



Shenzhen Xuanyu Tech. Co., Ltd.



Introduce of company related
products

Rev.: V 1.3



Company introduction

Shenzhen Xuanyu Tech. Co., Ltd. was established in 2014 with a registered capital of RMB 1 million. The company is located in the beautiful Shajing Street, Bao'an District, Shenzhen City, and has an industrial plant of nearly 1,000 square meters in Xinmin Community, Chang'an Town, Dongguan; It is a supporting automation equipment integrating R&D, manufacturing, sales and service. Passed IS9000 and ISO14000 certification.

The company focuses on balance wheel sorting machines, linear sorting lines, DWS code scanning, weighing and balance wheel sorting lines, roller lines, conveyor belt lines; three-dimensional warehousing solutions, lane-type three-dimensional stackers; providing enterprises with high-efficiency and low-cost automation solutions; providing a number of express companies (Shentong, YTO, China Post, Guangdong Welfare Lottery Sorting Center, etc.) with complete supporting sorting lines, and has a national invention patent;



Company Show



Factory Floor



Laser Cutting



Electrical
assembly



Bending
equipment



Finished
Goods



Package



Accurate and
efficient



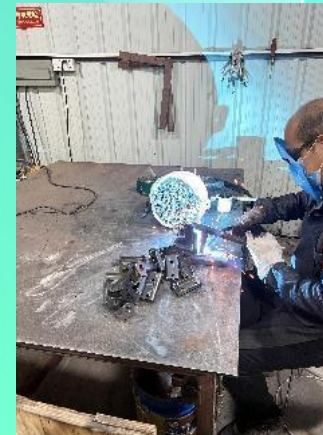
production



Assembly



Electronic
debugging



welding



assembly
ongoing

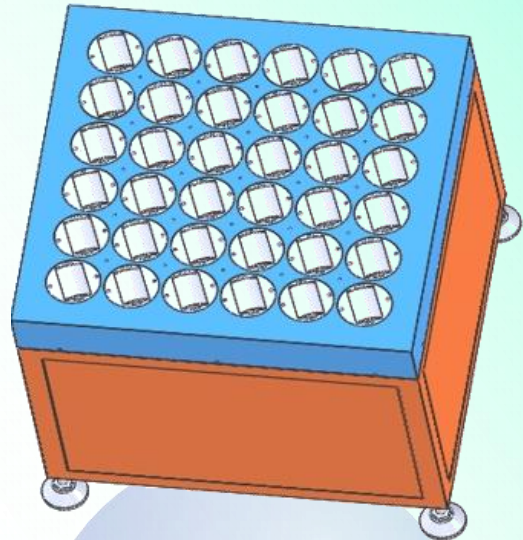
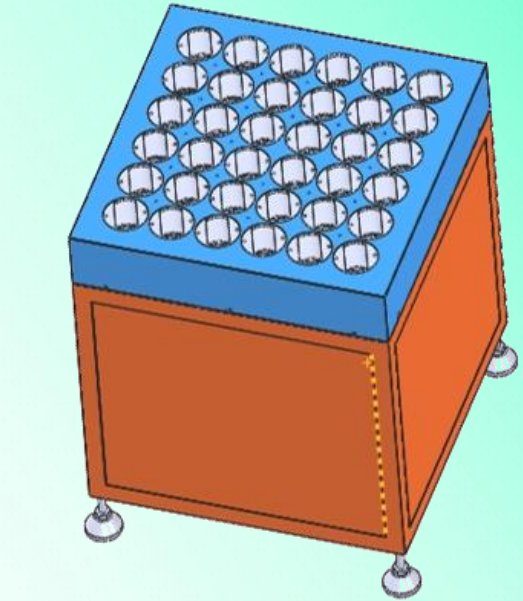
Factory show(DWS sorting line, assembly ontoing)



Factory show(swivel wheel sorter, assembly ontoing)



Factory show(swivel wheel sorter, assembly ontoing)



