Fujian Jili Intelligent Logistics Equipment Co., Ltd.

Expert in automated logistics overall solutions

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CONTENT

01

PART ONE

Company profile

Fujian Jili Intelligent Logistics Equipment Co., Ltd.

Company Overview

Fujian Jili Intelligent Logistics Equipment Co., Ltd. was established on March 22, 2019. The company is located at No. 77, Detai Road, Economic and Technological Development Zone, Quanzhou City, Fujian Province. The company is committed to providing customers with professional automated warehousing system design, logistics system planning consultation, information system development and design, automated logistics equipment, logistics distribution center system integration, logistics system maintenance and maintenance, supply chain management and supporting services.

The company has strong technical strength and product development capabilities, more than 60 professional and technical personnel, including 28 design and planning engineers, 15 project implementation engineers, and a professional after-sales service team of 19 people, providing customers with professional solutions and designs, ensuring customer-site installation management and rapid response to equipment use. The company's products include storage shelves, stackers, shuttles, laser-guided unmanned vehicles (AGV), automated sorting systems DPS and WMS, WCS, AGV integrated intelligent management systems and other automated logistics management software, with intelligent logistics equipment product lines.

The company adheres to Made in China, specializes in, refines, strengthens and expands China's intelligent logistics equipment industry, adheres to the business policy of professionalism, focus, efficiency, convenience and innovation, takes customer needs as the first standard, serves customers, and provides automated logistics solutions for customers from all walks of life. At the same time, it is also committed to building a first-class domestic intelligent logistics equipment integrator.

Core Values： **-------Genuine goods and solid appearance**

Corporate Mission: **-------We will spare no effort to build a technologically innovative, resource-saving, environmentally friendly, safe and harmonious enterprise, and serve the society with the spirit of freedom, love and dedication!**

Development concept: **-------Innovation, coordination, green, openness and sharing**

Enterprise pursuit: **-------Reducing manpower, reducing land, reducing costs, increasing production, increasing efficiency, and increasing profits, delivering logistics value to customers is our unswerving pursuit**

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Service Process

Consultation Evaluation

Industry development trends
Feasibility report
Risk-return assessment

Analytical Pre-certification

Planning Design

Requirements analysis
Solution planning
Configuration selection

Substantial cooperation recommendation

Production Manufacturing

Equipment manufacturing
Electronic control design
Software development

Installation Debugging

Project planning
Equipment installation
System debugging

Normative on-site regulation

Delivery Acceptance

System trial operation
System acceptance
User training

Rigorous service package

After-sales service

Complete completion data
24/7 service guarantee
Lifelong software optimization and upgrade

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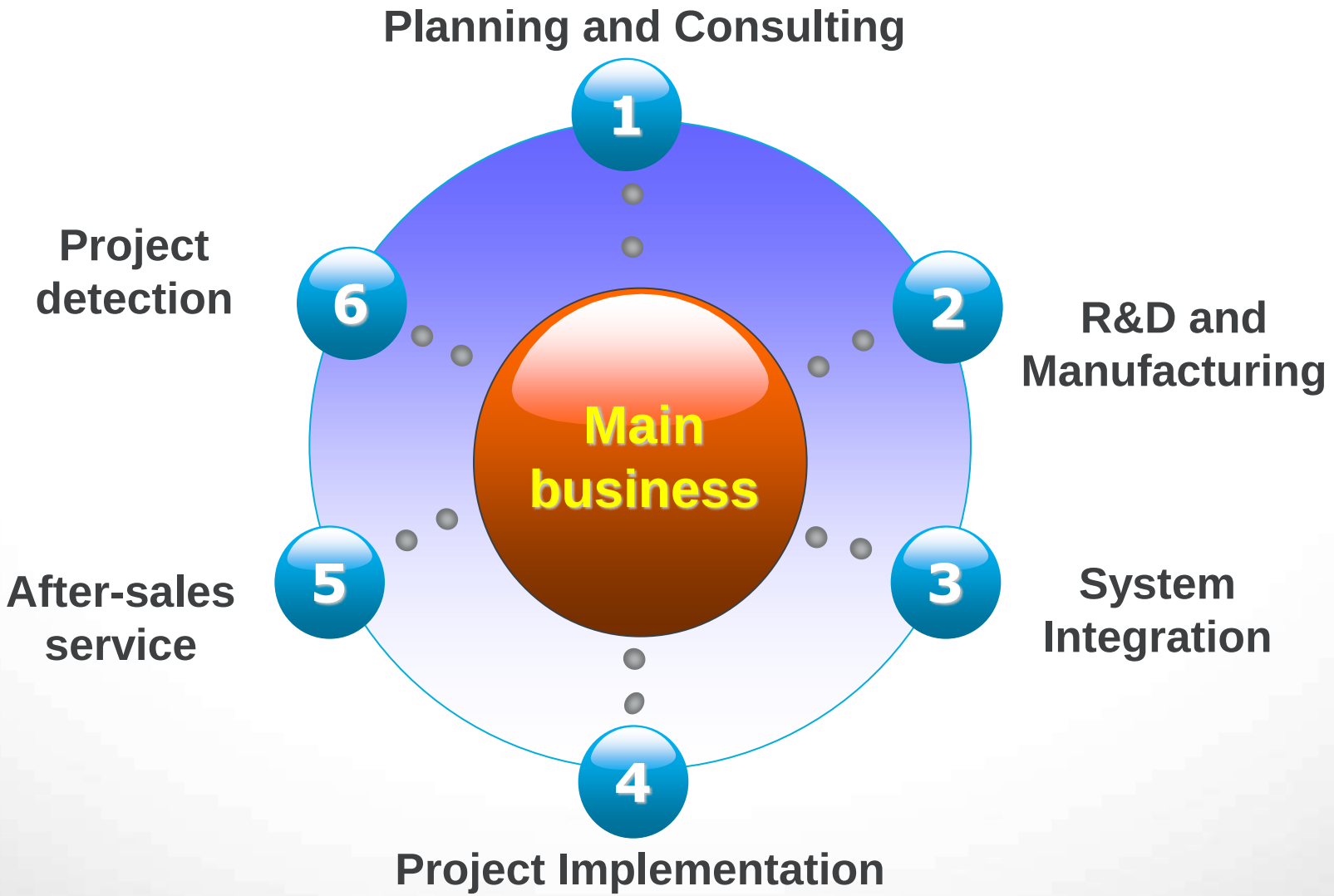
Main Businesses



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02

PART TWO

Introduction of warehouse rack

Fujian Jili Intelligent Logistics Equipment Co., Ltd.

Flat warehouse shelf design standards

Design, manufacture and installation comply with the following standards:

- GBJ17-88 Steel Structure Design Manual
- ZBJ83015-89 High-Rack Warehouse Design Specification
- Q/320115LWWL01 Technical Conditions for Plug-in Steel Structure Shelves
- CESCS23:90 Steel Shelf Structure Design Specification
- JB/11270-2011 Technical Conditions for Combined Steel Structure Shelves in Stereoscopic Warehouses
- GB50011-2010 Building Seismic Design Specification
- FEM10.202 European Material Handling Association Steel Structure Shelf Design Specification
- GB9286-88 Scratching Test for Paint and Varnish Film
- GB6379-96 Pencil method for measuring the hardness of paint films
- GB1771-91 Determination of neutral salt spray performance of paints and varnishes
- GBJ17-88 Types and dimensions of manual arc welding joints
- GB1804 Carbon structural steel
- GB1184 General technical conditions for machining
- GB50018-2002 Tolerances and fits, unindicated tolerances of linear dimensions
- GB50017-2003 Shape and position tolerances, provisions for unindicated tolerances
- GBJ9-87 Load specifications for building structures
- JB/T9018-1999 Design specifications for high-rise rack warehouses with rail aisl

Flat warehouse shelf design standards

Production process:

Raw materials → blanking → punching with fully automatic punching machine → fully automatic roller rolling line → computer-controlled cutting and folding → carbon dioxide shielded welding → electrostatic spraying → packaging

Surface treatment:

The shelf surface is treated with epoxy resin electrostatic spraying, with a coating thickness of 60~80 microns;
Spraying process: surface degreasing → rinsing → pickling and rust removal → rinsing → phosphating → high-pressure rinsing → drying → electrostatic spraying → high-temperature curing

Electrostatic spraying features:

1. Adhesion reaches O level in GB92865-88 standard;
2. Wear resistance is more than 100 times that of ordinary nitro paint, reaching 2H in GB6739-86 standard;
3. Salt spray test GB1771-91>500 hours, strong corrosion resistance.

Shelf performance characteristics:

1. Under uniform pressure, the allowable deflection of the beam is 1/200 of the beam length, and the maximum allowable deflection of the column is 1/1000 of the height; the safety factor of the column is 1.95; the safety factor of the beam is 1.65.
2. The hole spacing of the column is 75mm, and the height of the beam can be adjusted at this spacing, and it is equipped with a safety pin.
3. Surface treatment: Epoxy resin electrostatic powder spraying treatment, hardness is not scratched by 2H pencil test, the shelf surface is acid and alkali resistant, and the coating thickness is about 80~100 microns.

