Mini Load AS/RS Systems

REB Storage Systems International

A mini load AS/RS system, or automated storage and retrieval system, is an automated carton or tote storage solution that stores, tracks, picks and delivers cartons or totes without human interaction other than dropping off and picking up. A mini load system is a crane-based system.

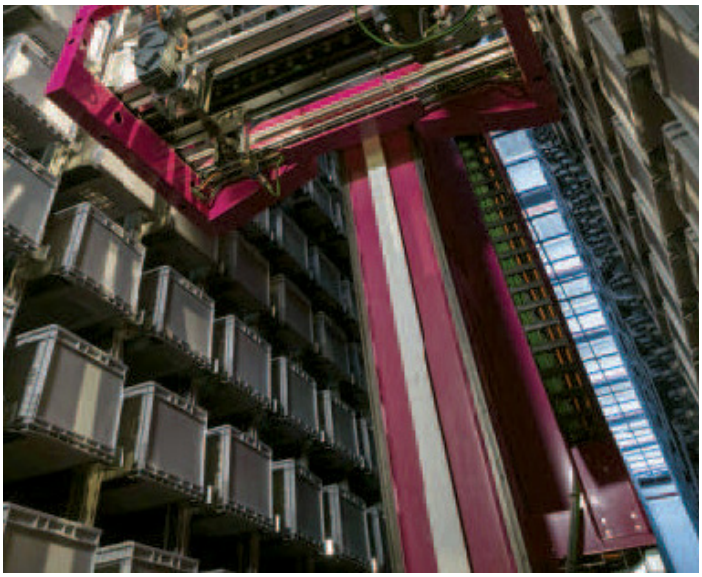
For companies that handle both pallets and cartons, a combination of a unit load and a mini load system is a viable option.

How It Works

In most cases, cartons are transported to and from the system by a forklift. The forklift either drops the case off at the required aisle (meaning multiple possible drop off points) or at an automated induction system (meaning one drop off point for all cartons), which then takes the carton to the correct aisle.

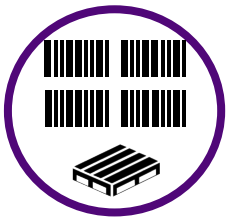
Here's an example of the steps taken in this system:

1. The system scans the carton to verify it's the correct weight, size, and not leaning or falling apart.
2. A forklift truck or an automated induction system brings the carton to the correct aisle.
3. It then places the carton on a conveyor located on the ground level. The crane then retrieves the carton from the conveyor, transports it to the correct level of the system, and places it into the correct position.
4. Unloading works the same way: the crane retrieves the carton from the system and transports it to the ground level at the receiving location. Pick up the carton with either a forklift or an automated induction system and transport it to the needed location.

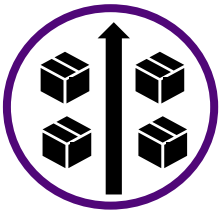


Is It Right for Your Operation?

An AS/RS system is ideal for a large array of operational features. Some of these include:

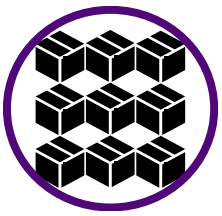


High number of SKUs, low number of pallets per SKU: A system can accommodate up to 3 pallets deep. Since each lane should be designated to one SKU, generally a low number of pallets of each SKU works best with a crane-based system.



Availability to store higher than 30 ft.: since a standard forklift's reach is about 30 ft., this often limits the height of a traditional rack system, resulting in wasted storage space. An AS/RS system will be able to utilize the entire available height of your DC.

Stores products that require date code management or scan verification: This is often found with pharmaceuticals, medical supplies, and food distributors.



Stores heavy loads (crane-based): mini load systems are able to handle very heavy loads, up to 6,000 lbs. This can be an ideal solution vs. having forklift equipment or other types of equipment placing and retrieving heavy loads within the system.

Have multiple DCs that could benefit from being consolidated into one: if you're considering consolidating your DCs into one, an AS/RS system may be right for you. Consolidating DCs will cut down on costs overtime, since you're not paying for extra real estate, employees, etc. Sounds like a no-brainer, right? But, there are challenges that many DCs face when considering this.

Many companies don't feel they can consolidate since it will mean higher throughput requirements for the one DC vs. multiple. A mini load system will allow for the higher throughput needed.

Lack of availability of consistent warehouse labor: one benefit of implementing an AS/RS system is it can cut down on labor costs. Less manpower is needed, since the system does much of the work. If you find yourself consistently taking time to hire and train new warehouse staff, an AS/RS system may be an ideal alternative.

Freezer storage: AS/RS systems allow for the entire area of a freezer to be utilized, which is expensive real estate.

Unit Load AS/RS System Advantages

Labor reduction: less manpower is needed in an AS/RS system. Employees are no longer needed to travel great distances to store and load cartons. Cartons can be shipped just in time resulting in faster turnaround times. Additionally, systems can be placed right in front of dock doors for quick unloading and loading of trucks. These systems can also replenish picking areas.

Increased pick accuracy: systems can reach 99.95% pick accuracy or greater.

Utilizing full building height: since a standard forklift's reach is about 30 ft., this often limits the height of a traditional pallet rack system. This results in wasted storage space. A mini load system will be able to utilize the entire available height of your DC.

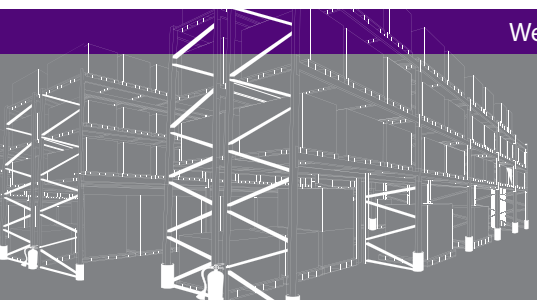
Ability to handle higher storage and throughput counts: if you want to achieve higher throughput, a mini load AS/RS system is ideal. This ability to handle higher storage and throughput counts is another reason that this type of system allows companies to consolidate products in multiple DCs into one.

Reduces damage to products and the system: an AS/RS system eliminates product-to-product contact, which reduces the likelihood of product damage. Additionally, since a forklift operator does not have to retrieve pallets from within the system, damage to the storage structure is eliminated.

Your Next Step for a Mini Load AS/RS System

There are a number of AS/RS 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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