



## Automatic Storage

Technologies that will help you address e-commerce



# Introduction

**Storage system allow you to reduce operative and storing cost** in addition to the trend of “**Good to person**” solutions. In other words, they bring the product over the operator, which dramatically minimizes timing and distances.

Ecommerce and the development of IT technologies promote **multichannel** and help to create new strategies for reaching the satisfaction of existing modules and purchase demand.

There can be multiple needs based on the application of each operations, for example:



**Storage:** for areas with many low turnover **SKU's such as small pieces**, electronic replacement parts, tests handling, among others.

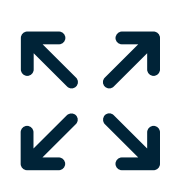


**Orders assortment or handling:** this activity shall be **efficiently organized** in order to obtain higher profits, improve processes, increase performance and above all, create a **completely institutional and trustworthy operation.**

All system components should be **flexible** and able to be integrated into each working flow, regardless of its automation level. Some of these requirements are picking, multi picking, kitting, reconditioning, reverse logistics packing, among others.



**Ecommerce:** This is a **growing demand**, therefore, **challenges related are growing as well**, such as orders' demand, variability of items in each order, inverse logistics activities: **the evident growth of logistics processes' individualization**.

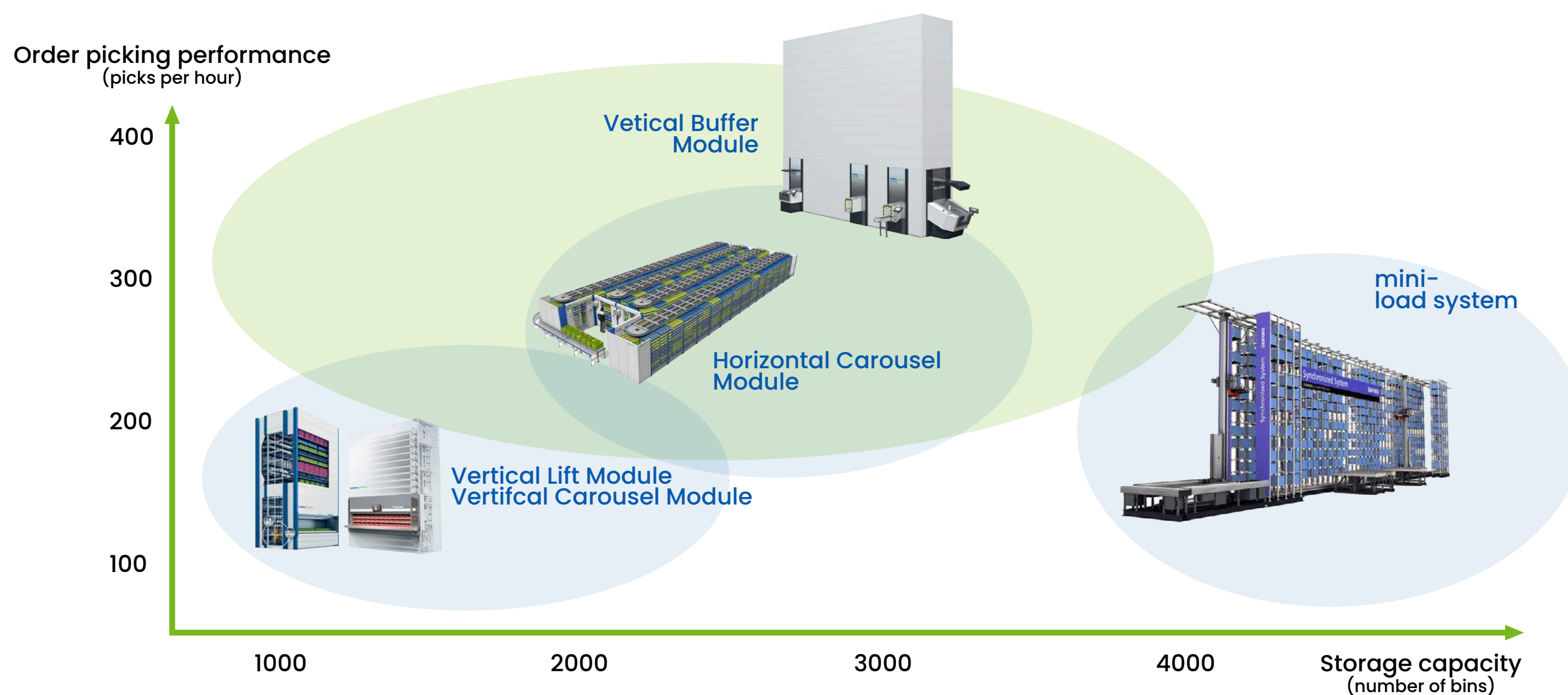


**Maximize available areas:** ecommerce requires certain availability for a **bigger working area** due to the vulnerability of its results. However, it is not always guaranteed that new facilities can be build.



**Speed:** It is necessary to **increase dramatically the responsiveness to customers** because the existence of the organization depends on that.

Before deciding about what kind of automation do you need, please analyze the following figure with a general image of solutions for orders' storage or assortment.







**Find out about the best storage systems  
and orders assortment**

Analyze the following guide of the best storage and  
assortment solutions which will increase your productivity  
and improve your market positioning.

**Be part of the change, be part of the new  
technological age!**

**Let's get started!**





# Shuttle XP



The design of this **vertical warehouse** allows you to **take advantage of the height available** in your facility or distribution center, **reaching up to 85% of space saving**. This system can have **multiple access** either in the front or back and **held picking operations simultaneously**.

This warehouse is designed to be **entirely closed** so special operations are supported, such as:



**Hermetic temperature control.** it allows to manage products heatree, it can keep cold as well.



**ESD applications for all electronic elements.** These tools allow to handle antistatic characteristics, guaranteeing that products are not damaged.



**High capacity.** It can manage very heavy loads up to 1000kg. Pallets can be stored and canes can be installed for an easily handling.



## Special features of shuttle XP



**Cubestar technology:** it allows to scan the height of products that are place in the trays, therefore, the storage density is maximized.



**Weight control system:** it monitors all trays according to their capacity to avoid overloads of products.



**Ergonomic system:** height can be adjusted in each tray, this allows the operator to work more comfortably and safety based on its physical characteristics.



**Security circuit:** it provides operations' security by generating emergency stops. it completely stops operations when light curtains are interrupted.

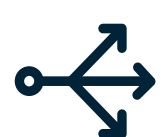
On the other hand, highspeed picking operations have the following technological innovations:



**Laser Point:** the exact place where the item is taken from the tray is indicated through a laser.



**Bar code scanning:** the barcode Reading systems allows to monitor all available products in real time.



**Software WCS:** optimized software easy to use according to the necessary requirements.

It allows to manage large assortment capacities in multiple equipment simultaneously: which provides a realtime visualization of all in process orders.



# Vertical carousel

High storage density,  
good assortment capacity.

## What is a vertical carousel?

It is a system of loading trays that spin vertically in order to place the needed product into the access section.





## Main Features



Loading trays can be **easily modified** for different applications. For example, division drawers can be adapted with or without key for specific needs or just for adding an extra level.



It allows to **increase up to 2-3 times the productivity** of operations.



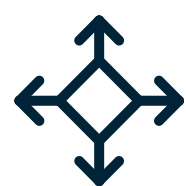
**High storage capacity.**



It allows to **take advantage to the available height**, providing an **incomparable storage density**. It can be used vertically or horizontally within production plants or distribution center.



**Up to 4500kg of load capacity. dimensions up to 13.20m length and 1.20m width.**



**This system is used for both very light and very heavy products, such as:** electronic replacement parts, auto parts, aerospace parts, toilet paper and cable.



# Horizontal carousel



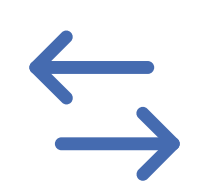
This kind of system is used in places where **storage must be safe, profitable, and quick**. The following elements constitute horizontal carrousel:



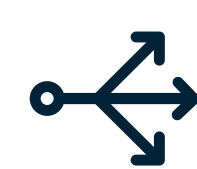
**Trays.** These are responsible of storing the products. Thanks to its great flexibility, they can storage products of different shapes and sizes.