Main production equipment diagram

Fully automatic punching line

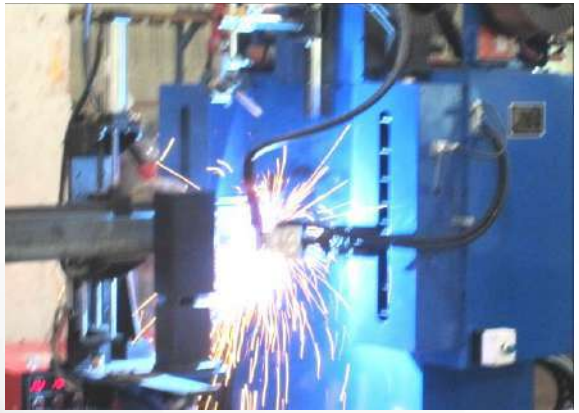
Fully automatic cold rolling production line

Fully automatic cold rolling production line

Fully automatic cold rolling production line

Fully automatic welding equipment

Fully automatic welding equipment



Fully automatic welding machine

Fully automatic spraying equipment

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Flat warehouse shelf production flow chart

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Raw Material Truck
Raw Material Warehousing
Fully Automatic Punching
PLC-controlled Fully Automatic Hot/Cold Bending Forming Machine
Fully Automatic Welding
Fully Automatic Sandblasting Equipment
Fully Automatic Cold Roll Forming Machine
Boring Machine (Enhanced Processing Precision)
CNC Cutting Machine (Enhanced Processing Precision)
Fully Automatic Spray Painting
Fully Automatic Spray Painting Line
Finished Product Warehousing
Truck Loading
Delivery & Installation

Flat Warehouse Shelving Raw Materials

来料保证：严格筛选来料，从源头把控，并对原材料送至专业机构检测，分析化学成分和力学性能。优质的原材料是我们成品优良的信心保证！

专业检测：

各项原材料：钢材、焊丝、粉体均通过SGS专业检测机构检测。

成品：工厂内部专门工程部门做承重测试分析，定时监测各项数据，有理有据！

SGS权威检测，承重性能更有保障！

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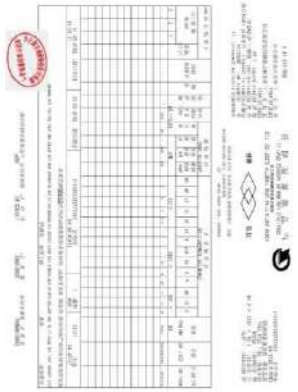
Flat Warehouse Shelving Raw Materials

Material Guarantee:
Implement strict material screening protocols with source control
Conduct professional laboratory testing on raw materials
Perform chemical composition and mechanical property analyses
Premium raw materials ensure final product excellence
Professional Certification:
Material Testing:
All materials (steel, welding wire, powder) pass SGS-certified inspection
Composition analysis compliant with international standards
Product Verification:
Dedicated engineering department conducts load-bearing test analysis
Regular performance data monitoring system
Data-driven quality assurance approach
SGS-certified load capacity verification
Enhanced structural reliability assurance

Flat rack manufacturing process inspection diagram

Powder certification

Steel certification

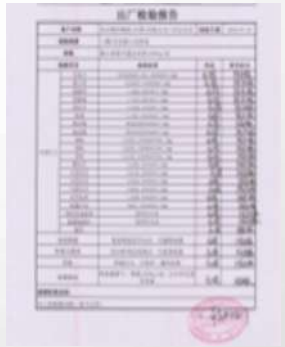


Incoming material inspection report

First Article Inspection Report

Load-bearing test report

Factory inspection report



Factory certification

Installation Acceptance Criteria

Installation acceptance report

After-sales service records

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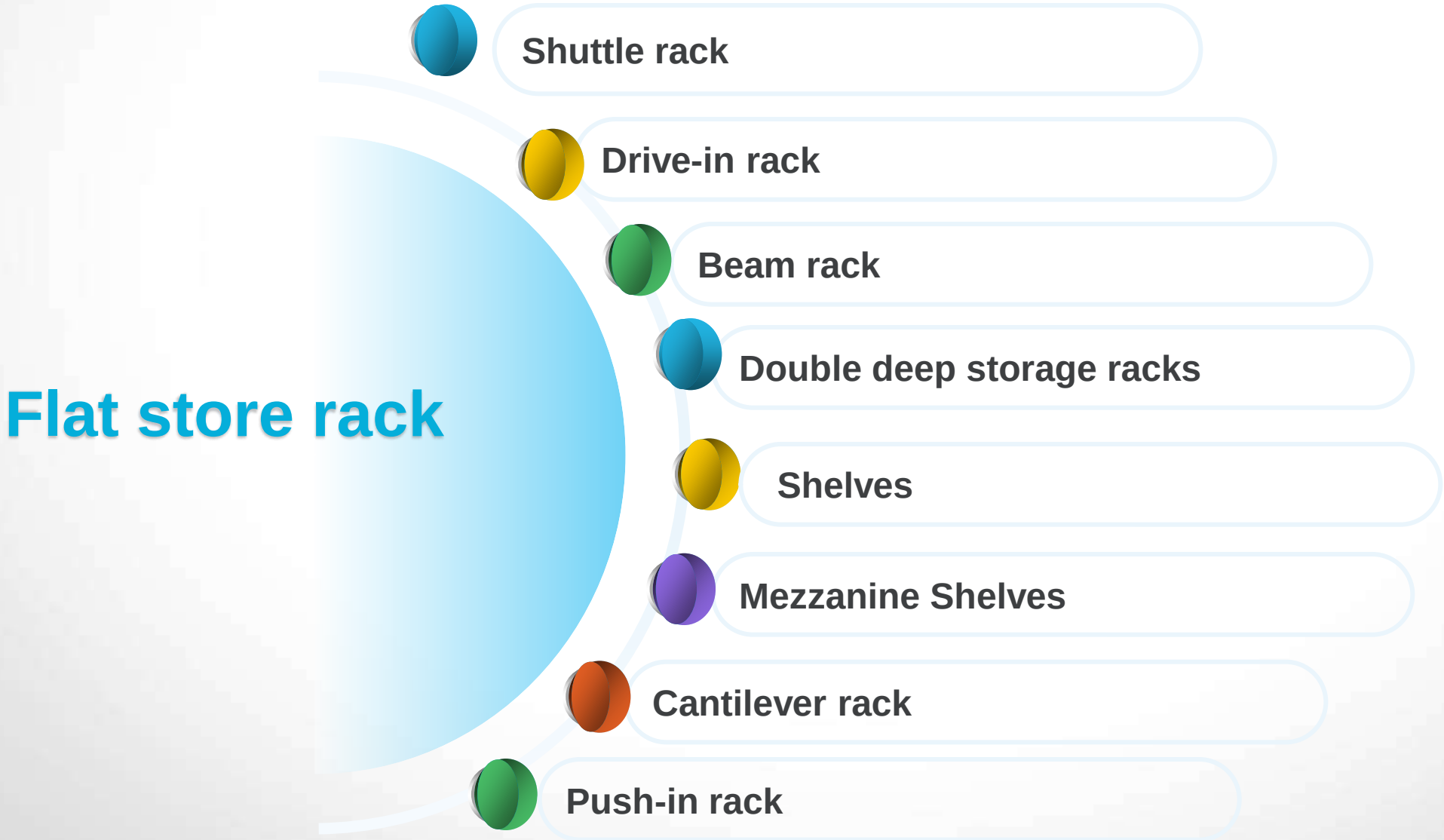
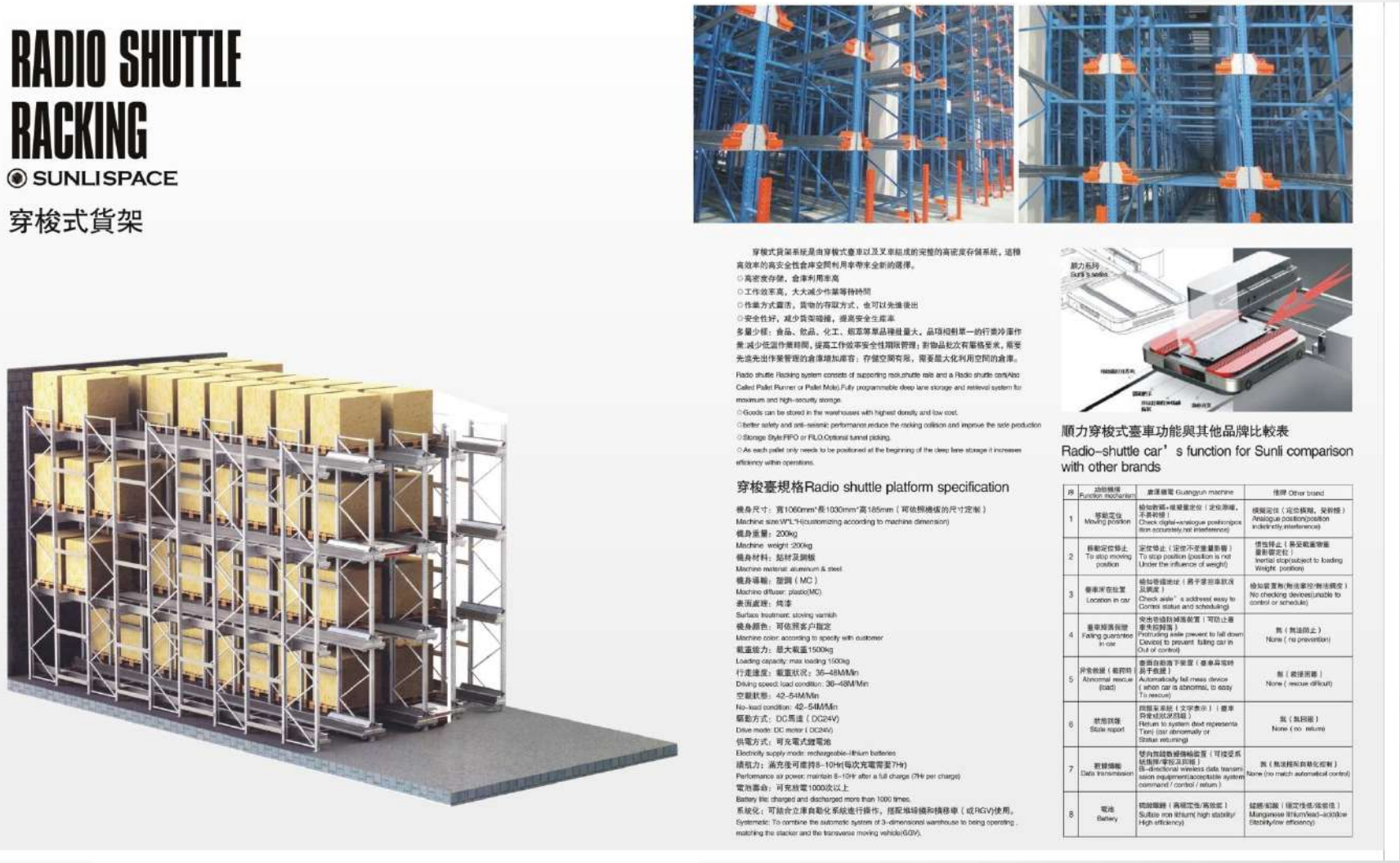
Shelf classification



