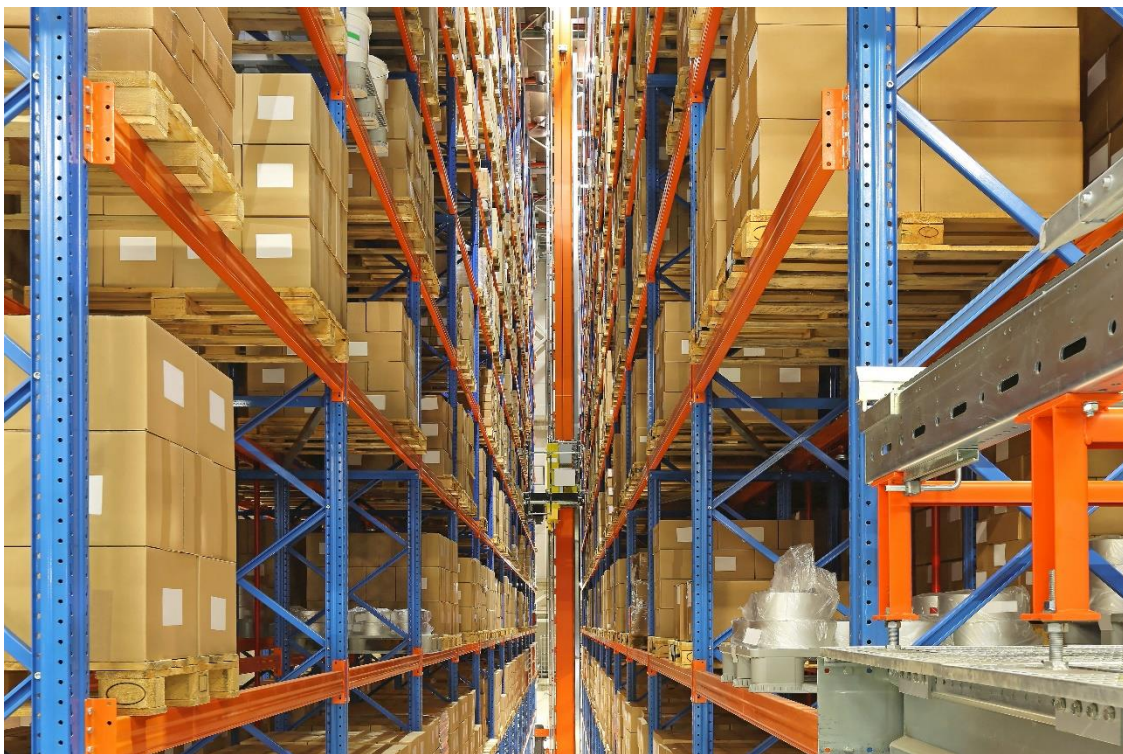


Automated Storage and Retrieval System

5th February, 2019

Reduced lead times, soaring real-estate prices, and the aggressive bottom-line targets made it imperative to adapt dense storage that helps in the maximization of floor space. When a wide variety of SKUs to be handled at an increasing rate Automated Storage and Retrieval System comes into picture. It is the most advanced material handling system that can promptly and accurately handle, store and retrieve products from designated storage locations in fully automated warehouses.



AS/RS or ASRS system consists of dense racking structure, Warehouse Execution/Management System and an SRM (Storage & Retrieval Machine) crane for material handling. It is widely used in production environments, distribution centers and warehouses.

Types of AS/RS Systems

AS/RS material handling systems are designed to handle large palletized loads as well as smaller loads that are usually stored in cartons and boxes. The one deal with large unit loads is unit-load AS/RS systems & the system that deals with cartons/totes is mini-load AS/RS system.



Some of the popular types of AS/RS or ASRS systems are:

- Unit-load AS/RS System
- Mini-load AS/RS System
- Carousel based AS/RS system and
- Vertical Lift Module (VLM)

As these systems locate and deliver necessary products to a conveyor system or operator station automatically, they help in achieving greater throughput, reduction in manual labour and optimization of inventory levels. This, in turn, helps the organization enjoy higher productivity and improved accuracy as compared to traditional storage and distribution techniques.

How does AS/RS Work?

AS/RS follow a computerized process that assists with management and maintenance of stored products and materials in fully automated warehouses.

The operator enters the details regarding the product that is required and how many units are required. Then the computer determines where the product has been stored, what is the best way to retrieve it quickly and then executes the program to retrieve the required product(s) with the help of integrated equipment.

Storage – Products and materials that are to be stored are placed in the input station. Then the operator punches in the details regarding the designated storage space. Then the AS/RS system takes the product to the selected storage location and offloads it there.

Retrieval – Once the operator punches in the requirements, WES/WMS directs the AS/RS system towards the exact storage location, from where the product will be retrieved and delivered to the designated location. Automatically the inventory gets updated on a real-time basis as and when the products are stored or retrieved.

When to use AS/RS?

AS/RS systems are commonly used in industrial applications under the following circumstances:

- When picking and shipping speed is of utmost priority
- When storage space is a concern and storage density must be increased
- When a large volume of products is to be handled on a daily basis
- When the safety of stored goods is of utmost priority
- When storage, retrieval, and shipping are the only operational aspects of a business



Benefits of AS/RS

AS/RS systems are widely used for streamlining the warehousing functions in business and greatly helps in achieving the following benefits:

- **Maximization of floor space:** AS/RS system utilizes height of the warehouse offering higher density through narrower aisle space
- **Inventory Management:** AS/RS system provides all data related to inventory levels, storage period, and lead times that drive efficient inventory management.
- **Fast & Accurate:** AS/RS system gives high throughput with utmost accuracy in fetching and storing the load.
- **Safe and secure operation:** Complete automation and reduced number of touches to the material ensure safe & secure warehouse operations.
- **Process Improvement:** - AS/RS system ensures seamless functioning of various supply chain processes. This helps in saving time and cost, as well as increasing the efficiency of operations.

Automated Storage and Retrieval System help industrial warehouses comply with complex warehousing requirements effortlessly and are a worthy investment to make the warehouse future-proof. It's the most advanced & fully automatic system, that provide maximum space utilization through usage vertical storage structure.

