Solution Guide

Top 4 Order Picking Solutions



kardex



Introduction

The imperative for efficient order fulfillment

In the modern business landscape, where customer satisfaction hinges on quick and accurate order fulfillment, industries ranging from manufacturing to retail face the challenge of optimizing their warehouse operations.

Efficient order fulfillment constitutes a significant portion, typically ranging from 50% to 70%, of the total operating costs incurred by warehouses and distribution centers. Moreover, it directly influences both customer satisfaction levels and the allocation of internal labor resources. As such, ensuring the continued efficiency and modernization of warehouse processes is paramount for sustaining operational excellence and meeting the evolving demands of the market.

Traditional picking methods are no longer adequate to meet rapid processing and delivery demands across various sectors. In contrast, modern picking leverages technological advancements and data analytics to optimize the picking process. These advancements include automated systems, sophisticated software, and wearable technology that directs operators more efficiently. Adopting state-of-the-art technologies can significantly improve productivity, allowing warehouses to process more orders with greater accuracy and in less time.

In this guide, we delve into the various solutions that can transform your warehouse into a model of productivity and efficiency. Whether you're looking to overcome issues with picking accuracy, reduce picking time, or optimize labor allocation, this guide will offer actionable insights and solutions to elevate your intralogistics game.

Advanced picking in modern warehousing

Technological advancements

Productivity and efficiency are rooted in the right technology. This section outlines key technologies from the Kardex portfolio specifically designed to enhance picking processes and accuracy. These include an advanced automated storage and retrieval system (ASRS) solution, two specialized software solutions to optimize workflow and data accuracy, and our latest wearable technology innovation to revolutionize picking efficiency and precision.

Small parts in hand: Kardex Miniload-in-a-Box

The Kardex Miniload-in-a-Box is a versatile ASRS designed to enhance efficiency in handling small parts across various industries. This customizable system allows for multiple sizes with expandable units up to 20 meters (65 feet) long and 12 meters (40 feet) high. Different types of access openings cater to diverse operational needs. Its design maximizes storage space, fits seamlessly into current workflows, and connects effortlessly with existing customer host systems.

The system's design strongly emphasizes ergonomics, facilitating efficient and comfortable picking operations by enhancing workstations ergonomically for an improved work environment. Items are presented at a 20-degree angle at each access point, and the goods-to-person approach brings items directly to the operator, significantly reducing the need to walk or search.

Additionally, each unit can be equipped with a capacitive touch screen that displays essential picking information, such as item quantity and product codes, alongside tasks like tracking serial numbers or handling labeling and packing. An LED pointer guides operators to the correct compartment within subdivided bins, further streamlining the picking process.



Benefits

- Accurate picking
- Space optimization
- Improved productivity
- Flexibility

The Kardex Miniload-in-a-Box can be integrated with robotics, AGVs, and conveyors to automate processes fully.

Intelligent batching for increased throughput: Kardex Frame Pick System

Combining automated storage systems with sophisticated inventory management software creates a powerful synergy that enhances efficiency and accuracy in warehousing operations. This integration allows for real-time inventory tracking and optimized storage solutions, ensuring that every item is accounted for and accessible.

The Kardex Frame Pick System offers an integrated solution for boosting throughput in a small footprint without relying on complex infrastructure. Depending on the throughput your operations require (based on product range, inventory turnover, and order profiles), it is possible to configure two, four, or six ASRS units within a compact Kardex Frame Pick System work zone. For example, with a maximum of six Kardex Miniload-in-a-Box, the walking distance is reduced to less than 12 meters (40 feet). The solution can scale up as your business grows.