1. Shuttle rack

1.1 Introduction to Shuttle Rack

The shuttle rack system is a high-density storage system composed of racks, trolleys and forklifts. This highly efficient storage method is designed to improve the utilization of warehouse space and bring new storage options to customers!



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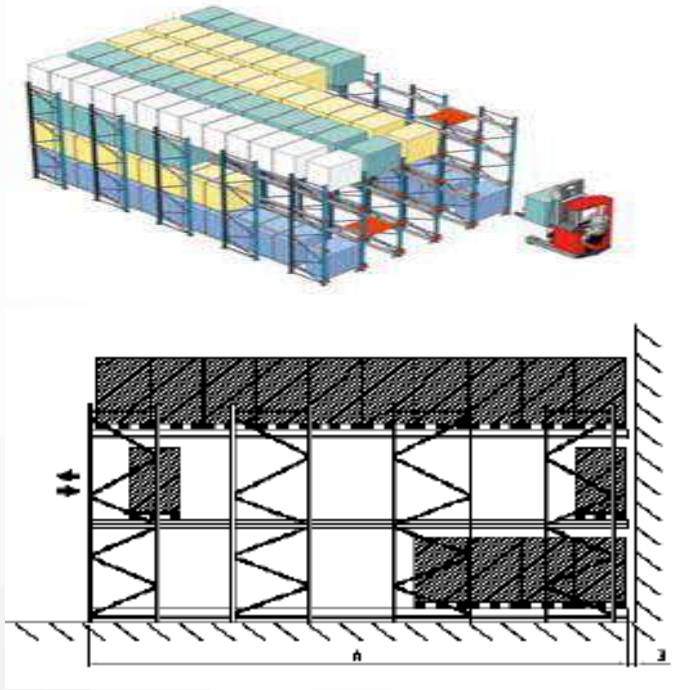
1. Shuttle rack

1.2 Working principle of shuttle rack (diagram)

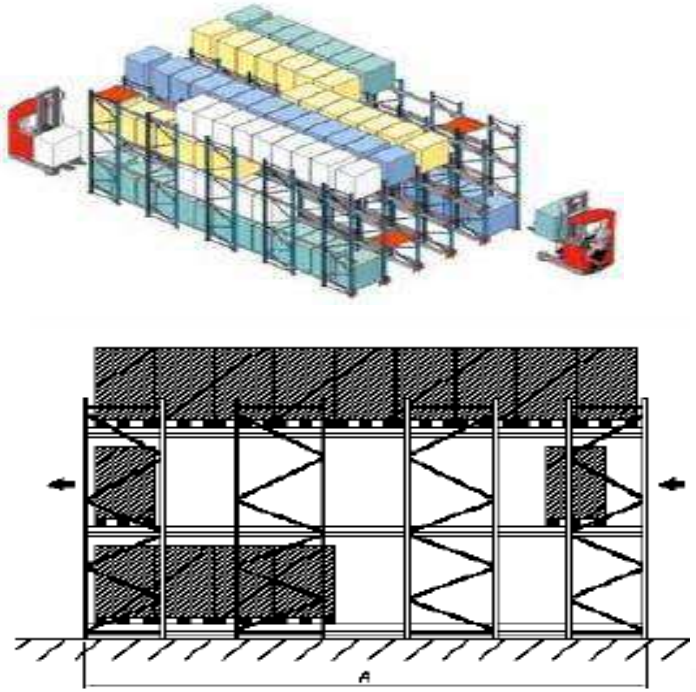
First in, last out



Side view - channel depth FIFO

A: Depth (nx(pallet depth + 50)
+ 300mm
B: Remaining space behind the shelf:
50-100mm

First In, First Out



Side view - channel depth FIFO

A: Depth (nx(pallet depth + 50))
+300 + 300 mm

1. Shuttle rack

1.2 Working principle of shuttle rack (text description)

Inventory:
The forklift places the goods at the front end of the shelf aisle rails, and the WAP-1 shuttle operated by radio remote control can carry the pallet goods and run on the rails;

· Picking up goods:
The WAP-1 shuttle moves the pallet from the deep shelf to the front end of the shelf, and the forklift takes the pallet goods off the shelf;

· Moving the WAP-1 shuttle:
The shuttle trolley can be placed in different aisles by a forklift, and multiple aisles can share one WAP-1 shuttle. The number of WAP-1 shuttles is determined by comprehensive factors such as aisle depth, total cargo volume, shipment batch, and shipment frequency; This warehouse solution consists of a trolley pallet rack with a certain number of racks and a system that uses trolleys to store, transport, and store pallets. The space utilization rate is over 80%!

1. Shuttle rack

1.3 Advantages of shuttle racks

- High-density storage, high warehouse utilization rate.
- High work efficiency, greatly reducing waiting time for operations◎ No damage to products
- Flexible operation methods, the storage and retrieval of goods can be first-in-first-out or first-in-last-out.
- High safety factor, reducing collisions between shelves and forklifts, and improving safety productivity.
- Relatively low lighting requirements, less overall investment compared to other types of shelves

2. Drive-in rack

2.1 Introduction to Drive-In Racks

Drive-in racks are also called corridor racks or through-type racks. Forklifts can drive into the aisles to store pallets. The access method is first-in-last-out or first-in-first-out: entering and exiting from the same side is first-in-last-out, and entering and exiting from one side to the other is first-in-first-out, which can greatly improve space utilization.

2. Drive-in rack

2.2 Features of Drive-In

1. On the support rails, pallets are stored in the depth direction, one after another, which makes high-density storage possible.
2. Goods are stored and retrieved from the same side of the shelf, first stored and then retrieved, and then stored and retrieved first. Counterweights and forward-moving forklifts can easily drive into the middle of the shelf to store and retrieve goods without occupying multiple aisles.
3. This type of shelf is suitable for storing large quantities and small varieties of items. The bull legs and bull leg shelves of the drive-in shelves (drive-in shelves) are all made of integral stamping/rolling technology, with strong bearing capacity and beautiful appearance.
4 The drive-in shelves are fully plug-in assembled structures, and the column pieces are assembled structures. The total depth of the shelves in the wall area is generally controlled within 5 pallet depths, and the total depth of the shelves in the middle area that can be accessed from both sides is generally controlled within 10 pallet depths to improve the efficiency and reliability of forklift access.