**Picking area.** In this area, operators can take the products, once it has been requested to the system.

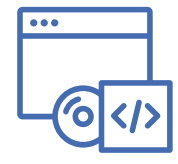


**Pick to light. Sign system** that shows the quantity of product and the place where it should be taken.



**Buch Picking Station.** This system is commonly used because **it allows to assort different orders at the same time**.





**Software.** It **coordinates all orders** so the system can process them. In addition, it defined the **priority** of each order so it can be done immediately. Usually, it controls **multiple workstations** and each one can be integrated by up to four **horizontal carrousel working simultaneously.**

For a greater performance and short assortment times, the kind of configuration used is very important. **According to size of the installation, the following stations are available:**



**Dual stations.** these are ideal to be controlled by a single person.



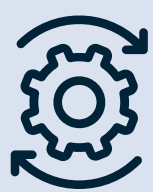
**Triple or quadruple stations.** These are used for a wide variety of products that need frequently access to them. It can be controlled by one or different operators



**Multilevel stations.** multiple level stations are suitable for heights up to 9 m.

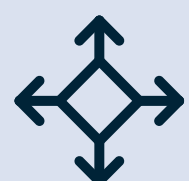


## Benefits of implementing horizontal carrousel



### Productivity based on "Good to Person" principle.

Horizontal carousel is suitable for picking of medium and small items.



**Variability** which offers high performance during rush hours.



# Vertical Buffer Module



This **automatic system** allows to **select the assortment of items and small parts from containers, carton boxes or trays**. It is also based in “Good to person” principles, providing a higher productivity in **picking operations**.

In the same way, different workstations can be installed with multiple equipment for addressing the complexity of current and future intralogistics trends.

## For example:

- Wider variety of products.
- Smaller lots.
- Security and harmony in the workplace.
- 24hrs of service to handle growth due to electronic commerce.



## Main Features



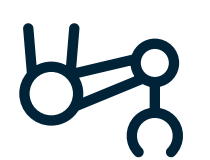
**Picking stations:** one or multiple access areas where the product is delivered to the operator so the assortment can be done.



**Shelves system:** it has a narrow aisle where the product is transported. It can be adapted for future products or locations.



**Containers:** it has totes, trays or boxes which will contain the stored products.



**Manipulation system:** it has an automatic manipulation system which is responsible of storage or moving the containers.



**Software:** it is a WCS module, this software allows to control inventory, coordinate the assortment process, edit materials and many other activities related to the process.







## Benefits of the Vertical Buffer Module



### More picking efficiency

No error picking thanks to the access of a single container.

Accurate, simple, and quick picking thanks to the Pick to Light system.

Up to 500 lines per hour in each picking station (per person).



### Energy efficiency design

Uses only one third of the energy required by other similar systems.



### Quickly access to products

Less movement because the access to all storage area is through a single entrance.

High speed picking with any type of unit.



### Picking comfort

Ergonomic working conditions thanks to many picking stations.

This system can easily be adapted to conveyors, code readers, RFDI readers and many other systems.

### Applications within the industry:

- Products assortment for ecommerce.
- Kits' preparation.
- Assembly lines supplying.
- Warehouse of electronic materials with SD features

# Miniload



Among the options of an automated warehouse, there is a highly productive tool: the Miniload. This solution can be personalized which allows to store both totes and standardized boxes.

## How does it work?

It works by means of an overhead crane **installed in the middle of racks' aisle** and it moves in order to **store or place boxes of products**. Then, it places them into the corresponding working station.

As these systems are **personalized according to the need of each customer**, any modification after being installed, involves a detailed engineering process and specialized analysis of the impact into the system's rate.