Main product distribution of the enterprise

Main product distribution of the enterprise

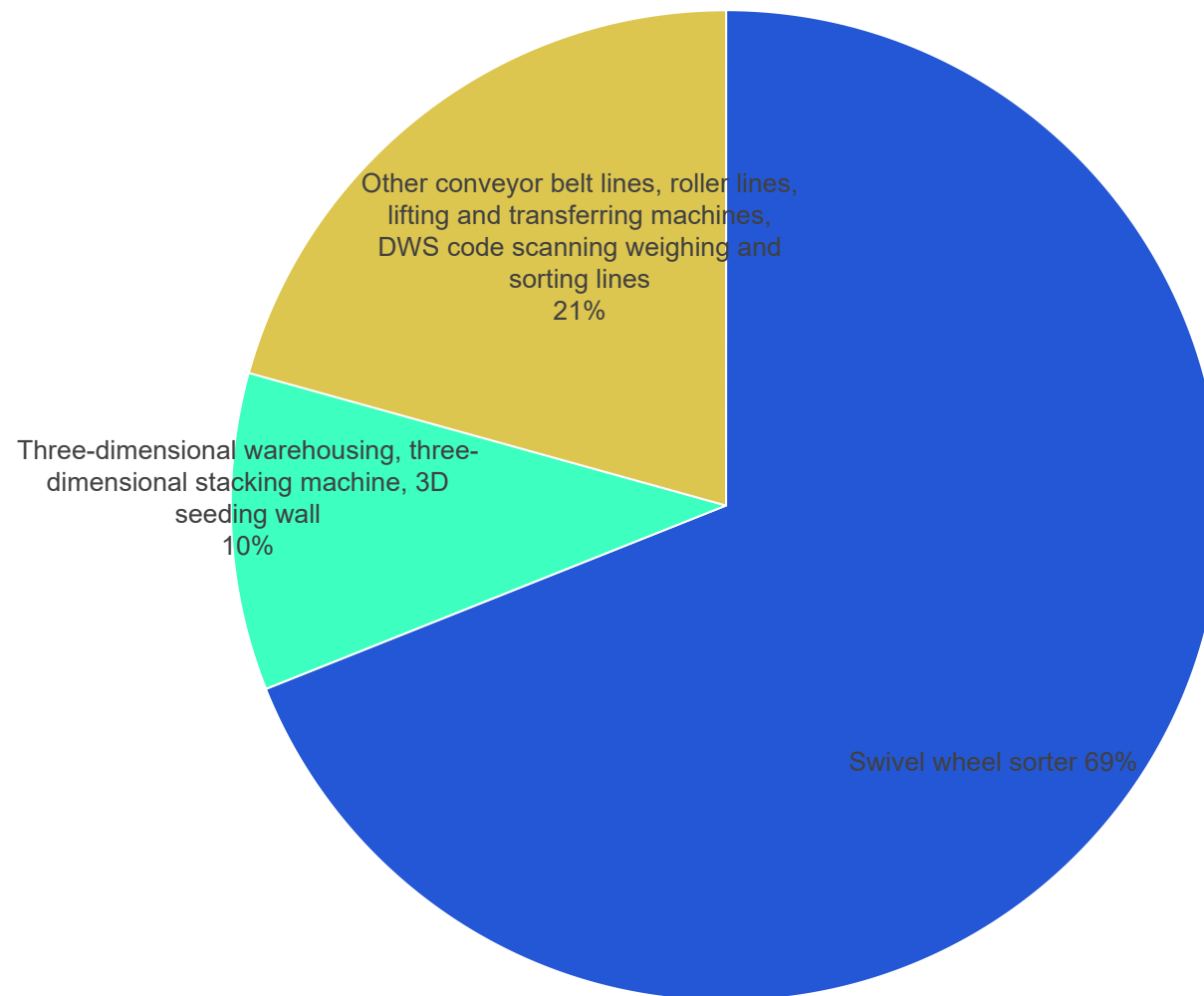


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sorter**

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Mini automated storage

Summary of relevant highlights of the swivel wheel sorter



Structure

Aviation gear set meshing mechanism, more stable transmission



Easy to install

Flexible layout, easy removal and installation



Safety

It is convenient to merge and merge with the assembly line, safe and reliable



360° arbitrary rotation

The balance wheel can be set to rotate 360 degrees to meet the requirements of different occasions .



Easy to replace and maintain

Integral module replacement, convenient for daily maintenance



PART 01

Overview of rotary wheel sorter

Components of the swivel wheel sorter

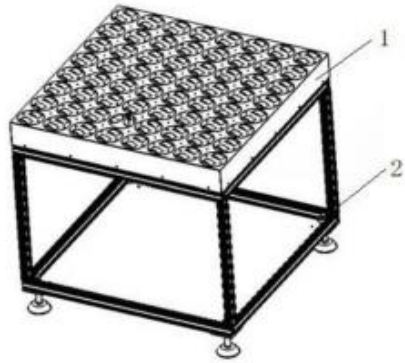


图1

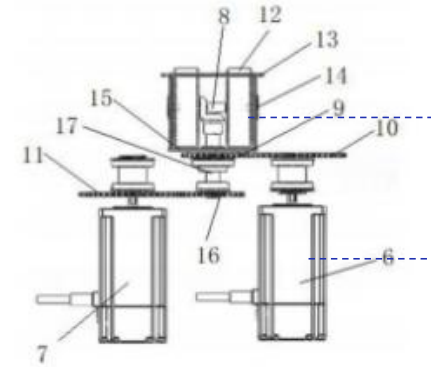


图4

swivel wheel
module

Servo motor
drive(2 sets)

Servo motor
drive

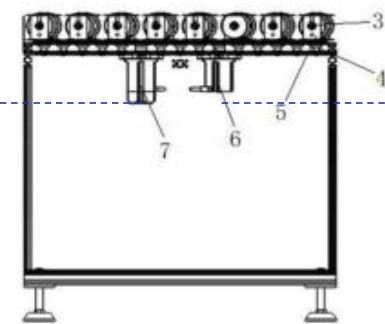


图2

reducer

gear
combination

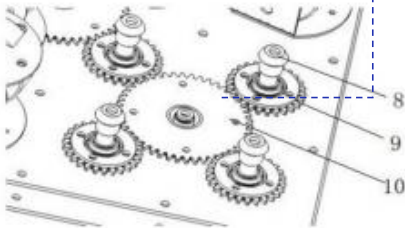


图3

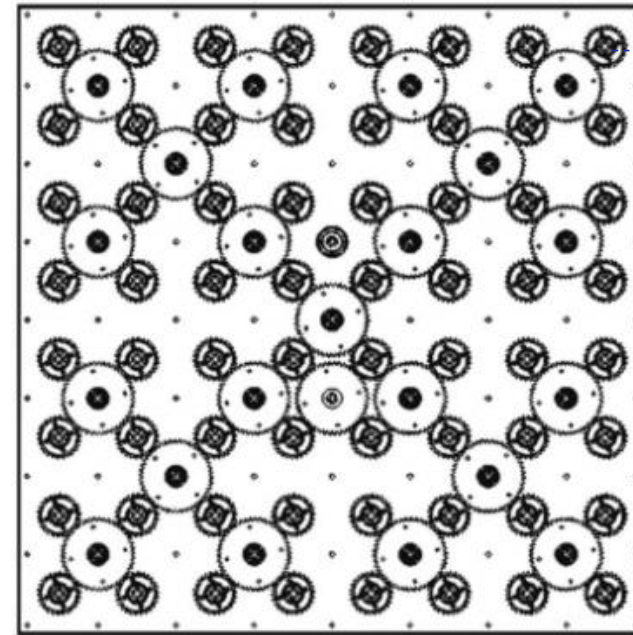


图5

gear
combination



Definition and function

Definition:

旋转轮分拣机是一种利用电机驱动旋转轮，按信号指示，将物品进行分流与汇入的自动化设备。Rotary wheel sorter is an automated equipment that uses a motor to drive a rotating wheel and divides and merges items according to signal instructions.

PPH: 3500 pcs/Hour

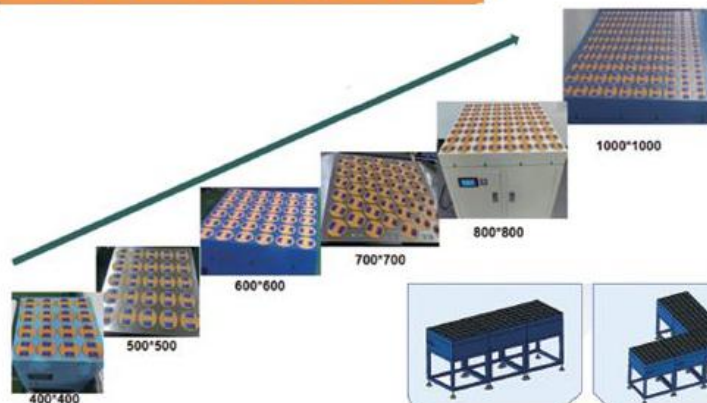
Application

旋转轮分拣机可适应不同大小和形状的物品，广泛应用于快递、邮政、物流、电子、汽配零件、食品、包装等行业。Rotary wheel sorter can adapt to items of different sizes and shapes, and is widely used in express delivery, postal, logistics, electronics, auto parts, food, packaging and other industries;

Accuracy

配备先进的传感器和控制系统，旋转轮分拣机能够实现高精度的物品分类。Equipped with advanced sensors and control systems, the rotary wheel sorter can achieve high-precision item classification, with an accuracy rate of 99%

The rotary wheel sorter



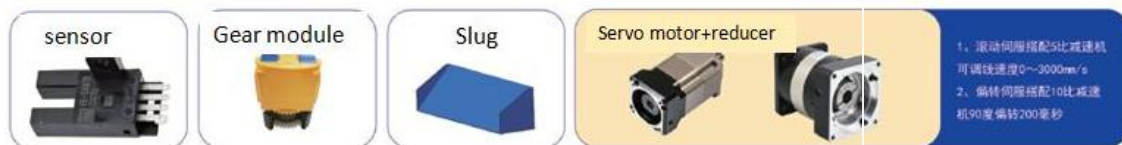
Common dimensions: 400*400, 500*500, 600*600, 800*800, 1000*1000, etc., special size can be customized;
We have cooperated with many express delivery, logistics, food factories, belt line factories, and drum lines.