2. Drive-in rack

2.3 Advantages of Drive-In Shelves

1. The cargo storage channel is also the forklift storage and transportation channel, which is a form of shelf with higher storage density.

2. It is usually used for the storage of goods with fewer varieties but large batches, and the requirements for cargo picking are not high.

3. Based on the lifting height of ordinary forklifts and the conventional scheme of three-layer cargo in the corridor shelves, the effective storage capacity of the warehouse can be increased by more than 100%. In comparison, the investment cost is controlled and the benefits are significantly improved. From the global storage cost calculation, the increased storage capacity benefits can generally offset the investment cost within three years.

4. The goods follow the first-in-last-out principle, which is suitable for most handling machinery storage and transportation operations.

3. Beam rack

3.1 Introduction to beam shelves

Beam racks are professional warehouse racks for storing and retrieving palletized goods (each pallet is a cargo space, so they are also called cargo space racks); beam racks are composed of columns (uprights) and beams. They are simple in structure, safe and reliable. According to the actual use of users: pallet load requirements, pallet size, actual warehouse space, actual forklift lifting height, different specifications of beam racks are provided for selection.

SELECTIVE PALLET RACKING

SUNLISPACE

標準式托盤貨架

最簡單有效的多元化倉儲貨架,用于將貨物放置在托盤上配合叉車使用存儲，存取操作靈活快捷，選擇性强，可先進先出，周轉率較高，1T-5T/層，貨架規格可以按照不同的空間、貨物量身定制。

結構特點:

1、全組合式結構，拆裝簡便快捷，應用靈活;

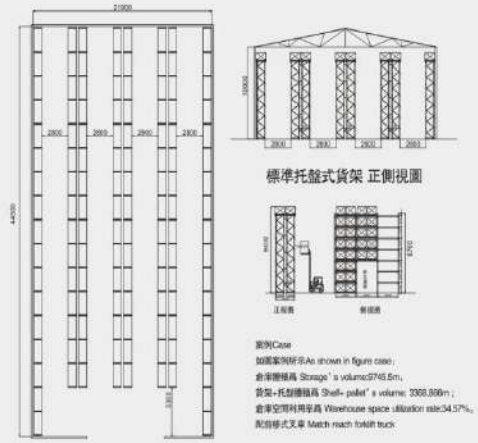
2、立柱按計有每75mm可調孔距，可根據貨物高低靈活調整層間距。

It's the most effective multiple storage racking, working with fork truck,and store or take goods with pallet, it can be highly selected and "first in first out" with high cycling rate. Load: 1T-5T/layer. The specification for the rack can be customized according to different space and volume of goods.

Structural features:

1.All composite structure, it is easy and fast to dismounting, flexible application.

2.Each upright pitch adjusted by 75mm,the beam distance can be adjustable base on the height of storage item.



3. Beam rack

3.2 Characteristics of beam shelves

1. The beam-type shelf has a simple structure, is safe and reliable, can be adjusted and combined at will, and the order of items in and out of the warehouse is not restricted. It is widely used in storage modes with pallet storage and forklift access.

2. The column of the beam-type shelf is connected by bolts with columns, cross braces, and diagonal braces. The column and C-shaped welded beam are plugged into the shelf frame, fixed with safety pins, and the structure is simple and reliable. Each layer can be freely adjusted up and down with a step of 75mm or 50mm.

3. The beam-type shelf can determine the layer load requirements according to the size of the column and beam specifications. It has the characteristics of large moment of inertia, strong layer load capacity, and strong impact resistance. The maximum layer load of each layer can reach 5000kg/layer under relative design.

4. The height of a single column of the beam-type shelf can reach 12 meters. The plasticity of the pallet shelf is very large. Mold shelves, loft shelves, stereoscopic warehouse shelves, etc. can be built on the basis of pallet shelves. Special oil drum shelves can also be made.

5. The beam-type shelf can effectively increase the storage height of the warehouse and improve the space utilization rate of the warehouse. Suitable for storing all types of goods.

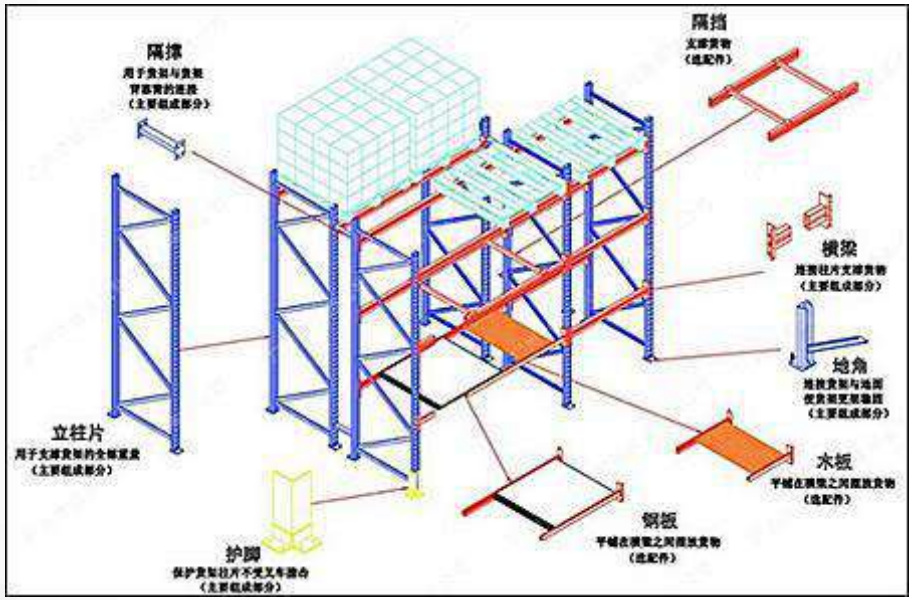
6. The appearance of the beam-type shelf is safer. To prevent forklift collision, you can also add column foot guards and anti-collision bars. In order to make the layer loading safer, you can also install beam shelves, layer boards, mesh cross beams and other auxiliary facilities on the beam.

7. The beam-type shelf has low cost, is easy to install and operate, and is easy to find cargo locations. It is suitable for any handling tools, so it is the most widely used type of shelf.

8. The beam-type shelf can also be equipped with layer boards, which can be steel plates, melamine plates or grid nets. So that pallets of different sizes can be used.

3. Beam rack

3.3 Application scope of beam rack



Beam shelves are a type of storage shelves, belonging to heavy-duty shelves. In fact, beam shelves are referred to as selection shelves, cargo shelves, pallet shelves, etc. We can see that the application scope of storage shelves is very wide, including electronics, home appliances, communications, computers, instruments, furniture, clothing, automobiles, tires, supermarkets and other industries.

In the process of using storage shelves, the effect of beam shelves is very obvious. Its use value is mainly reflected in the operation. It can be combined with the width direction of the warehouse or special structures to carry out special operations, etc., which can explain that its beam shelves can be more convenient for customers to store and retrieve goods during the actual operation process, and its versatility is also relatively strong. In general, the use value of beam shelves has been truly reflected in many companies and has been recognized by customers. Its own flexibility and versatility have effectively improved the economic benefits of enterprises to a certain extent. Shelves have also been widely used in high-rise warehouses.

4. Double deep storage rack

4.1 Introduction to Double Shelves

Double-deep storage racks are an extension of beam racks. They only need to be operated with advanced two-section forklifts. They are designed for storing the same goods at the same depth as general double-row racks, effectively reducing aisle occupancy and greatly increasing storage capacity.

4. Double deep storage rack

4.1 Application scope of double rack

It is necessary to carry out unitization work, that is, to group the cargo packaging and its weight and other characteristics, determine the type, specification, size, single pallet load and stacking height of the pallet (single pallet cargo weight is generally within 2000kg). The span, depth and layer spacing of the unit shelf are determined accordingly. The height of the shelf is determined according to the effective height of the lower edge of the warehouse roof frame and the maximum fork height of the forklift. The span of the unit shelf is generally within 4m, the width is within 1.5m, and the height of the low and high warehouse shelves is generally within 12m. The height of the ultra-high warehouse shelves is generally within 30m (this type of warehouse is basically an automated warehouse, and the total height of the shelf is composed of several sections of columns within 12m).

In this type of warehouse, low and high warehouses mostly use forward-moving battery forklifts, counterbalanced battery forklifts, and three-way forklifts for storage and retrieval operations. The shelf system has high space utilization. Storage and retrieval are flexible and convenient. With the help of computer management or control, it can basically meet the requirements of modern logistics systems.

5. Layered shelves

5.1 Layer Shelf Introduction

Layered shelves are composed of columns, beams and layers. They are widely used in manufacturing, third-party logistics and distribution centers. They are suitable for both small batches of multiple varieties and large batches of fewer varieties. This type of shelf is most commonly used in high-rise warehouses and ultra-high-rise warehouses (most shelves in automated warehouses use this type of shelf). Layered shelves are flexible and convenient to store and retrieve, have simple supporting equipment, are inexpensive, can be quickly installed and disassembled, and can basically meet the requirements of modern logistics systems with computer management or control.