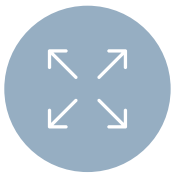
Benefits



Fast order picking throughput



Compact footprint

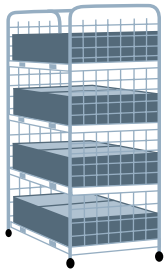


Modular and scalable

Learn more about the Kardex Frame Pick System

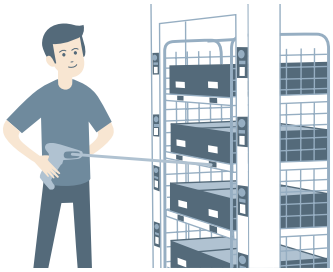
Kardex Frame Pick System – How does it work?

1



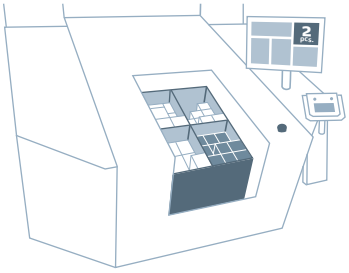
Pick Cart
The trolley is equipped with order bins as one batch.

2



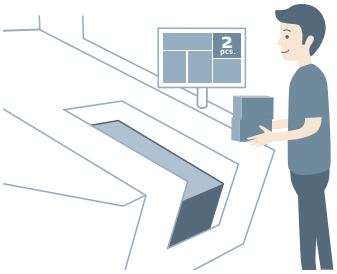
Trolley & frame
The trolley is put behind a put frame with put-to-light displays and scanned.

3



Presentation of picking bin
The Kardex Miniload-in-a-Box presents the bin, display shows article location and number. Each unit has its own color.

4



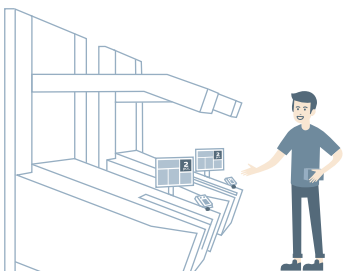
Picking
Correct number of articles is taken out.

5



Putting
Articles are put in the corresponding bins (color indication) and confirmed.

6



Extension
Next bin is presented in the green machine, while blue machine can be picked and put. Scalable up to 6 machines with put frames.

Simplifying operations with visual cues: Kardex Color Pick System

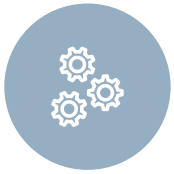
Designed to excel in environments with fluctuating demand, the Kardex Color Pick System introduces a flexible and dynamic picking strategy that leverages color coding for operational simplicity.

The software solution directs multiple operators in picking, efficiently adapting labor use to fluctuating order volumes. During peak times, it allows for high throughput picking from dynamic zones by multiple operators. In slower periods, it maintains efficiency with fewer operators required. By consolidating several orders into a single batch and employing color-coded guidance for batch picking, the system enables multiple operators to process orders simultaneously, achieving up to 300 order lines per hour per operator.

Benefits



Efficient



Continuous flow



Cost-effective

Learn more about the Kardex Color Pick System

Kardex Color Pick System – How does it work?

1



The automated storage and retrieval systems (ASRS) face each other.

2



A warehouse management system (WMS) connects to the host system. Using the customer's pre-programmed criteria, it dynamically creates batches of orders.

3



Several picking trolleys with compartments to put the picked items for various customer orders (batches) are used.

4



The system assigns a color to each picking trolley. All ASRS with items for this trolley show the corresponding color.

5



The respective ASRS provides the requested articles and indicates how many to pick and put into which compartment (order) in the trolley.

6



The operators follow colors during the entire process. After picking all items, the carts move to the next dynamic zone for picking or shipping.

Innovative industrial smart watch: Wearable Task Assistant

Kardex's latest innovation, the Wearable Task Assistant (WTA), is designed to transform picking in warehousing and logistics. The WTA streamlines the order picking process by providing precise guidance at each step, reducing the mental burden on operators, and accelerating workflows through combination picking, thereby boosting productivity. It also features barcode validation to ensure accuracy and reduce errors. Additionally, the WTA's intuitive interface facilitates quicker onboarding of new employees, enabling a more efficient training process.