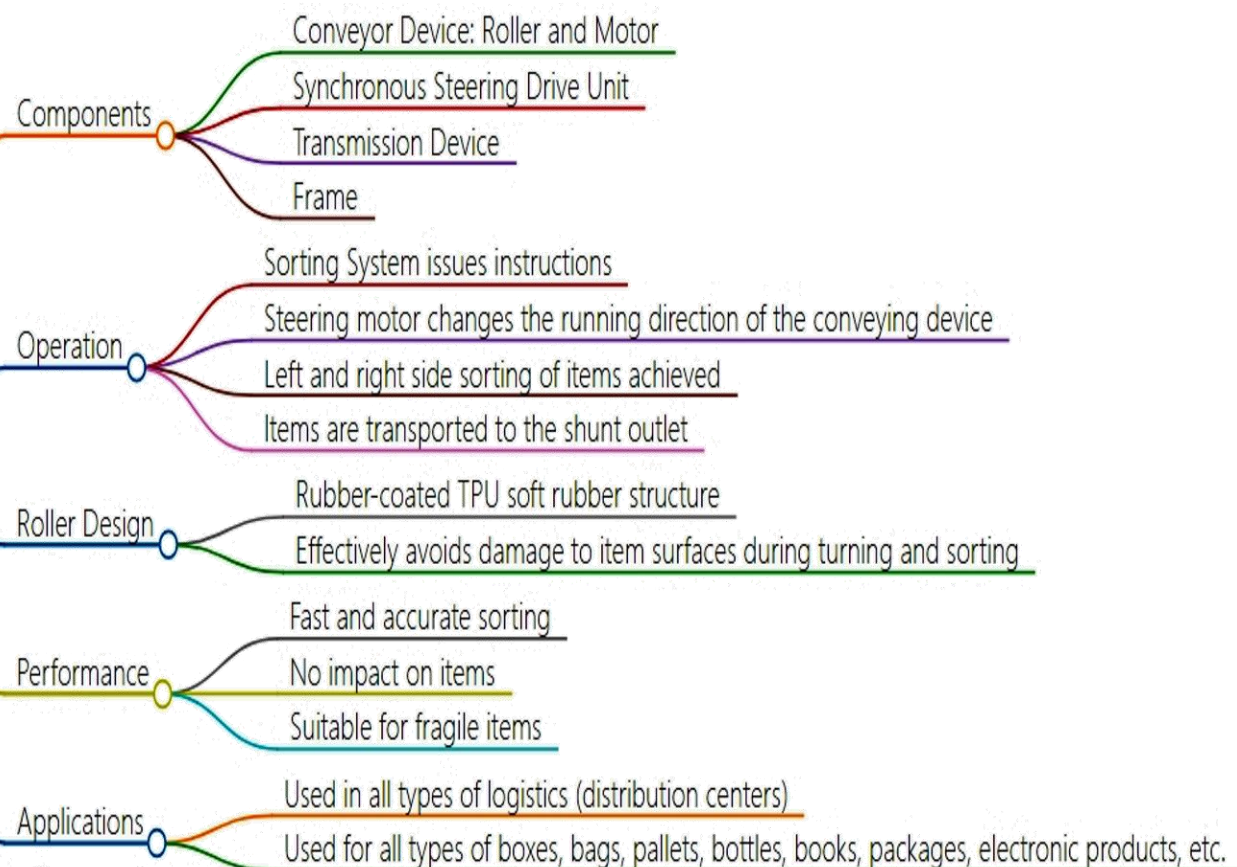
The flexible layout of the customer venue can be reduced to reduce the use area.

Meet the needs of sorting lines such as remittances, diversion, and other sorting lines.

Accessories



Rotating Wheel Sorter



FEATURES OF THE SORTER



45° one-way
diversion



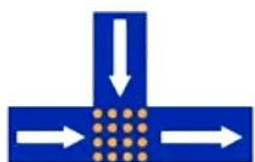
45° two-way
diversion



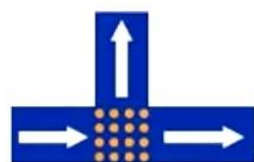
45° one-way
confluence



Two-way
confluence



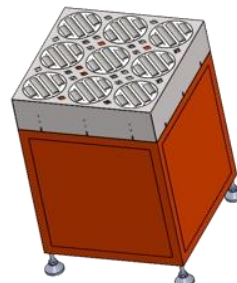
90°
confluence



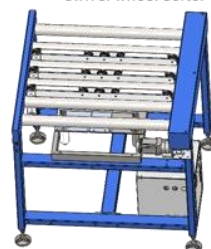
90°
diversion



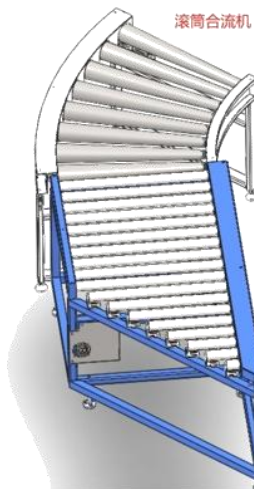
旋转轮分拣机
swivel wheel sorter



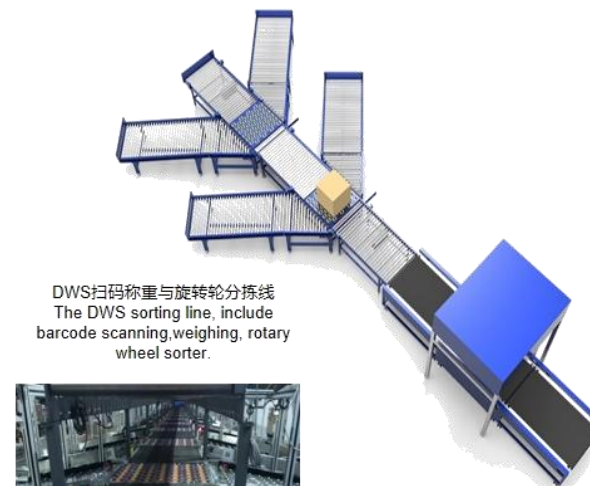
大盘电驱旋转轮分拣机
swivel wheel sorter



顶升移栽机
Lifting and Transfer machine



滚筒合流机
Drum converging machine



DWS扫码称重与旋转轮分拣线
The DWS sorting line, include
barcode scanning, weighing, rotary
wheel sorter.



