Solution Guide

Kardex Frame Pick System



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E-Commerce demands faster fulfillment

As e-commerce continues to grow, warehouse and distribution centers feel the pressure. Consumers are placing smaller, more frequent orders, later in the day – with unprecedented delivery expectations.

The increase in order volume combined with the changing order profile and increased customer expectations is causing bottlenecks for many B2B and B2C distribution centers using traditional fulfillment methods. There simply isn't enough time for a picker to walk up and down endless rows of shelving to pick, pack and ship orders – they can't keep up.

The Kardex Frame Pick System is an innovative, goods-to-person solution that increases throughput dramatically without the complexity (or price tag!) of a large-scale automated system using robots and miles of conveyors. A simple combination of automated storage and retrieval systems (ASRS) with inventory management software and intelligent batch picking; the Kardex Frame Pick System can increase throughput to keep up with the increased order demand e-commerce organizations are experiencing.

- Fast order picking throughput
- Compact footprint
- Modular & scalable

A complete solution

At the center of the Kardex Frame Pick System solution is an ASRS used to store inventory. Common ASRS solutions include Vertical Buffer Module Kardex Compact Buffer, Vertical Lift Module Kardex Shuttle, Vertical Carousel Module Kardex Megamat and Horizontal Carousel Modules. These ASRS technologies provide high-density material handling and operate using the goods-to-person principle – delivering stored inventory to the operator as required.

Put frames and pick carts are combined with ASRS and arranged together in a work zone or pod, with the worker positioned in between the ASRS units and the put frames. Configured to match the pick carts, put lights located on the put frame align with the tote locations on the pick cart.

Kardex Power Pick System inventory management software brings the whole solution together, directing both the picking and putting activities within the overall order fulfillment strategy. Additionally, Kardex Frame Pick System software is straightforward and easy to integrate with an existing ERP or WMS.

Compact & scalable

The Kardex Frame Pick System can provide increased throughput in a small footprint. 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 Compact Buffers, the walking distancing is limited to less than 40 ft (12 m).

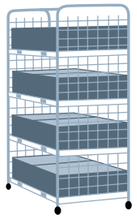
The solution can scale as your business grows. You can start with two ASRS and simply add more units to your operations as demand increases. Further, it's easy to increase the number of put frames and pick carts to increase the size of the batch workers are filling. As the system scales, so does the throughput and storage capacity of the solution.



Intelligent order batching

A powerful addition to your operations – through intelligent order batching, the Kardex Frame Pick System solution can increase throughput to meet increased demand.

1



Load bins onto pick carts

The operator loads the order bins onto the pick cart.

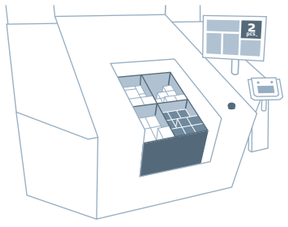
2



Align pick carts with put frames

They then slide the pick cart behind the put frame. The put frames are equipped with put-to-light displays that align with each of the order totes on the pick cart. Using a bar code scanner, the operator simply scans the order tote barcode and the corresponding position on the pick cart. This matches up the order tote to the put light location in Kardex Frame Pick System, so the software recognizes where each order tote is located within the batch.

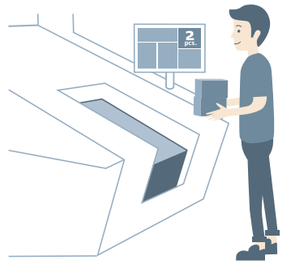
3



Presentation of SKUs

Once the batch has been inducted into the system, the picking can begin. The ASRS moves to retrieve the stored inventory SKUs required to fill the batch of orders and presents the SKUs to the operator for picking.

4



Picking

Following the pick-to-light technology on the ASRS unit, the operator picks the correct SKUs and confirms the pick.

