

Semi-Automated Pallet Runner Systems

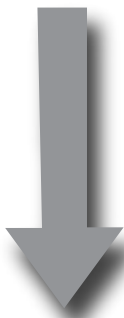
REB Storage Systems International

Pallet runners are semi-automated deep lane storage systems that delivers pallets via a cart that runs on a track within the racking system. It's also commonly referred to as a pallet shuttle system.

Pallet runners essentially allow the entire volume of your warehouse to be utilized, since multiple pick aisles are not needed. The system can be used for first-in, first-out (FIFO) or last-in, first-out (LIFO).

How It Works

Here's an example of the steps taken in this system:



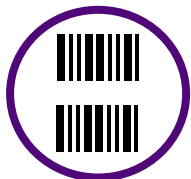
1. Pallets are loaded onto a cart by a lift truck.
2. The cart transports and places the pallet to the next available space in the system.
3. Unloading is the same: the cart collects and transports pallets out of the system while an operator moves between the lane and the shipping dock or other destinations.



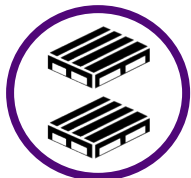
Is It Right for Your Operation?



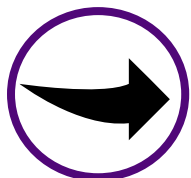
High number of pallets of the same SKU: with this system, each lane should have the same SKU. The greater number of pallets that have the same SKU, the more lanes you'll be able to fill in the pallet runner system.



Low number of SKUs: in this system, lanes are usually dedicated to a single SKU. So the lower the number of SKUs, the less lanes you'll need (depending on the volume of your SKUs). It is possible to have a high number of SKUs with this system, but the more SKU's, the more lanes that will be needed.



Requires specialized pallet configuration: pallets do not touch one another in this system. This allows for products to be transported 'gently' throughout the system. Some examples of specialized pallet configurations that can benefit from this include product that is non-stackable or that can only be stacked 2-high and product required to be displayed a certain way on pallets.



Fast throughput: since lift truck drivers don't have to drive into the system, the driver can retrieve a pallet, and while they drive it to the loading dock the next pallet can be retrieved from the system and be ready for when the driver returns. Also, multiple drivers can be retrieving from the system at once.



Maintain good quality pallets: the pallet runner carts go under the pallets in this system. Because of this, there can't be any sagging or obtrusions from the pallet. Grade A or refurbished Grade B are required for the system to operate properly.

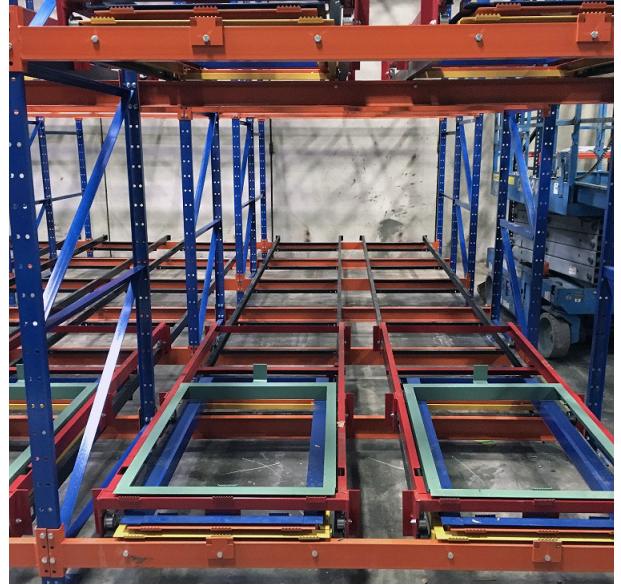
Pallet Runner Advantages

You should consider some of the advantages pallet runner has over other pallet racking systems. **It should be noted that while pallet runners can have certain advantages over other racking types, this is only if it's a fit for your operation.** There are situations in which a rack system will be advantageous over a pallet runner system. A material handling integrator, such as REB, can assess your operation and determine if this is indeed a good fit for you.

Pallet Runner Advantages Over Push Back Rack



VS.



Does not require particular lift trucks: Lift trucks for a push back system require an appropriate amount of power based on pushback force as a result of the weight of multiple pallets having to be pushed. In a pallet runner system, the lift truck power only needs to accommodate one pallet.