Conveyor belt L1500*W800*H 750

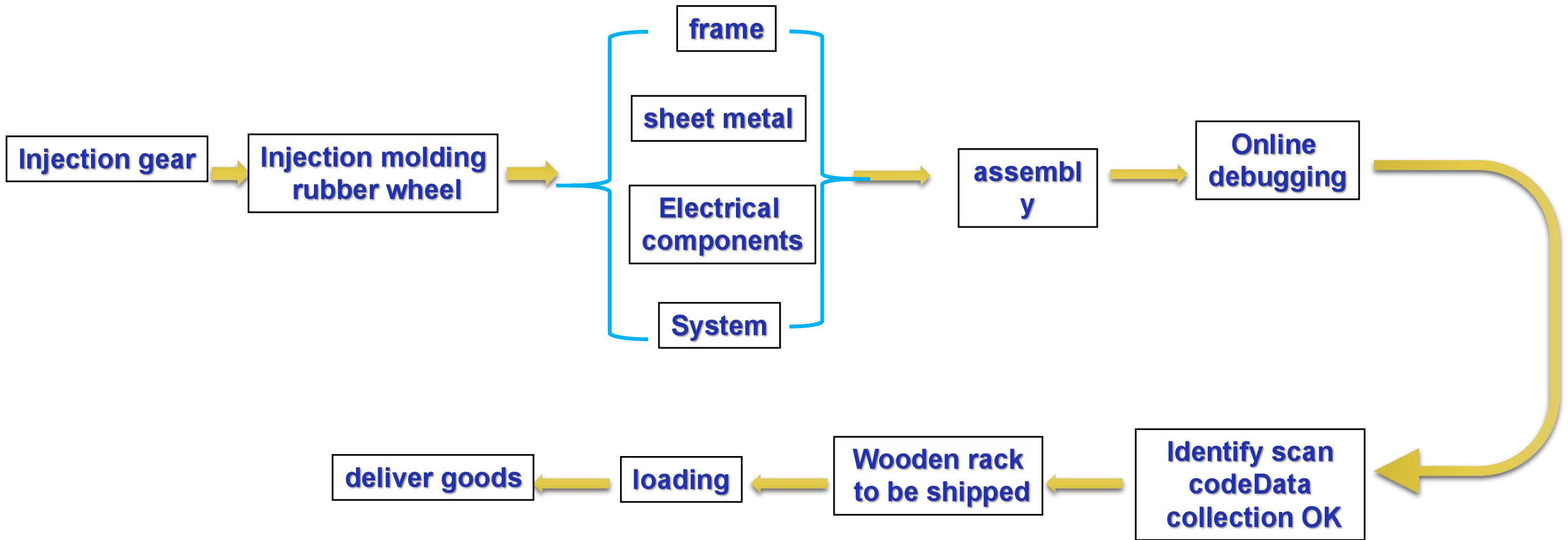


输送皮带线
conveyor belt



一分二，扫码、称重、测体积机
One in two, code scanning, weighing,
volume measuring machine

Assembly Process of Sorting Line



Assembly process of sorting line in the factory



**Injection
molding
machine
injection gear**



**Injection gear,
ready to be
assembled**



**Injection
molding
rubber wheel**



**Rack
assembly**



**electrical
assembly**

Assembly process of sorting line in the factory



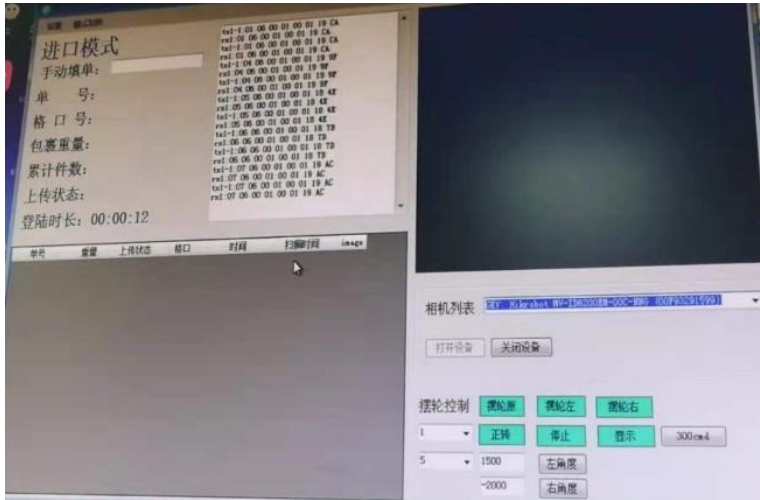
Balance wheel
electrical
inspection



Install the balance
wheel sheet metal
cover



Online debugging
(identification, scan code)



data collection



Line body online
debugging completed



Wooden rack to be shipped

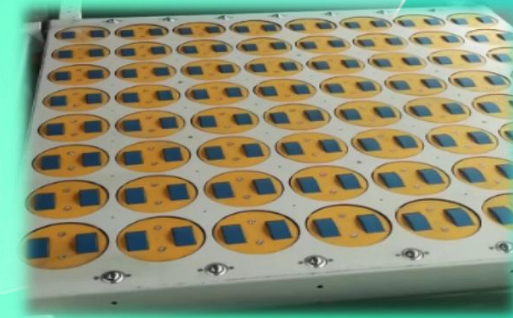
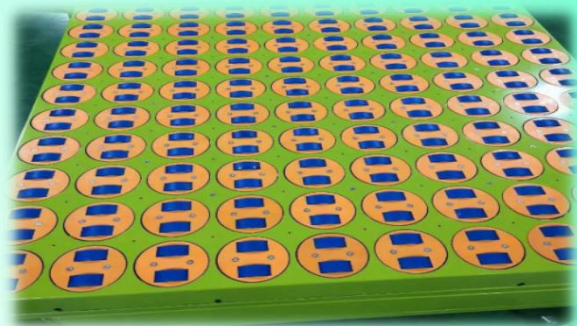
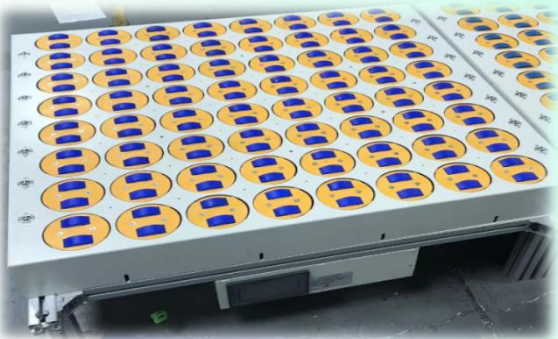
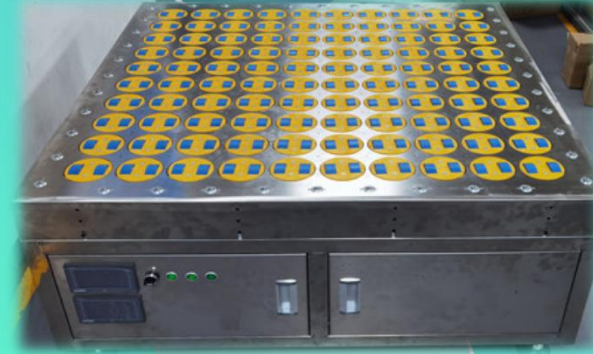
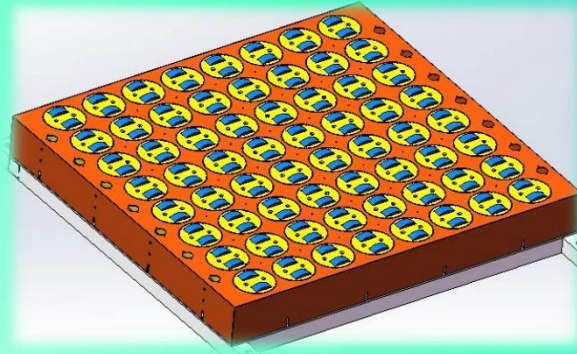


