

White Paper

Order Fulfillment and Automated Trash Removal: A Comparison between Trash Belt and Dual Function Overhead Conveyors



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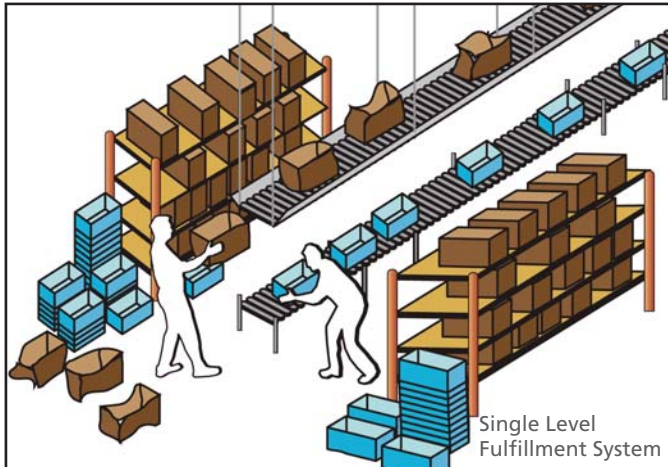
Comparison of Standard Fulfillment Systems Versus Combination Tote and Trash Removal

Standard Fulfillment Systems

Order fulfillment systems can range from a single or multi-level style pick module. Either way, any configuration requires a separate conveyor to accommodate automated trash removal.

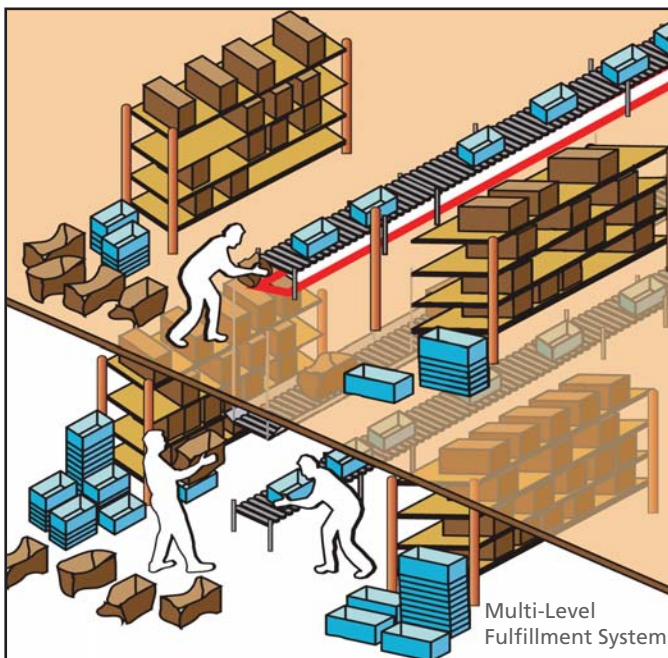
Single Level

In a single level system, the trash belt is usually mounted above the picking module and the workers must toss the trash over their heads onto the belt conveyor.



Multi Level

In a multi-level system, the workers in the upper levels throw the trash into a shoot where it falls onto the level one conveyor below. In addition to a trash removal conveyor, the pick modules also need to be fed with empty cartons and/or totes. In a typical flat conveyor pick system; this would require a stockpile of empty boxes and cartons at each pick module.



The pick module worker would either need to erect the boxes themselves as needed or rely on a centralized carton erector station(s) to supply them. A centralized carton delivery system becomes less efficient if various sized cartons are used, the length of the system is long, there are multiple levels, or there are many pick stations.

A New Alternative

An efficient and cost effective alternative to the above type of automated trash removal and carton delivery system is a dual purpose overhead conveyor. An overhead conveyor system can perform both the function of automated trash removal and carton / tote delivery through a single channel.



In addition to enhancing the overall system efficiency, the overhead conveyor alternative can also provide these benefits:

Tote and Carton Delivery

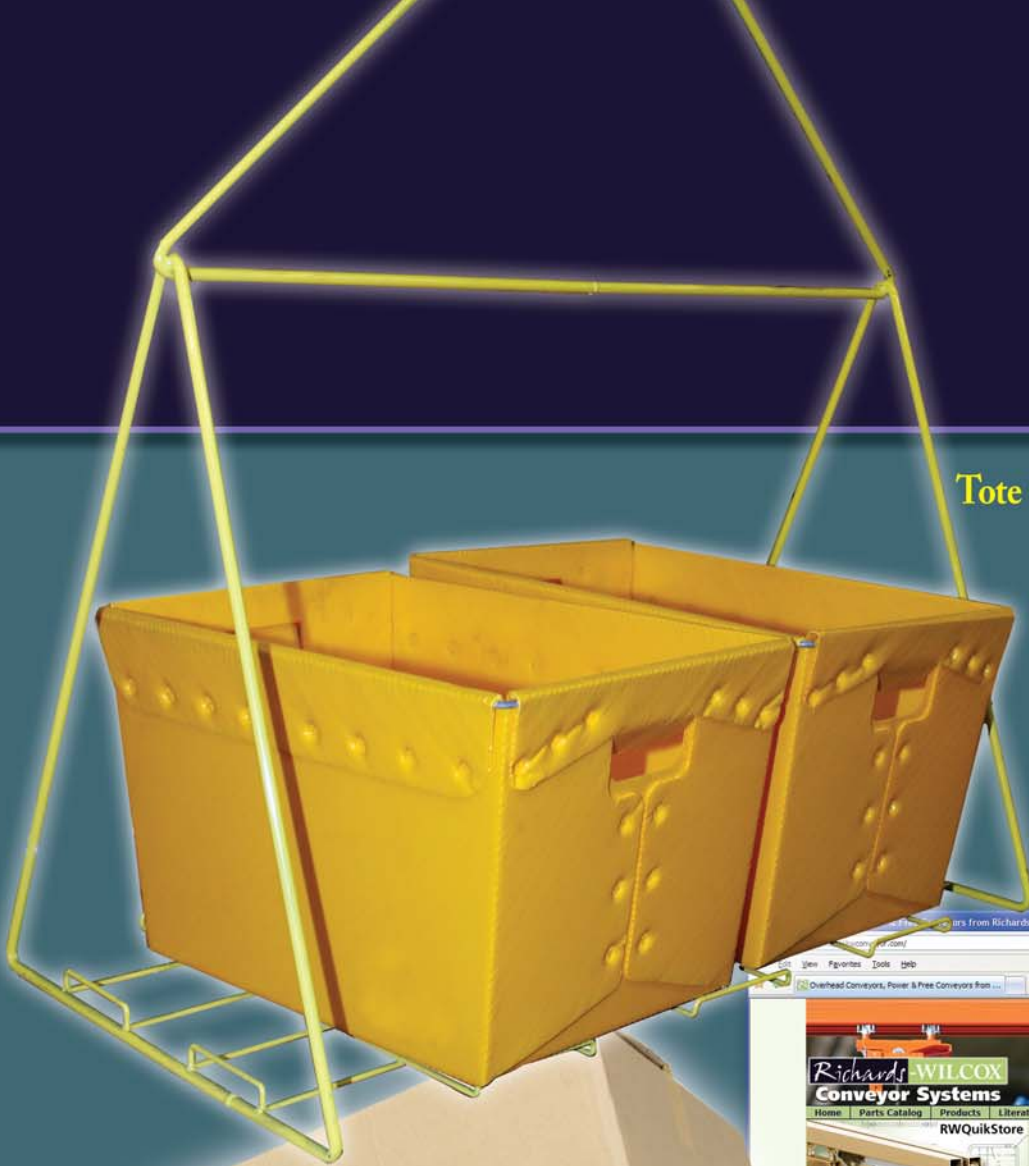
Advantage	Benefit
<ul style="list-style-type: none"> • Cartons are not assembled or erected at each pick module. 	<ul style="list-style-type: none"> • Saves space in the work area. • Enhances productivity. • Eliminates time spent on assembling cartons.
<ul style="list-style-type: none"> • Centralized carton erector stations maximize the space at each pick module. • Eliminates a stockpile of empty cartons. 	<ul style="list-style-type: none"> • Provides more space for finished goods. • Reduces the overall number of pick modules need in the system. • Saves labor costs.
<ul style="list-style-type: none"> • Special hooks designed for carton delivery accommodate multiple size and styles of boxes. 	<ul style="list-style-type: none"> • Prevents starving pick modules of certain containers. • Ensures the right carton is always delivered to the right place at the right time.
	<ul style="list-style-type: none"> • Eliminates downtime of waiting for empty carton delivery.

Trash Removal

Advantage	Benefit
<ul style="list-style-type: none"> • Specially designed carrier removes trash on the same line cartons are delivered. 	<ul style="list-style-type: none"> • Reduces the cost and maintenance of secondary line.
<ul style="list-style-type: none"> • Single line passes through each pick module at a very ergonomic level. 	<ul style="list-style-type: none"> • Prevents workers from tossing trash above their heads. • Reduces potential for injury and employee down-time.
<ul style="list-style-type: none"> • Overhead conveyor easily moves through multiple level systems. 	<ul style="list-style-type: none"> • Workers on upper levels benefit from the same ergonomic conditions.

Trash Belt Versus Dual Function Overhead Equal Installation Costs, Higher Return on Investment

The initial costs of installing a dual function overhead conveyor compared to having a separate trash belt are relatively the same. However, given the potential amount of labor savings, enhanced efficiency, productivity gained, and reduced space costs, a higher investment return can be realized very quickly.



Tote Carrier



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Trash Removal



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