BLUESKY RACKING

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AS/RS

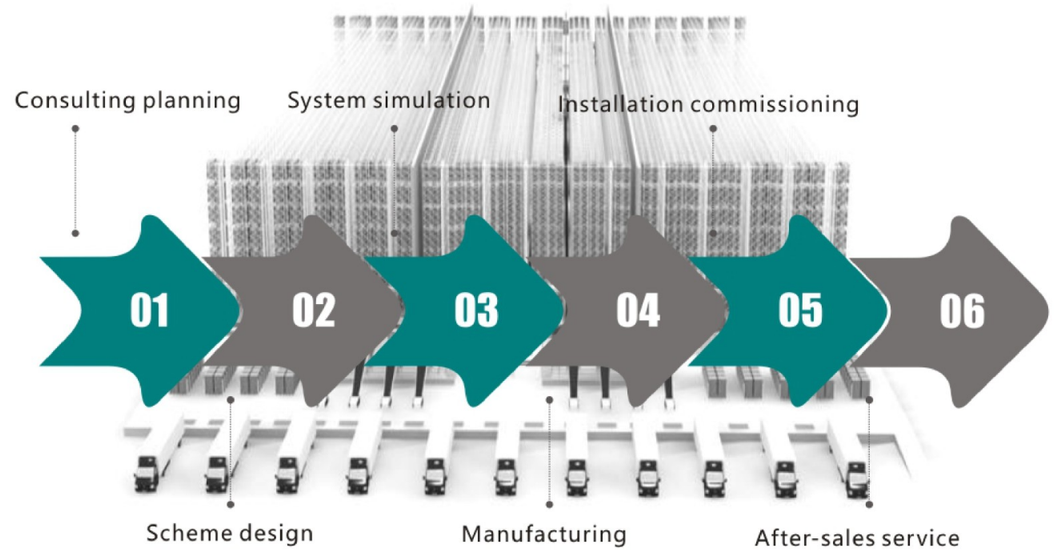
Automatic Storage & Retrieval System is a complex automation system composed of three-dimensional racks, stackers, conveyors, size detection barcode reading systems, communication systems, automatic control systems, warehouse management systems WMS, warehouse control systems WCS, and other auxiliary equipment.

The use of Automatic Storage & Retrieval System can realize the rationalization of high-level warehouses, automation of access, and simplified operations. The Automatic Storage & Retrieval System can be connected with the production line system and enterprise management system, which can truly save manpower, save energy and reduce consumption, and realize information management and efficient operation. Computer and barcode technology are adopted on management.

AS/RS

One-stop logistics solution

According to customer needs, we understand the area and environment of the warehouse, the nature of the stored goods, the weight of the goods, the specifications of the cargo space, etc., carry out detailed planning and design, provide reasonable solutions to meet the needs of customers, after signing the contract, the design department will carry out professional design of machinery and software, the production department performs production and processing according to the design and manufacturing drawings. The project implementation department provides customers with a perfect turnkey project through mechanical installation and electrical commissioning.



SELEVTIVE PALLET RACKING

With simple structure, pallet racking has the widest application. This kind of racking can be conveniently installed and operated, and allows easy searching of goods location. Generally, a pallet is used as a unit of storage, and the type, specs and size of pallet, as well as storage weight and stacks height, is determined according to goods features. Specs of such racking are determined according to the outline and weight of the goods in pallet and the dimension of the warehouse. Generally each level can contain 1-3 pallets.

The racking is composed of upright frame and beam, which are connected in the form of hitching and fixed with safety pins, so that the structure is simple but reliable. In the event of any change in the varieties of goods stored, warehouse keepers may adjust the beam height freely with a pitch of 50mm or 75mm.

The racking can be equipped with other safety accessories such as mesh decking steel board, support bar, pallet stopper, protector and frame protector.

Layouts of such racking generally include standard channel type, very narrow aisle (VNA) type, and double deep type. It can be used together with common forklift, forward forklift, three-direction forklift, and so on. It is the most frequently used warehousing solution.

VNA PALLET RACKING

Very Narrow Aisle pallet racking, also called VNA racking, refers to the storage system when three-direction forklift is used for common pallet racking system. Compared with common pallet racking, VNA racking has much narrower aisle (generally 1,800-2,000mm), so that the space utilization rate can be increased by 20% or so. In this system, guide rails or floor magnetic induction devices need to be installed on the two sides of channel to guide the direction of three-direction forklift.