loading

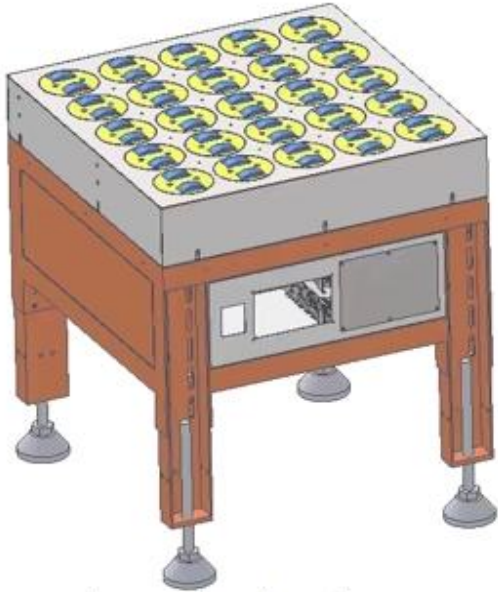


deliver goods

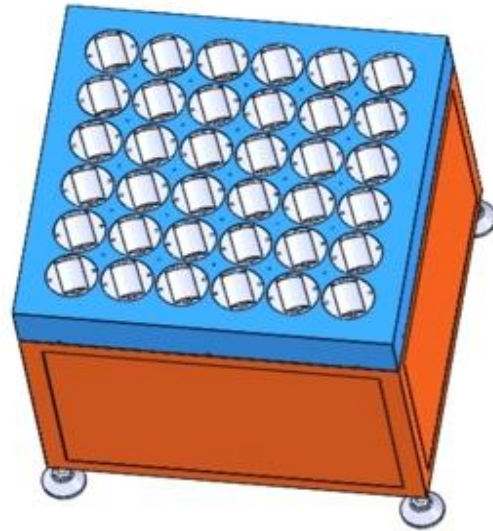
Summary of the Swivel wheel Sorter -01



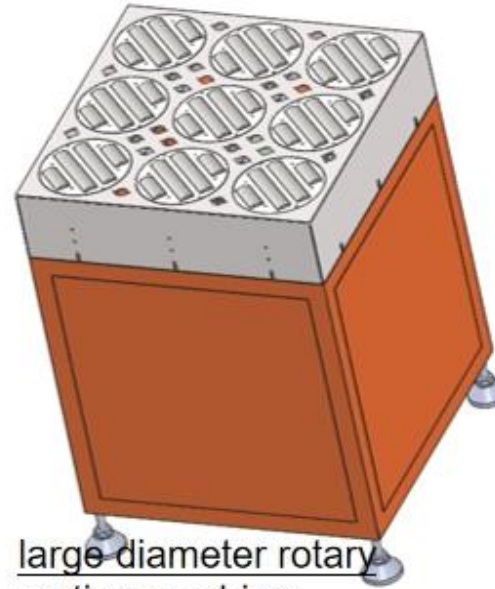
Summary of the Swivel wheel sorter-02



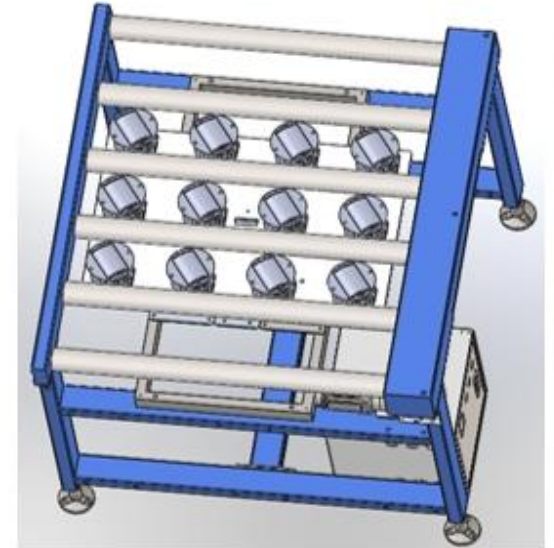
rotary wheel sorter



Electric drive drum rotary sorting machine



large-diameter rotary sorting machine



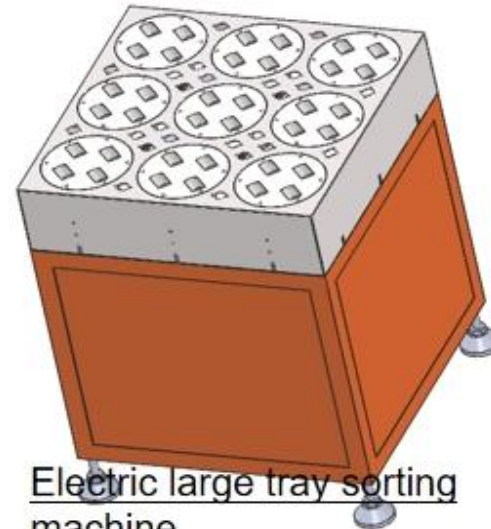
"O" belt electric one-way sorting machine