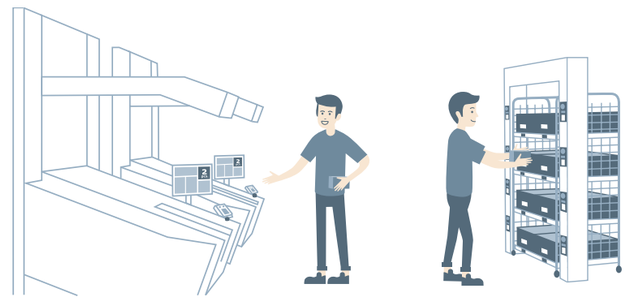
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Putting

With the SKUs in hand, the operator turns to distribute the SKUs among the order totes on the pick carts as directed by the put-to-lights on the put frames. The operator follows the put lights distributing SKUs among the order totes as directed. As the operator places SKUs into order totes, they verify the put using the confirmation button located on the put frame.

6



Continuous fulfillment

Once all SKUs are distributed from that pick, the operator turns back to the ASRS unit where the next tote is waiting for picking and distribution among the appropriate order totes. The operator picks round robin like this until all SKUs required for an order are added to the order. When all orders on a pick cart are completed, the Kardex Frame Pick System software displays an “end” message and the pick cart can be taken to the next area, usually shipping.

Scalable labor with the Kardex Frame Pick System

Using the Kardex Frame Pick System solution labor can be easily adjust to manage fluctuating demand. When demand is low, only one worker is needed to manage the Kardex Frame Pick System work zone. As demand increases, workers can be added to increase throughput rates instantly. However, the maximum number of workers in a work zone cannot exceed the number of ASRS in the work zone.

Color lights to enable workers to pick/put alongside one another at peak times. Each ASRS in the work zone is assigned a color. This means, on the pick light display at the ASRS, a unique color is displayed to identify the pick.

The operator picks from any ASRS with a waiting pick, noting the color of the unit they picked from. As they turn to distribute the picked SKUs among the order totes, they look for the put lights in the matching color. For example, if the operator picks from the ASRS unit displaying a blue pick light, the corresponding order locations have blue put lights.

This means the operator is not assigned to an ASRS. The workers in the work zone simply pick from any ASRS that is ready and put to the order totes with the same colored light. This allows workers to join in at any time to increase throughput speeds, even if just for 60 minutes when a spike occurs. Further, the system is easy to understand, even for new employees – eliminating the need for time-consuming training.



Rolling batching

Rolling batching allows you to add new orders for fulfillment as order carts are completed – you don't have to wait for the entire batch to be completed. Using a rolling batching concept within the Kardex Frame Pick System solution, when one pick cart is completed it can be rolled away to the next location (maybe another work zone or shipping) and another can be added immediately with brand new order totes to be filled.

In typical batch picking, the entire batch of orders needs to be completed before a new batch can be started. In rolling batching, when one cart of orders is filled that cart can simply be replaced with a new cart with empty order totes, adding these orders right into the existing batch for fulfillment.

Efficient replenishment

Replenishment – while necessary – can be a drain on the productivity of the work zone. For the work zone to be at maximum efficiency, workers need to be continually picking. When operators in the work zone are setting up replenishment carts, they aren't actively picking.

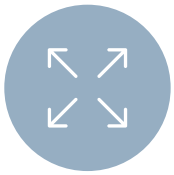
To reduce the idle time spent replenishing, the replenishment carts can be setup offline (not within the Kardex Frame Pick System work zone). This allows you to stage, fill and prepare the replenishment carts in another area – such as shipping and receiving. Replenishment totes can be scanned onto the cart location offline. This way, when the replenishment cart is pulled into the put frame, the entire cart can be inducted with just one scan and the operator can start replenishing immediately.

The advantages

The Kardex Frame Pick System enables warehouse and distribution centers to optimize their operations for faster order fulfillment. A compact storage solution combined with light directed picking and batch carts all managed by intelligent software creates an efficient, easy to implement order fulfillment solution.



Fast order picking throughput



Compact footprint



Modular & scalable

Case Study Kardex Frame Pick System helps wholesaler meet 24 hour delivery guarantee