## Benefits of Miniload



**High storage density** because the racks can have **simple or double depth**.



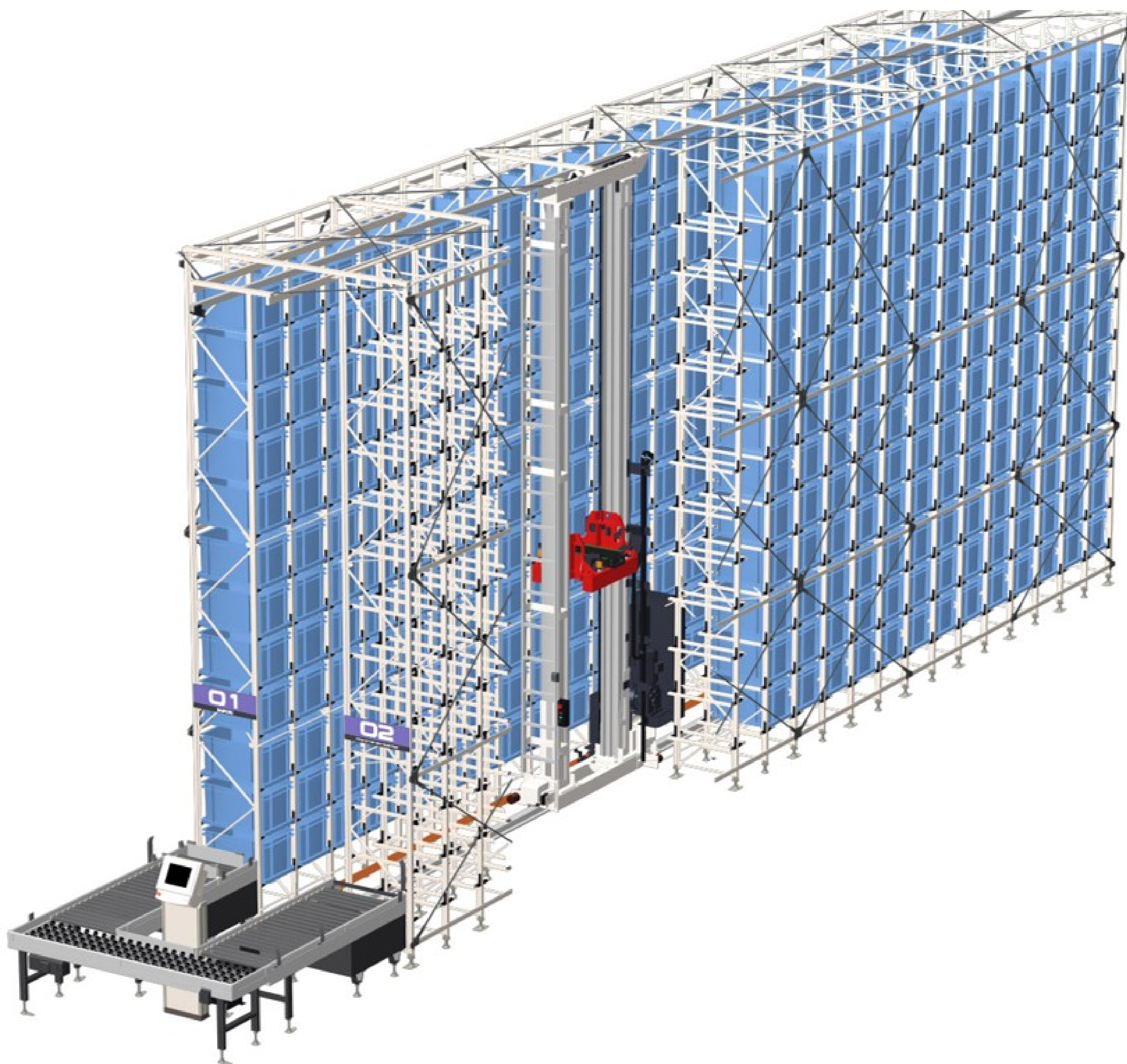
**It has an extractor;** this design allows to extract one or two boxes during a cycle.



It is used for **assorting moderate and low flow products** due to the configuration of the system's elements.



The equipment can reach up to **20 meters** in certain modules.







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Berriozabal No. 35-1 Tlalnepantla  
Estado de México, C.P. 54000

58 94 78 14 / 58 94 78 13  
58 94 55 86 / 58 94 55 87