Features

- Typical aisle width ranges from 1800-2000mm
- 100% selectivity
- Enhanced space utilization, both vertically and horizontally
- Good stock rotation
- Good product protection

DOUBLE DEEP PALLET RACKING

Double deep pallet racking can store two pallets in one depth direction. In the case of double sided racking, four pallets can be stored in one depth direction. Double deep pallet racking reduces the space occupation of channel and increases the storage density, but decreases the selectivity of pallets. At the same time, First In Last Out (FILO) principle is followed, and the immediate storage rate of 50% provides such system with reasonable circulation performance and effective utilization of space. This system is particularly suitable for the case in which each kind of goods is stored in many pallets. This system requires special forklift that can extend into the racking. Due to the restriction of goods weight, generally the maximum lifting height of forklift is 9m or so. If necessary, guide rails may be installed on the top layer of the system so that the forklift driver can deposit or take out pallets conveniently and miss-operation of operators and associated damages can be reduced.

Advantages:

- Due to reduced number of aisles, this system improves the immediate storage rate and eligible turnover rate by 50% with respect to storage density compared with standard pallet racking.
- Generally the pallet location use rate is up to 90%.
- The bottom pallets are not directly placed on floor, leading to higher safety and easier operation.
- Double deep handling vehicles (forklift) can be used for other tasks.

SHUTTLE RACKING SYSTEM

Shuttle racking system is characterized by high storage density, high access efficiency and high management ability over more varieties of goods. Either FIFO or FILO modes can be configured. It is not necessary to drive forklift into the aisle of racking. This racking system is composed of intelligent shuttle and shuttle racking, and can be also integrated with automatic stacking system to form automatic storage system.

As shuttle racking system does not require drive of forklift into aisle, the operation time can be reduced by a half. In addition, compared with drive-in racking, it requires much less forklift. It is suitable for warehouse with high goods turnover, and is characterized by easy access, allowing placement of different goods on different guide rail levels, and higher storage area use rate.

In shuttle racking system, specified quantity of goods can be deposited or taken out. In addition, during forklift waiting period or when needed by goods sorting, the shuttles can automatically move the pallets in deep position of the rails to the output end, so that the warehouse-in/out efficiency can be greatly increased. The intelligent shuttle has checking and counting function, and can provide warehouse keeper with accurate statistical data.

Shuttle racking is composed of upright, link pole, beam, adjustable foot, arm, pallet guide board, galvanized pallet support rail, protector, and forklift positioning plate. The arm beam connects the upright and the pallet support rail to form an integral unit, and horizontal bar can be configured, so that the precision of the racking can be guaranteed while the overall stability can be effectively enhanced. The adjustable feet of the upright frame with high strength bolts, which can not only ensure the installation precision of the guide rail in horizontal direction but also effectively mitigate the impact caused by uneven subsidence of floor. Pallets are placed on the upper surface of the guide rail and intelligent shuttle runs on the lower part of the guide rail. Wide opening design is used for the upper part of the guide rail, so that the intelligent shuttle can be conveniently placed into the guide rail. The optimal aisle depth of shuttle racking is not more than 25 goods locations.

SHUTTLE CARRIER RACKING SYSTEM

Shuttle carrier racking system is composed by baby shuttle, shuttle carrier, racking, elevator/lift, conveyor, control system software and other core products. This system is core of automated dense storage system solution.

Shuttle carrier racking system is suitable for intensive storage with large storage capacity, high storage turnover and high throughput efficiency, such as food, beverage, FMCG, chemical and other industries.

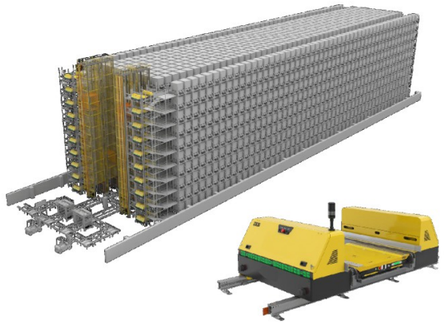
Applicable scene:

Strong compatibility: Applicable to different size of pallets and special vehicles, with a load range of 500-1500kg

Strong scheduling and functionality: Shuttle carrier can be scheduled through warehouse control system, which can achieve high throughput efficiency.

Flexible and expandable: Support non-standard customization and can be seamlessly connected with AGV multinodal transportation.

High density storage: Meet the efficiency and intelligence requirements of pallet picking, inbound and outbound, and at the same time achieve high-density storage of pallet warehouses.



4D SHUTTLE RACKING SYSTEM

4D pallet shuttle is an intelligent robot, which can be programmed to carry out operations such as picking up goods, transporting in four directions on the racks, and placing goods, etc. It can communicate with the host computer or WMS, and combine with RFID, bar code identification and other logistics information technology to achieve functions for example automatic indentification of goods, single access, continuous access, and automatic tally.