The integration of the WTA with the enhanced Color Pick System marks a significant advancement, especially in pharmaceutical distribution centers. Here, the WTA not only retains the speed of the Color Pick System but also introduces a double confirmation feature, ensuring both rapid and precise handling of sensitive items. This dual functionality reflects Kardex's dedication to providing solutions that enhance both accuracy and efficiency in demanding environments.

Benefits



High accuracy



Less mental load



Faster onboarding process

Watch the video for more insights


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Key performance indicators for picking

Evaluating the effectiveness of your picking process and technologies is crucial to ensuring that your warehouse operations meet current demands and are positioned for future growth. We suggest regularly reviewing the following key performance indications (KPIs) to identify areas for optimization:

Order Accuracy Rate: Measures the percentage of orders picked without errors. High accuracy rates indicate effective picking strategies, leading to increased customer satisfaction and reduced returns.

Picking Productivity: Assesses the number of items picked per hour. This KPI helps you understand the efficiency of your picking process.

Order Cycle Time: The time taken from when an order is placed until it's ready for shipment. Reductions in cycle time can often be attributed to streamlined picking operations.

Inventory Accuracy: Reflects how accurately your inventory levels match what's recorded in your management system. Accurate inventory is vital for efficient picking.

Adopting a mindset of continuous improvement is key to maintaining and enhancing the success of your order fulfillment.

Success stories

Let's explore how warehouses have enhanced their order picking processes by adopting advanced technologies.

Tescoma, an Italian kitchen utensil manufacturer, optimized its operations at its 11,000 square meters (119,000 square feet) hub, utilizing five Kardex Horizontal Carousels, a Kardex Shuttle, and a Kardex Miniload-in-a-Box. This solution streamlined the picking and order consolidation processes, significantly speeding up operations and enhancing space utilization. The system, linked with Tescoma's ERP and WMS, efficiently manages around 15,500 orders annually, improving delivery speeds for e-commerce and retail channels.

Watch the video – Faster and More Accurate Picking



Church Pharmacy, a UK pharmaceutical supplier, enhanced its logistics with the Kardex Miniload-in-a-Box and the Kardex Frame Pick System, increasing storage space by 300% and maintaining picking accuracy at 99.9%. Integrating the Kardex Power Pick System accelerated picking speeds by 70% and streamlined batch picking. This solution allowed Church Pharmacy to handle a fivefold increase in order volume without relocating, ensuring precise and efficient order fulfillment.

Watch the video – Increased Accuracy and Fast Picking



Wipotec, a leader in intelligent weighing and inspection technology, faced challenges managing increasing order volumes and complex demands. Wipotec introduced the Kardex Color Pick System to streamline operations and improve efficiency, employing eight Kardex Shuttles. This solution, integrated with Wipotec's ERP system, sped up order fulfillment and enabled real-time inventory control. The implementation quadrupled picking performance, increased material availability, and reduced the necessity for extensive shift operations.

Watch the video – Fourfold Picking Performance with the Kardex Color Pick System



Conclusion

Businesses must transition towards highly efficient, adaptable, and scalable order fulfillment approaches to keep pace with the ever-evolving market dynamics spanning diverse industries. Embracing cutting-edge solutions such as the Kardex Miniload-in-a-Box, Kardex Frame Pick System, Kardex Color Pick System, and the Wearable Task Assistant optimizes warehouse functionalities. Warehouses can be empowered with the flexibility needed to address sector-specific complexities effectively. Understanding the measurable indicators of performance will further enable your ability to assess and improve your warehouse operations.

These innovative technologies and strategies enable businesses operating in manufacturing, retail, and other sectors to attain unparalleled operational efficiency and elevate customer satisfaction levels, thereby nurturing expansion opportunities and securing a competitive edge in the market landscape.

The Kardex team is ready to review your operations and deliver expert guidance to improve your warehouse performance. We'll explore your processes to find automation opportunities and design customized solutions to meet your specific needs.

Contact us