dirty air from entering the unit.

- 8 Kardex Shuttles
- Kardex Power Pick System inventory management software
- Pick-to-light technology

Automation – benefits and processes

Recovering floor space

The original two-story mezzanine bin system had 19,000 sq ft of shelving and occupied 4,875 sq ft of floor space. With each Kardex Shuttle measuring just over nine feet wide and ten feet deep, the new stockroom with eight Kardex Shuttles and a pick area now occupies only 1,440 sq ft of floor space, a 70% floor space savings.

Goods to person delivery

With order volume and SKU count remaining the same, Plasser is picking with 20% less labor. “Since the parts are delivered to the operator for picking, our pick time per part has decreased, allowing us to pick the same number of orders with less labor” says Boone. The manual stockroom required ten people while the new automated stockroom requires only eight people.

Improved ergonomics

The previous mezzanine system required workers to travel up and down stairs to store and retrieve parts. Once at the location, workers were often required to bend down low or reach up high to access the part. If the parts were on the second level, workers had to hand carry them down to the first floor. “Certainly worker ergonomics was a concern for us when considering a new system” says Boone. Using the Kardex Shuttles to deliver parts to the operator in an ergonomically positioned access opening has improved worker ergonomics.

Stockroom efficiencies

The new stockroom inventories 18,000 SKUS; 13,000 SKUS are stored in the Kardex Shuttles while the remaining 5,000 SKUs (consisting mostly of large items) are stored in bulk shelving. Orders are demand generated. Customer orders are created in the system by the parts department and production orders are created in the system by production planning. All orders are downloaded to the Kardex Power Pick System inventory management software for fulfillment.

On the operator’s command, the order begins to process and the Kardex Shuttles move to retrieve the parts required for that order. Using a cart, the operator travels from machine to machine picking the parts required for the order. Pick labels are attached to each part as it is picked and added to the order. When complete the order waits in the Kardex Shuttle area for additional parts from the bulk area and then is picked up by shipping or production. On average 60% of the picking activity is in the Kardex Shuttle area.

Accuracy, traceability & counting

With 18,000 SKUs in inventory finding the right part can be challenging, but not at Plasser. The pick accuracy level has increased from 98% to 99.7%. “We attribute our increase in pick accuracy to the pick to light technology and our labeling process at receiving,” says Boone. As parts are received into the stockroom and put away, they are labeled with a barcode that identifies the part number and receipt number. This allows barcode scanning upon retrieval for near perfect accuracy.

Year-end inventory count was a tedious task in the mezzanine bin system. Now using the Kardex Power Pick System inventory management software, parts are presented to the operator for cycle counting. The stockroom reported a $500 Kardex Shuttle inventory variance at the end of last year; only 0.01% in misplaced inventory.

Production expands

Additional materials were consolidated into the recovered floor space previously occupied by the stockroom allowing production to expand and grow capacity.

> “A mandated floor space reduction for a production expansion turned out to improve the overall efficiency of the stockroom, it’s a win – win!”

Daniel Boone, Quality Manager at Plasser