5. Layered shelves

5.2 Layer Shelf Application Style

Generally, there are three types of shelf styles available for layer shelves: steel layer, wood layer and steel layer mesh. Generally, most of them are layered. Wood layer is cheaper than steel plate. For products with special needs, the number of reinforcing ribs under the mesh or plate can be selected according to the load-bearing capacity.

Steel layer is the most widely used type of layer shelf. It has beautiful appearance, wear-resistant surface and reinforcing ribs under the plate. Generally, one layer is divided into 2 or 3 small plates.

For customers who want simple and practical, we can choose wooden layer shelf. The material of wooden layer is high-density plywood, particle board and density board. The appearance can choose whether to apply plastic on the surface.

For customers with special needs, such as considering product ventilation, breathability and beauty, we can choose steel layer mesh shelf. To meet different load-bearing needs.

6. Mezzanine and platform shelves

Steel beams and metal plates are used to separate the original storage area into floors, so that the warehouse space can be effectively utilized to the maximum extent. The entire platform adopts a modular design, and no fire or welding is required on site. The assembly process is safe and fast. All components have undergone strict surface treatment and are beautiful and durable. It is an ideal solution for expanding the upper space of warehouses and factories.

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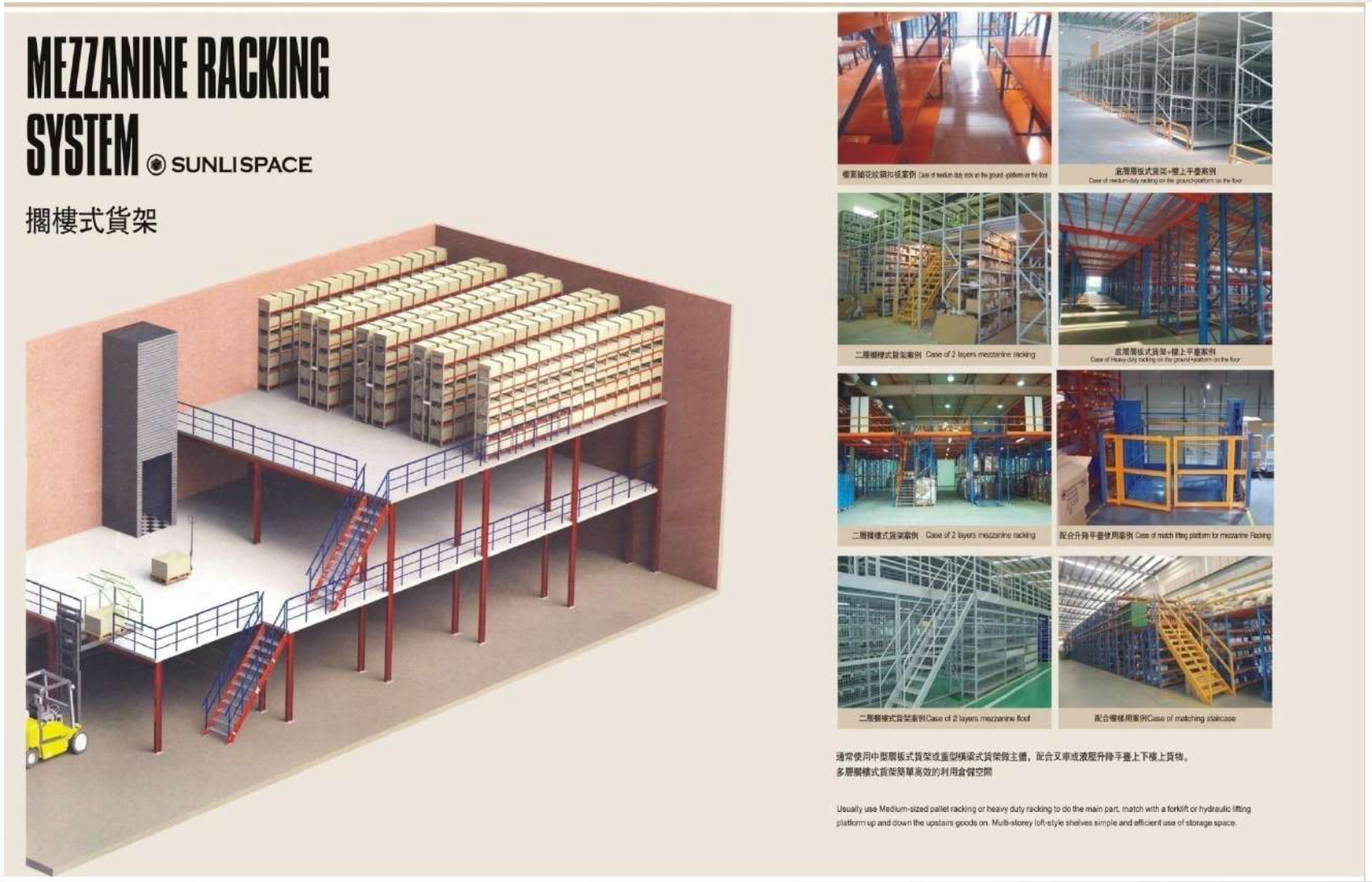
6. Mezzanine and platform shelves

Mezzanine shelves usually use medium-sized shelf shelves or heavy-duty shelf shelves as the main support and add floor panels (the type of shelf is determined by the total load weight of the shelf unit). The floor panels are usually made of cold-rolled steel floor panels, patterned steel floor panels or steel grid floor panels. It can be called an extension of the modular platform.



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6. Mezzanine and platform shelves

6. Mezzanine and platform shelves

1. The overall structure of the loft-type shelf is assembled, without on-site welding, and the overall appearance is beautiful and generous. Compared with concrete structures or steel structures, the bottom floor shelves themselves play a supporting role for the upper floors, which has the advantages of low cost and high space utilization.

2. The loft-type shelf panels are available in flat plates, patterned steel plates, perforated steel plates and other varieties to meet different usage requirements such as fire protection, ventilation, and lighting. Forklifts, hydraulic lifts, freight elevators and other methods can be used to transport goods up and down the floors; small trolleys are usually used to transport goods on the same floor.

3. The loft-type shelf usually has a load capacity of 300KG~1000KG/square meter. The columns are selected from round tubes with strong load capacity and low steel consumption; the main and secondary beams can be selected according to the load requirements. The most economical and reasonable H-shaped steel and the special steel platform C-shaped cold-formed beams developed by Saxony Company are currently used in steel structure projects.

4. The loft-type shelf floor panel uses Saxony's special C-shaped cold-formed patterned steel plate or hollow plate, adopts a gusset plate structure, and is rigidly fixed to the main and secondary beams. The entire platform structure has a strong integrity. Different floor panels can be selected according to actual needs to meet the requirements of fire protection or dust prevention and small parts falling prevention. The lighting system can also be configured under the floor as needed.

5. Loft-type shelves are widely used in warehouses with high warehouses, small goods, manual storage and retrieval, and large storage volumes. They can make full use of space and save warehouse area. According to the actual site and specific requirements, it can be designed as a single-layer or multi-layer loft, generally 2-3 layers. It is especially suitable for the classified storage of series products of auto parts, electronic devices and other enterprises, with a load of ≤500kg/layer

6. Mezzanine and platform shelves

6.2 Characteristics of loft shelves

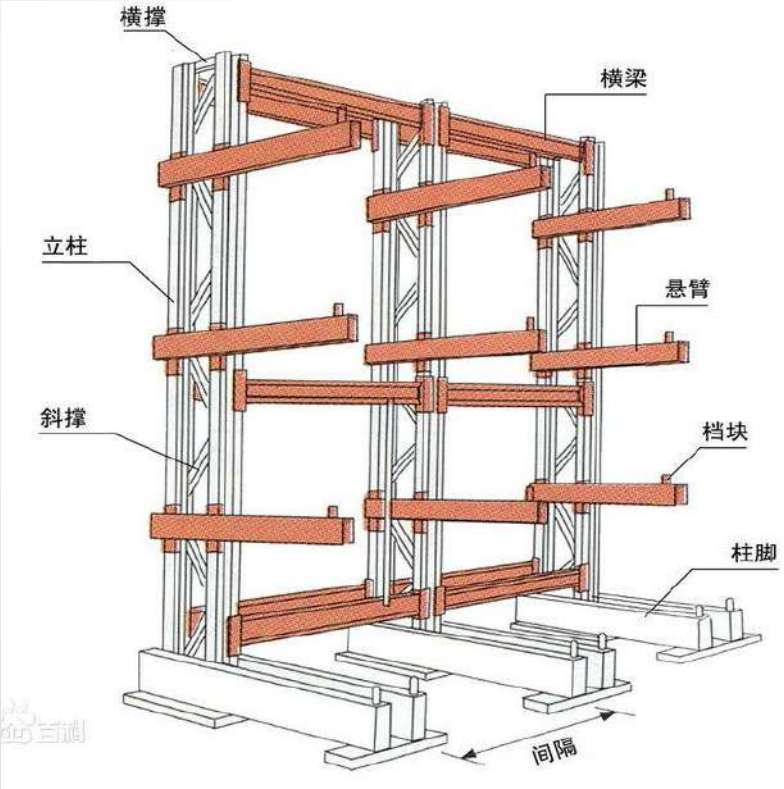
1. Mezzanine shelves can increase the height of shelves, make full use of storage height, and make better use of storage space.