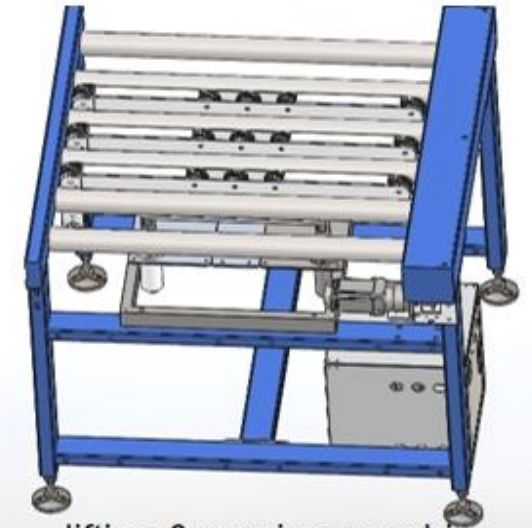
balance wheel sorter



swivel wheel sorter



Electric large tray sorting machine



lifting & moving machine

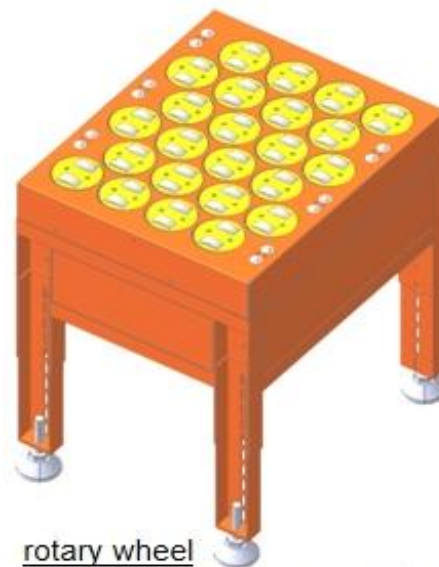
Summary of the Swivel wheel sorter-03



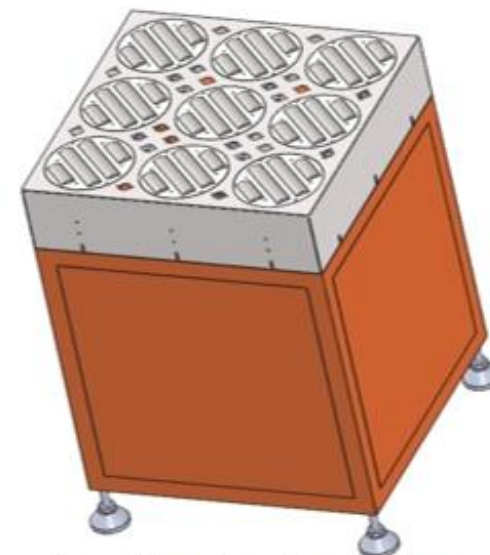
rotary wheel
sorter/Staggerearrangement
/L600*W500



Rotary wheel sorter/positive row
arrangement/L600*W600



rotary wheel
sorter/Staggerearrangement
/L600*W500



large diameter rotary sorting
machine/L700*W700



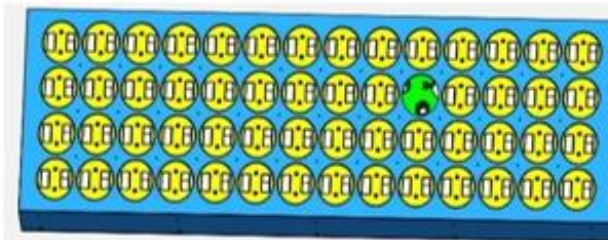
Rotary wheel sorter/positive row
arrangement/L800*W800



Rotary wheel sorter/positive row
arrangement/L1000*W1000

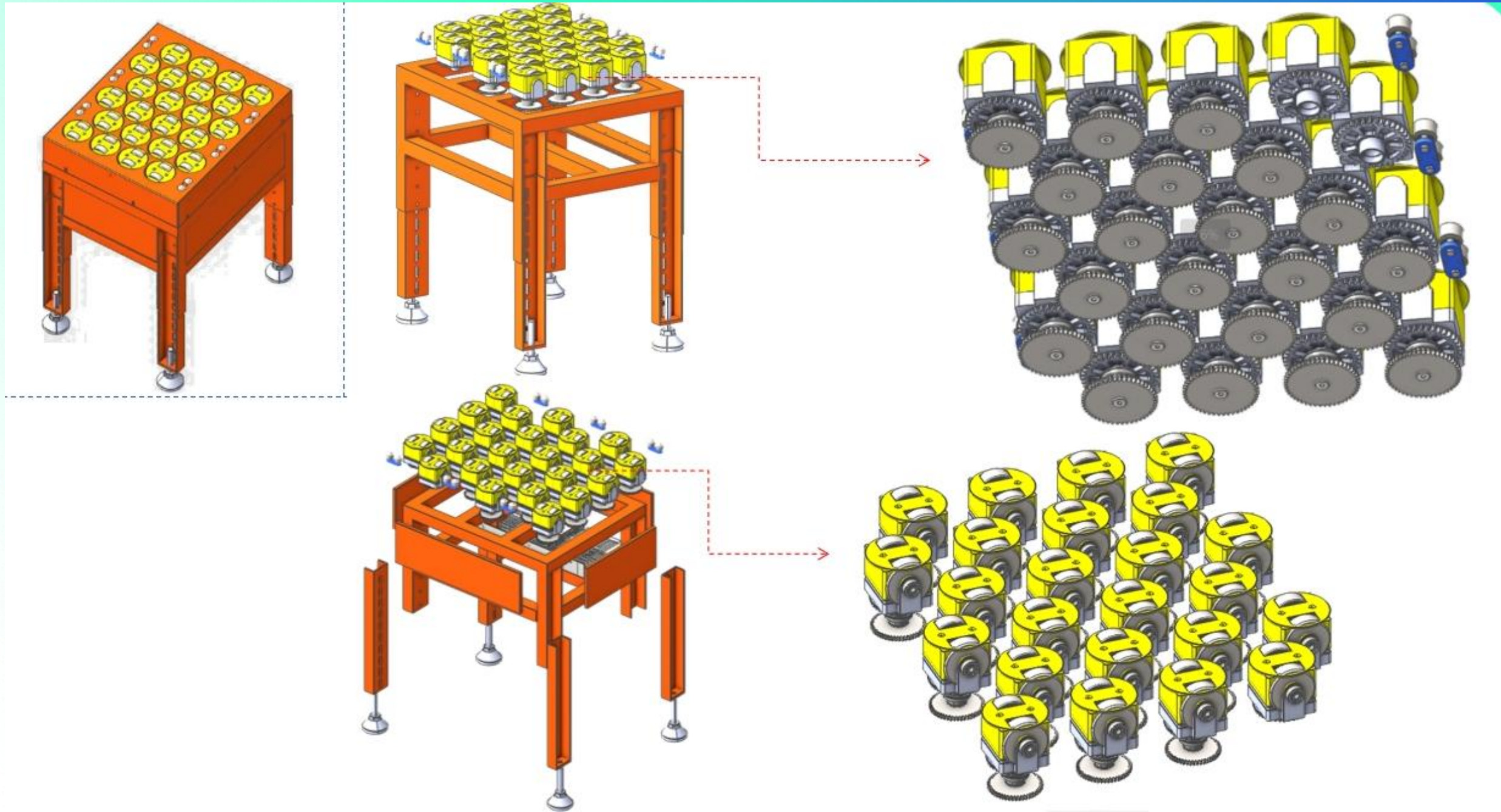


Rotary wheel sorter/positive row
arrangement/L1000*W500



Rotary wheel sorter/positive row
arrangement/L1500*W500

Exploded view of swivel wheel sorter



Application



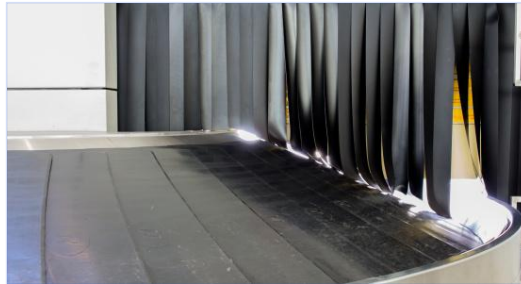
Logistics center

旋转轮分拣机在物流中心广泛用于包裹分类，提高分拣效率，减少人工错误。Rotary wheel sorter is widely used for parcel sorting in logistics centers to improve sorting efficiency and reduce manual errors.



