

# Distribution Performance Solutions *Insights*

## Utilizing Pick-Modules In Distribution Operations

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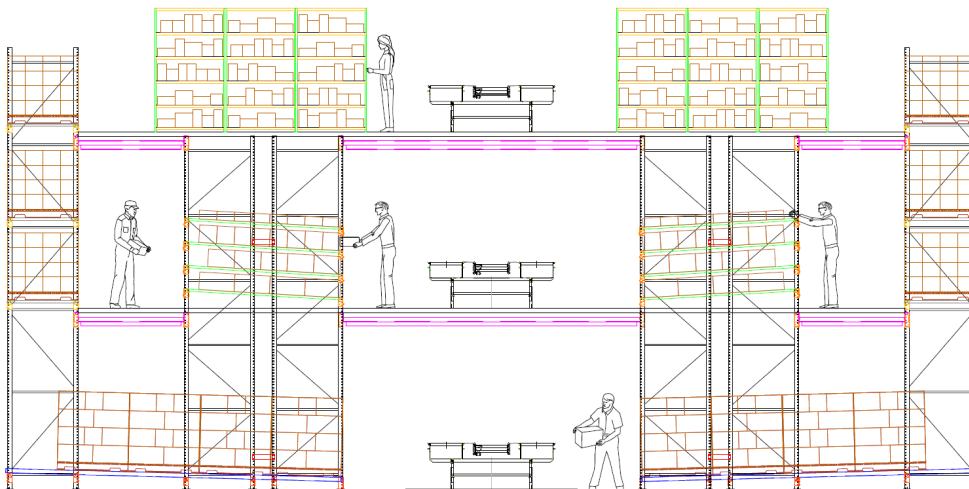
# Distribution Performance Solutions Insights

## Utilizing Pick-Modules In Distribution Operations

When applied correctly, pick-modules deliver significant benefits, including increased productivity, reduced operating costs and improved customer service. A pick-module is a “warehouse within a warehouse” designed to gain efficiencies through reduced pick-path travel times and labor costs, increased picking rates and improved order cycle times.

There are many types of pick-modules, ranging from small to large, and simple to sophisticated, and all are based on the products, order profiles and picking processes. The primary variables are:

1. The number of SKUs within the pick module, typically the fastest moving SKUs.
2. The type of equipment to store the product, including; shelving, carton-flow, pallet rack, pallet-flow-rack, multi-level work platforms, goods-to-person systems, and other.
3. The order picking process, including; single order picking, multi-order picking, batch-picking, pick-and-pass, zone-routed pick and pass, and more.
4. The equipment used pick the product and transport to downstream processes, including carts, pallet-jacks, lift-trucks, conveyor and more.



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Pick-modules provide an ROI when accumulated savings from labor cost reductions due to productivity increases exceed the investment for purchasing and implementing the pick-module in an acceptable period-of-time. Following is a basic payback model:

- Total lines picked per hour from pick-module divided by lines picked per hour per person = total number of picking personnel; see below for pick rate estimates
- For same SKUs and lines picked, utilize existing pick-rates to calculate labor requirements under current picking methods.
- Determine labor savings from difference above and compare to investment.
- Determine order cycle time reduction and impact on customer service (and the value of this).

Estimating pick rates requires developing a measure, and lines per hour (for each picking) and cases per hour per person are the most common. Estimating pick-rates is based on many variables, including units and cases per line, the picking process and the type of equipment utilized. Below are some rough estimates for common situations for preliminary purposes only.

Each Picking	Lines/Cases Per Hour Per Person
Shelving to Cart	50 to 100
Case Flow Rack to Cart	50 to 150
Case Flow Rack to Conveyor	150 to 200+
<b>Case Picking</b>	
Pallet to Electric Pallet Jack	50 to 150+ (floor level picking)
Pallet Rack to Order Picker Lift Truck	50 to 150
Pallet Flow Rack to Conveyor	250 to 400+

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There are other variables that affect pick rates and pick-module design including:

- Multi-order picking produces higher pick rates; the more orders picked at a time the higher the rates
- The more SKUs / pick-faces in an area, the shorter the travel path and the higher the rates
- Slotting affects rates (e.g. fastest movers and SKUs representing complete orders stored together)
- Technology, such as pick/put to light and voice communications, can increase pick rates
- Replenishment, typically an offsetting cost, must be considered
- Downstream processes (e.g. put-walls, sortation, packing, shipping, etc.) must be considered



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