2. The floor of mezzanine shelves is paved with special floor slabs for shelves. Compared with patterned steel plates or steel grilles, they have strong layer load capacity, good integrity, uniform layer load, flat surface, and easy locking.

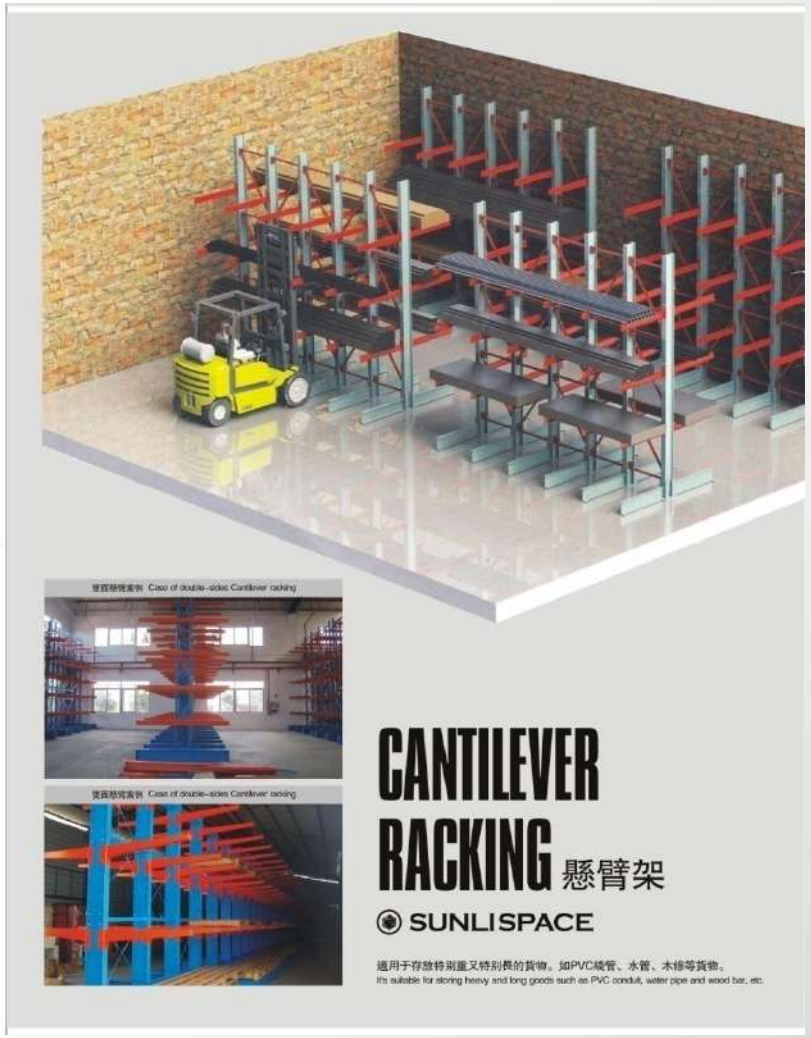
3. Mezzanine shelves fully consider humanized logistics, with beautiful design and generous structure. They are easy to install and disassemble, and can be flexibly designed according to the site.
4. Mezzanine shelves are suitable for storing various types of items.

7. Cantilever rack

7.1 Introduction to Cantilever Shelves



Cantilever racks are made up of cantilevers installed on columns. The cantilevers can be fixed or movable. They are mostly used for storing pipes and plates. According to the carrying capacity, they can be divided into three types: lightweight, medium and heavy; according to the structural form, they can be divided into single-sided cantilever racks and double-sided cantilever racks.



7. Cantilever rack

7.2 Cantilever rack features



1. Cantilever shelves are divided into single-arm and double-arm types, which can efficiently store wood, pipes, long strips and other similar products. Cantilever shelves can be composed of a single column unit with a cantilever through horizontal tie rods, inclined tie rods, etc. to form multiple unit systems.
2. Cantilever shelves are an effective storage system in terms of quality, safety and management. The column piece is composed of a column and a base. The column is welded by two specially designed C-shaped steels. This structure makes full use of the material's load-bearing capacity and has the characteristics of large load capacity and low cost.
3. The column is prefabricated with double rows of holes, and the pitch of the holes is 100mm. The cantilever is connected to the column through a plate pin and can be adjusted up and down with a pitch of 100mm.

7. Cantilever rack

7.3 Application scope of cantilever rack

Cantilever shelves are suitable for storing long materials, ring-shaped materials, plates, pipes and irregular goods.

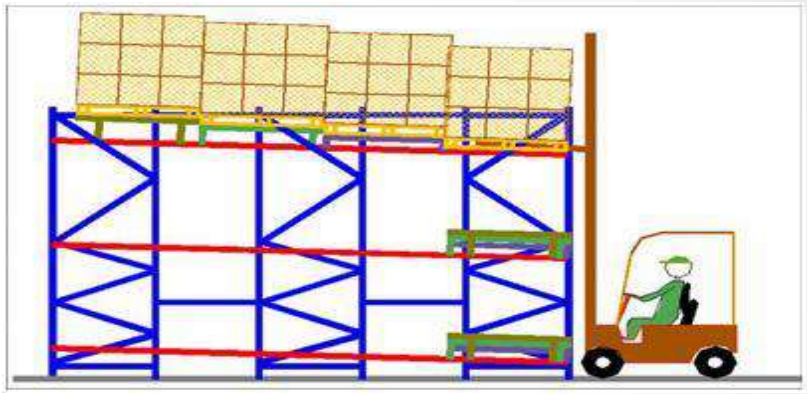
Cantilever shelves are mostly used in machinery manufacturing industry and building materials supermarkets. After adding shelves, they are particularly suitable for warehouses with small space and low height. They are easy to manage, have a wide field of vision, and have higher utilization rate than ordinary shelves.

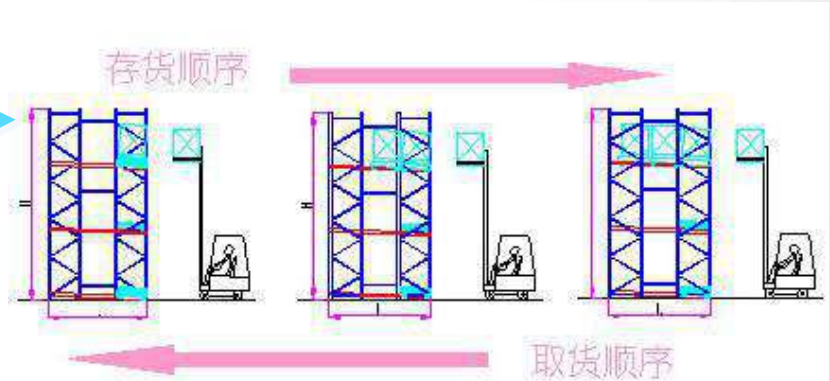
The cantilever can be single-sided or double-sided. Cantilever shelves have the characteristics of stable structure, good load-bearing capacity and high space utilization. Goods are stored and retrieved by forklifts, cranes or manual labor.

8. Push-in shelves

8.1 Introduction to Push-In Shelves

Push-back racks are also known as push-in racks. They are built with multiple trolleys overlapping each other between the front and rear beams. The stacked goods are placed on the trolleys and pushed in from the outside. The goods stored later will push the original goods in.