Postal system

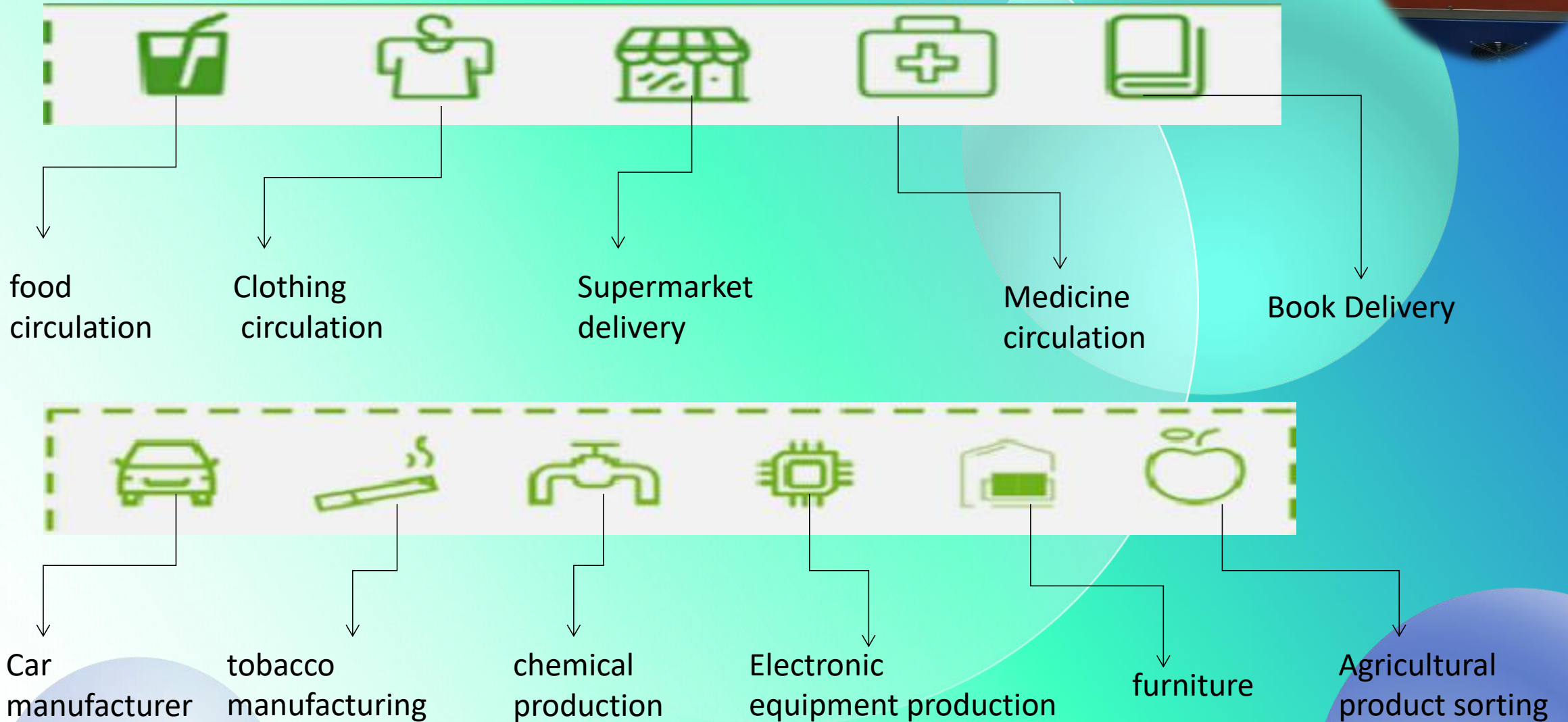
邮政系统使用旋转轮分拣机对信件和包裹进行快速准确的分类，优化邮件处理流程。The postal system uses rotary wheel sorter to quickly and accurately sort letters and parcels to optimize the mail processing process.



Airport baggage handling

在机场，旋转轮分拣机用于行李的自动分拣和传送，确保行李能够及时准确地到达目的地。At the airport, the rotary wheel sorter is used for automatic sorting and delivery of luggage to ensure that the luggage can reach the destination in a timely and accurate manner.

Application scenarios of intelligent sorting equipment



The background features a gradient from dark blue on the left to light green on the right. There are three overlapping circles: a large light green one on the left, a large light blue one in the center, and a smaller purple one in the bottom left corner.

PART 02

Application of rotary wheel sorter



Logistics conveying equipment connection

Automated sorting system integration

The rotary wheel sorter can be integrated with conveyor belts, scanners and other equipment to realize automatic identification and classification of packages.

Intelligent warehousing solutions

In intelligent warehousing, rotary wheel sorter is a key equipment, connecting the inbound and outbound systems to improve logistics efficiency.

Industry application

Postal logistics

Rotary wheel sorter is used in postal logistics to quickly and accurately sort letters and parcels to improve processing efficiency. The accuracy rate is >99%;

E-commerce express delivery

E-commerce warehouses widely use rotary wheel sorters to handle large orders and achieve fast and accurate product sorting and delivery.



Food

In the food processing industry, rotary wheel sorter is used to pick and sort food of different sizes and weights to ensure product quality.



Customized service



Design on demand

According to the specific needs of customers, we provide sorting lines integrating DWS scanning, weighing, square measurement and rotary wheel sorter, and personalized design services to ensure that the equipment meets specific sorting requirements.

On-site installation and commissioning

Provide on-site installation guidance and equipment commissioning services to ensure that the rotary wheel sorter runs smoothly at the customer's site and achieves the expected results.