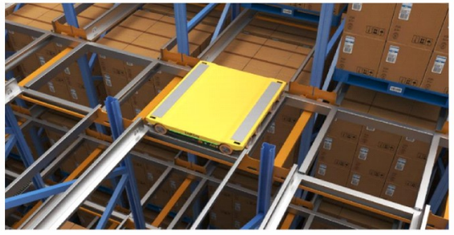
Applicable types and advantages:

* Strong compatibility: Applicable to different size of pallets and special vehicles, with a load range of 500-1500kg

* Strong scheduling and functionality: Multiple shuttle can be scheduled through warehouse control system, which can achieve storage and pallet picking functions.

* Flexible and expandable: Support non-standard customization and can be seamlessly connected with AGV multinodal transportation.

* High density storage: Meet the efficiency and intelligence requirements of pallet picking, inbound and outbound, and at the same time achieve high-density storage of pallet warehouses.



DRIVE IN RACKING

Drive-in racking uses pallet storage mode, and is a racking system not separated by channel and with high continuity and integrity. Forklift can directly drive into the storage area to handle goods. With very high space use rate, this system is suitable for warehouses with relatively fewer goods varieties and is widely used in such fields as cold chain logistics, beverage, food and milk products.

Such racking consists of upright frame, arm, pallet support rail, top beam, top bracing, back bracing and forklift guide rail. Either First In First Out (FIFO) or First In Last Out (FILO) modes can be configured. Generally the depth in a direction should not exceed 10 goods locations, and load of single pallet should not exceed 1,500kg/location. Forward forklift or counterbalanced forklift can be used.

CANTILEVER RACKING

Cantilever racking is suitable for storage of long materials, ring materials, sheet materials, pipe materials and irregularly shaped goods. The cantilever may be one-sided or two-sided. It is characterized by high stability, high load bearing capacity and high space use rate. Upright of cantilever racking uses H-shaped steel or special cold rolled steel, and the cantilever uses square steel, bent steel or H-shaped steel. The cantilever is connected to the upright with safety pins, and the pedestal is connected to the upright with bolts. The pedestal is made of cold rolled steel or H-shaped steel. The goods can be accessed by forklift, travelling crane or manually. It is often used in machining industry, building material supermarket, and so on.

MULTI-TIER RACKING SYSTEM

Multi-tier racking system uses the structure of multi-tier long span shelving, and is characterized by higher space use rate in addition to the features of long span shelving. With respect to design of Multi-tier racking system, racking may be installed on each floor of a platform, or the racking itself may be used for load bearing. Generally multi-floor (usually 2-3 floors) design is used, and staircase, handrail, safety barrier, goods slide, goods elevator and lifting platform can be configured.

Multi-tier racking system is suitable for the cases with high warehouse, light goods, manual access, many varieties of goods, and high quantity of goods. In addition, it can be used for technical reconstruction of existing warehouse to increase space use rate of warehouse.

Multi-tier racking system is characterized by good stability, high safety and convenient installation. Perforated floor board or grating may be used as floor board to meet the requirements of day lighting and fire protection, and secondary fire protection system may be designed if necessary.

PLATFORM

Platform is also called steel structure platform. Modern platforms have many structures and complete functions. The major structural characteristic of platform is fully assembled structure with flexible design, so that individualized platforms can be designed and produced according to site requirements, function requirements and logistic requirements. Platforms are widely used in modern storage.

Generally, platforms use square steel, steel pipe or H-shaped steel as upright, H-shaped steel or C-shaped beam as floor bearing layer, special floor board or grating as floor surface layer, and high-strength bolts and special fasteners as connectors. The design bearing capacity of platform is generally 500kg/m2. It can be used together with lifting platform, goods elevator and forklift, and two-tier or multi- tier structures may be designed in consideration of warehouse height and use requirements.

LONG SPAN SHELVING

Long span shelving is particularly suitable for storage of manually accessed boxes. It is characterized by low cost, convenient assembling and disassembling, reusability after warehouse relocation, free adjustment of layer number and layer height, allowing different layer height and total height based on warehouse height, and maximized space use rate. It is especially suitable for storage of goods with low quantity, many varieties and frequent warehouse-in/out. With diversified fittings available, it can be used to store goods of various sizes.