后推式货架特点：
(1)先进后出之作业方式
(2)储存量大，空间利用率极高
(3)适合多品种、大批量之物品
(4)使用效率高

8. Push-in shelves

8.2 Working Principle of Push-In Shelves

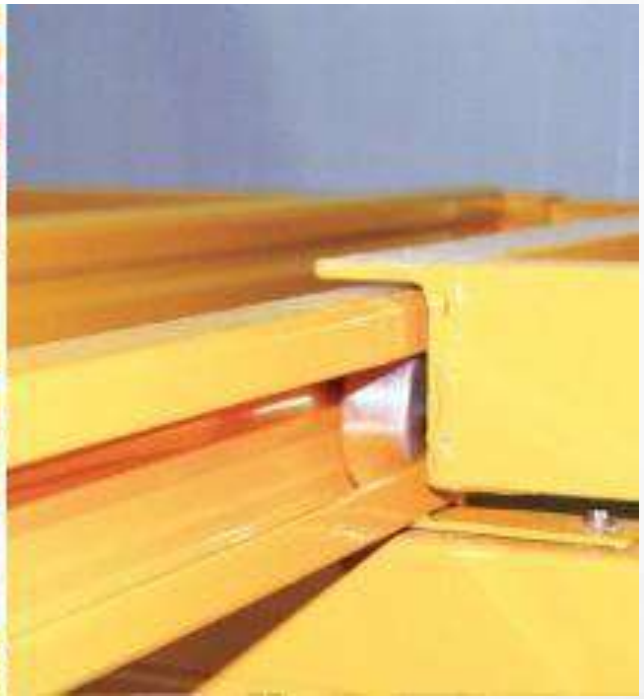
When picking up goods from a push-in rack, after the first pallet is picked up, the next pallet slides to the pickup point by itself, effectively utilizing a single channel for storage and retrieval, which is particularly suitable for storage management in cargo transfer areas. Compared with ordinary racks, push-in racks can increase the utilization rate of the ground by about 60%.

The safety and operating efficiency of push-in racks are higher than those of drive-in racks. They only require a forward forklift or a counterbalanced forklift to be used, and the forklift operation requirements are lower than those of drive-in racks.

Suitable for a small number of varieties and large quantities of goods, and a first-in-last-out operation method. Suitable for situations such as freezers where space utilization needs to be greatly improved.

8. Push-in shelves

8.3 Characteristics of push-in racks



1. It is composed of typical structural parts such as pallet trolleys. The pallet trolley has the characteristics of mobility. The goods are regulated to enter and exit at one end of the shelf and follow the first-in-last-out order.

2. When storing and transporting goods, the forklift is only located at the lower end of the shelf channel and does not need to enter the shelf cargo storage channel. This type of shelf has the typical characteristics of high storage density and fast storage and transportation speed.

3. It is usually used in occasions where the storage space is extremely limited, but the storage capacity must be increased or there is a time requirement for the goods, and the requirements for picking goods are not high.

6.Containerized equipment

6.1 Introduction:

The container is a carrier of goods, which combines various items into a basic unit for easy storage and transportation.

Containers include: pallets, boxes, storage cages, etc.

Iron pallet

Iron pallet

Iron pallet

Iron Frame

Iron Frame

Folding Tray

Screen Frame

Iron Frame

Plastic pallet

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Stack Box

Stacking rack

Material box

Storage cage

Flatbed cart

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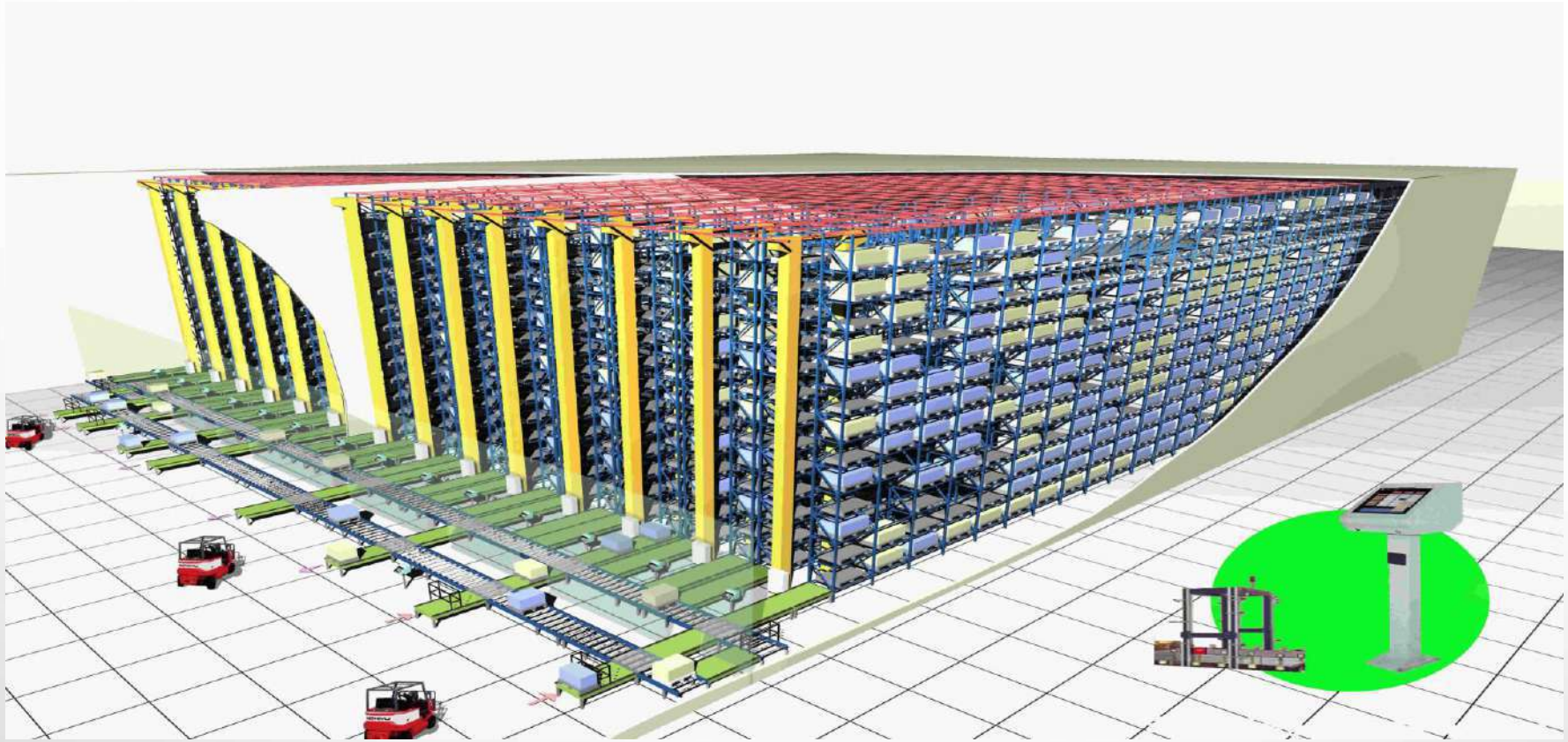
PART THREE

AS/ RS Introduce the solution

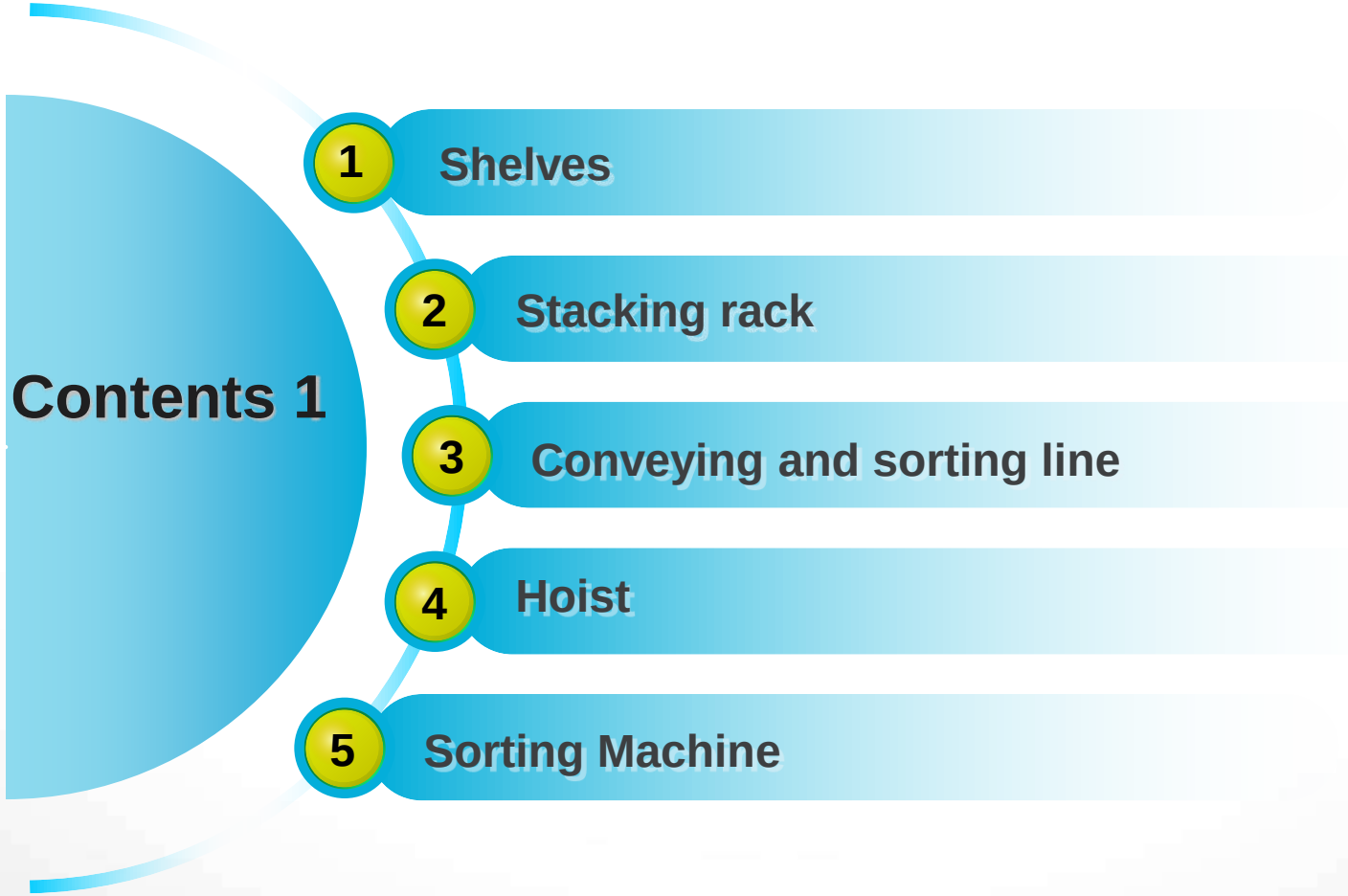
Fujian Jili Intelligent Logistics Equipment Co., Ltd.