Can be designed for both FIFO (first-in, first-out) and LIFO (last-in, first-out): push back is LIFO only. There are a few ways that a pallet runner system can be used as a FIFO:

- Pallets can be loaded in one end and unloaded from the other.
- The system can be designed to have 'bi-directional' capability. This allows the home position to switch from one end to the other. This is more common in larger systems.
- The system can be designed to have 'split lanes'. For example, in a 30-pallet deep system, the first 26 pallet positions can be designated as LIFO, while the last 4 are designated as FIFO.

Deeper lanes: push back traditionally can only be designed up to 6 pallets deep, Pallet runner systems have been designed and successfully implemented for up to 83 pallets deep.

Does not require product-to-product contact to work correctly: this lessens the likelihood of product damage.

Pallet Runner Advantages Over Drive-In Rack



VS.



Reduced rack damage and product damage: with drive-in there are many potential points of impact, since the forklift operator spends a large portion of loading and unloading the system within the rack structure itself. You can add guide rails to prevent left or right movement of a forklift, however you still have the potential for vertical damage from the mast. This damage from within the middle of the structure can then cause further damage from around that impacted area or complete failure of that area.

With a pallet runner system, the operator interacts only with the charge and dis-charge end. So even if damage occurs, the impact is minimal, only affecting the impacted side.

Deeper lanes, providing higher storage density: a drive-in rack system can technically go as deep as needed, however there are factors that limit how deep you'll want to go. One example is the deeper you go, the higher the possibility of more damage via forklift in deeper lanes. Also, the deeper you go in drive-in rack, the more difficult it becomes to retrieve the pallets. So operational efficiency can become compromised.

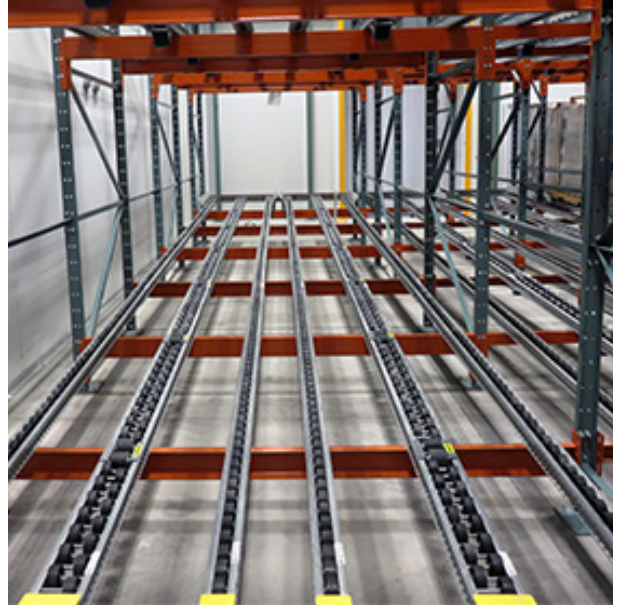
A pallet runner is basically unlimited as to how many pallets deep it can be. The longest pallet runner system in the world is 83 pallets deep.

Each level is independently accessible, resulting in less honeycombing: Honeycombing is when you have blank pallet positions within your rack system. In a drive-in system, pallets below and above the required pallet can get in the way, and drivers often have to move these obstructions first. This is not the case in a pallet runner system.

Pallet Runner Advantages Over Pallet Flow Rack



VS.



Level system, no need for pitch: a pallet flow system requires a pitch so that gravity can move pallets from the back loading side to the front retrieval side. This pitch can result in vertical loss of space. The deeper a pallet flow system, the greater the loss of vertical space. Additionally, lightweight product will need higher pitch which is loss of vertical space.

Controlled product flow, no relying on gravity: this lends to a number of advantages including lessening the likelihood of product damage.

Pallet runner is not affected by varying pallet weights: for a pallet flow system to work properly, pallet weights should be consistent. While a pallet runner system does require high-grade pallets as does a pallet flow system, it does not require a certain pallet weight.

Your Next Step for a Pallet Runner System

There are a number of pallet runner system providers out there. Whether your next step is to gather more information or request a quote, consider REB Storage Systems. REB is a highly experienced systems integrator, in business since 1962. REB has 17 in-house project managers and engineers, all highly experienced in the material handling industry. These people know this industry inside and out.

REB is highly knowledgeable and experienced in designing, engineering, and installing automation and racking solutions. We will make sure your system is the best fit for your SKU profiles and space. We work with you to provide a turnkey system. From engineering, design, products procurement, subcontractor management, install, and permitting support, REB handles it all for you.

We'd appreciate the opportunity to help you further, whether that be more information or a quote.

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