Features

- 100% selectivity
- Enhanced vertical space utilization (multi-tier)
- Medium duty storage ideal for hand-picking environments
- Good stock rotation
- Easily customizable due to the extensive range of accessories

CARTON FLOW RACKING

Carton flow racking is generally used for sorting of small cartons in distribution centers or temporary storage area in production and assembling process. Carton flow racking uses the same access principle as gravity racking, but the goods stored are materials in carton and are accessed manually. One end of such racking is used for goods replenishing while the other end used for sorting. Cartons slide on the flow strips of the tilted platform from the goods replenishing end to the output end, so that FIFO goods flow can be achieved and the sorting efficiency can be improved.

Features

- High density storage
- Excellent floor area utilization
- Suitable for high volume hand-picking environments
- Enhanced picking cycle time
- FIFO principle
- Good product protection

GRAVITY RACKING

Gravity racking is storage system with densely arranged pallet racking and a gradient roller table on the beam, in which goods on pallet enter the system from the higher end of the roller table and then slide to the lower end by virtue of gravity. After the first pallet at the output end is taken out, the subsequent pallets move to the output end by gravity. To prevent too high flow of the goods, damping devices are set on the roller table at certain interval. In the case of long roller table, pallet guiding devices are set on the two sides of the table. There are baffle plates and separating mechanism at the output end, and two goods locations can be arranged in each row pitch. Gravity racking is suitable for storage of the same type of goods with high quantity and long storage duration.

CONVEYORS

Features

- Economic and practical, cost-effective;
- Modular combination, easy to transport and maintain;
- Reliable operation, low noise and safety;
- Adjustable legs, wide application scope;
- Surface electrostatic spray, beautiful appearance;
- Adjustable convey speed;
- Large load capability;
- Light weight design, fast installation.

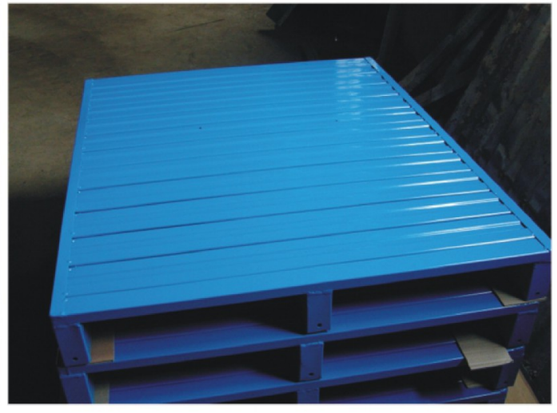
SUPERMARKET SHELVING

Features:

- Type: Double side, single side, and End shelving
- Easy to assemble & disassemble
- Different thickness, size, level quantity, and colors are available
- Level distance can be adjusted freely
- Loading capacity: 50-120kg/level
- Surface Treatment: epoxy electrostatic spraying.
- Package: upright use air bubble plastic, others use knockdown package by cartons and air bubble plastic. Safe for long-distance transportation.

STEEL PALLET

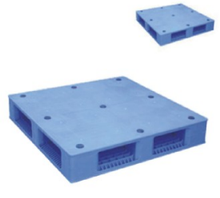
With the increasingly improvement in requirements for production conditions, storage conditions, process control and quality management, the pallet plays a crucial role combined with forklift in modern logistics as important loading, storage and transport equipment in logistics operation. The pallet is a kind of horizontal platform device for unit-load goods and products in holding, stacking, handling and transport process.



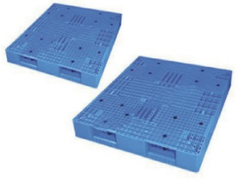
PLASTIC PALLET

Plastic pallet has advantages of light weight, simple operation, easy to wash, impact resistance and strong durability, so it has been widely used in modern logistics.

Flat splayed-line type



Flat double-sided type



Grid double-sided type

Grid splayed-line type

PLASTIC BOX

Assembled plastic box

As unit storage container, the Assembled plastic box can be used together with various racking to improve management convenience and efficiency. It has a left-right buckling structure, allowing easy buckling and arranging in order. It has four pillars to increase the storage height. Space identification card is added for convenient visual management, and can be changed easily. Standard colors: red, yellow and blue.

Back hanging plastic box.

The back hanging plastic box made of antistatic polypropylene copolymer is suitable for electronic industry. If used with material sorting shelf or shutter hanging board, it is suitable for sorted keeping of small materials of low quantity but many varieties. Standard colors: red, yellow and blue.

Multifunctional material box

- Multifunctional material box is being made of high-quality PP.
- It is suitable for conveyor belt system and material racking.
- Allowing stable stacking, safe stacking flange used to prevent side slide at the time of stacking.
- Can be equipped with a marked card with the diaphragm is conducive to the separation of the internal space of the material box.
- Steel handle, reasonable structure and pretty appearance.
- Each material box has an identification card that can be changed easily, allowing convenient visual management.