Introduction to Automated Warehouse

The automated high-bay warehouse is composed of warehouse buildings, automatic control and management systems, high-rise shelves, aisle stackers, in-and-out conveyors and other equipment, as well as supporting power supply systems, air-conditioning systems, fire alarm systems, weighing and metering systems, packaging systems, network communication systems, etc.



Automated Warehouse Introduction Catalog



Automated Warehouse Introduction Catalog

Contents 2

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Three-dimensional shelves

Three-dimensional shelves

Shuttle rack

2. Stacker

2.1 Introduction to Stacker

The stacker is the core equipment of the entire automated warehouse, which can move goods from one place to another through manual, semi-automatic or fully automatic operation.

The stacker system made of linear motor has the following features:

1. High-speed stacking, free position setting

2. Higher output, uninterrupted continuous stacking

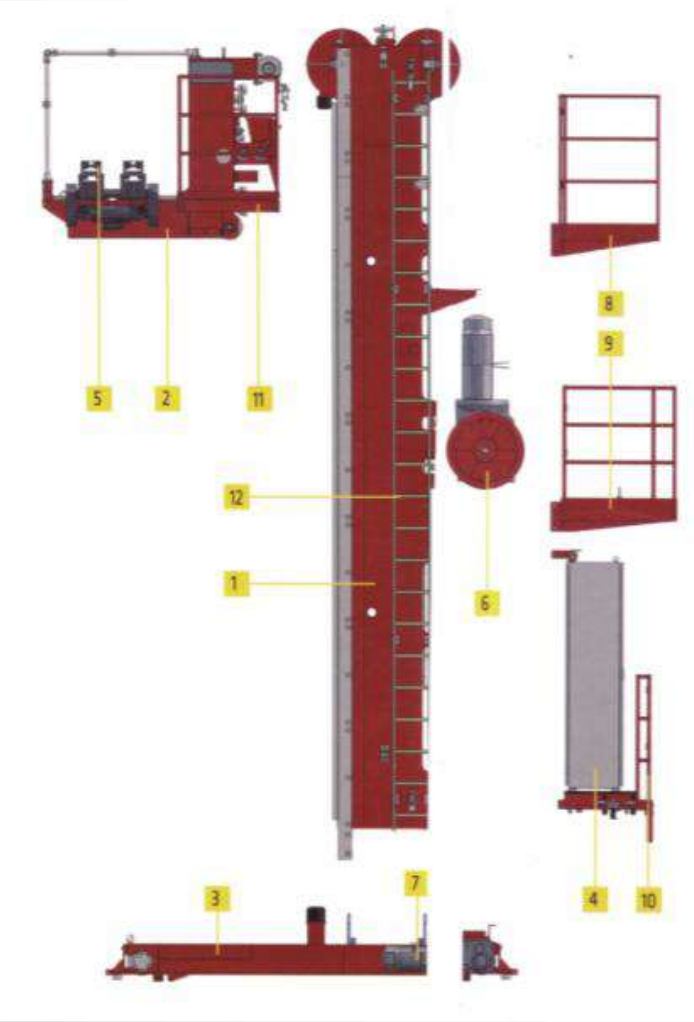
3. Improve product quality, avoid surface contamination and damage caused by manual stacking, and ensure the quality of the material surface

4. Quickly change product series and control the force

5. Improve efficiency

2. Stacker

2.2 Introduction to stacker structure



A. Metal structure
The frame of the stacker is mainly composed of columns, upper beams and lower beams
B. Horizontal travel mechanism
C. Lifting mechanism
D. Cargo platform
E. Fork telescopic mechanism
F. Driver's cab
G. Safety protection device
Terminal limit protection of each mechanism; interlocking of fork telescopic, horizontal travel and lifting mechanisms; cargo virtuality detection when entering the warehouse; cargo over-limit detection; emergency stop button;
Wire rope, loose rope and loading protection; The stacker is equipped with an audio alarm device, which sends an audio signal before the operating mechanism is started
H. Electrical equipment
Mainly includes electric traction, control, detection and safety protection

Introduction to some components
1. Machine body 2. Cargo platform
3. Travel detection device 4. Control cabinet
5. Telescopic fork 6. Lifting motor
7. Horizontal running motor 8. Maintenance platform
9. Lifting motor platform 10. Control cabinet platform
11. Lifting detection device 12. Maintenance ladder

2. Stacker

2.3 Introduction to Stacker Classification

According to the structure

Single column and double column stacker

Single column stacker

Double column stacker

2. Stacker

2.4 Introduction to Stacker Classification

According to access method

Single extension, double extension, shuttle, etc.

Single reach stacker

Double extension stacker

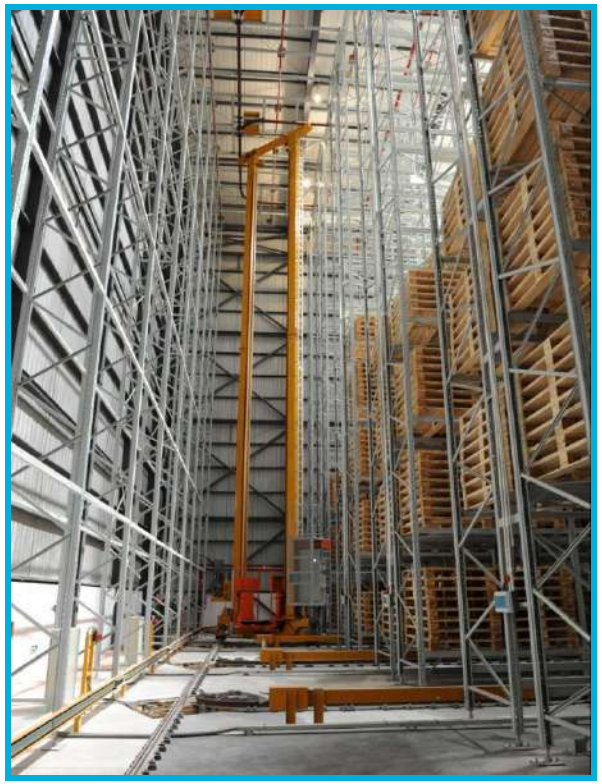
2. Stacker

2.5 Introduction to Stacker Classification

According to the system composition

Straight rail stacker, curve stacker, switch rail stacker, one rail multiple vehicle system

Straight track stacker



Curved stacker

Rail Stacker

3. Conveying and sorting line

3.1 Characteristics of conveying and sorting lines:

1. •For standard material boxes and standard pallets, the products are serialized and modularized, easy to install and maintain, and beautiful in appearance
2. •Conveyors are equipped with leveling and locking devices
3. •The operation modes are manual and online automatic
4. •Detailed design, sharp structure of equipment, mechanical protection for electrical components, protective covers for personnel operation and rotating parts
5. **•Drive motor, choose SEW, NORD, etc.**
6. **•The fuselage is made of profiles or Q235 thin plate cold-bent profiles, with good integrity**

4. Hoist

4.1 Introduction of elevator:

With the hoist as the center, various conveying machines can be combined to form a small logistics conveying system, which is widely used in various industries. Elevators are mainly divided into reciprocating elevators and continuous elevators according to their structures. Reciprocating elevators can be divided into Z-type, E-type, C-type, and H-type according to the layout of the delivery port and the delivery port; continuous elevators are generally more widely used in C-type.

Continuous elevator

Reciprocating elevator

5.1 DPS Picking:

The Digital Picking System (DPS) is a computer-assisted paperless picking system. Its principle is to replace the picking list with the help of LED electronic tags installed on each shelf, and transmit the order information to the electronic tags under the control of the computer, so as to guide the picking personnel to complete the picking work correctly, quickly and easily.

Picking system diagram

Pick-by-electronics