----- DWS system (barcode scanning, weighing & swivel wheel sorter) -----

structure

可任意角度旋转

模块化设计

任意组合

灵活搭配

拆卸方便

维护简单

Balance wheel sorter + software control

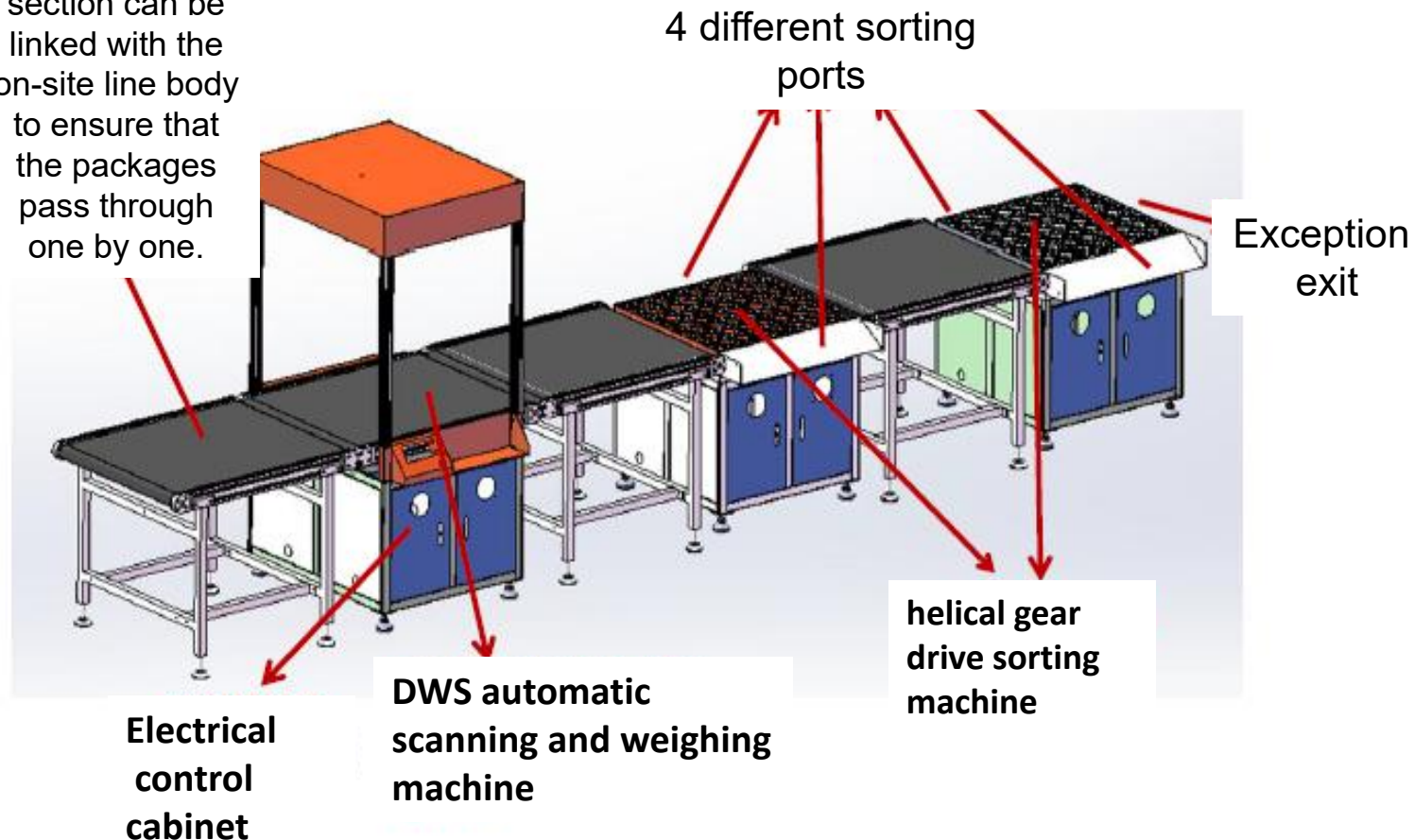
1.DWS automatic scanning and weighing machine, controlled by Hikvision camera + dynamic weighing belt + software, scan code smoothly.

2.Helical gear drive sorter: Servo motor with gear drive, OMRON sensor controls steering, with 30° , 45° , 60° and 90° reversing functions;

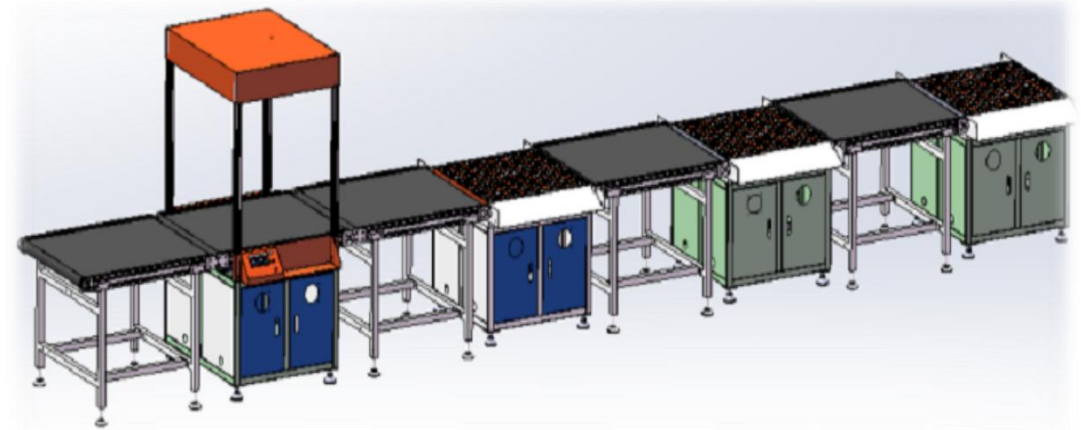
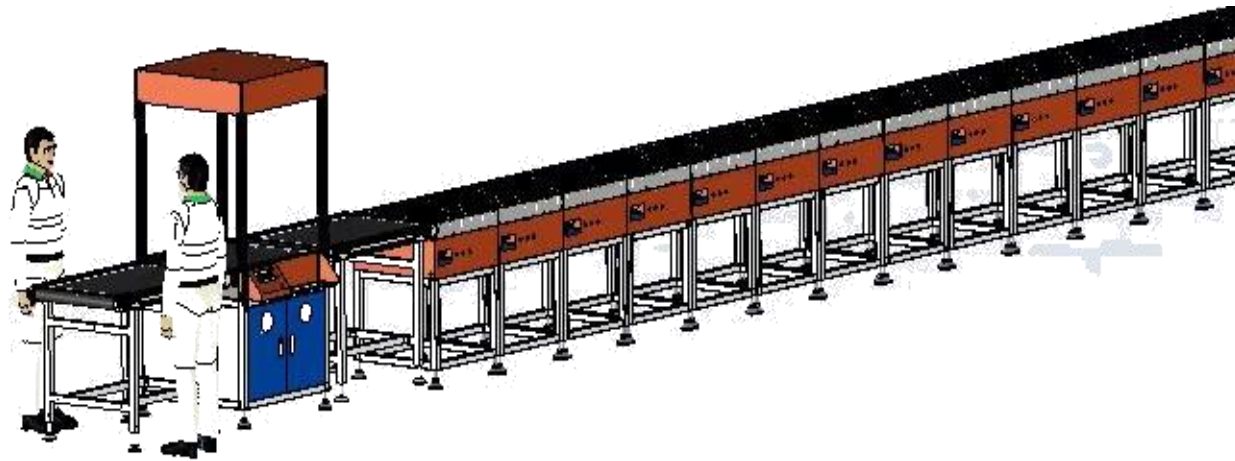
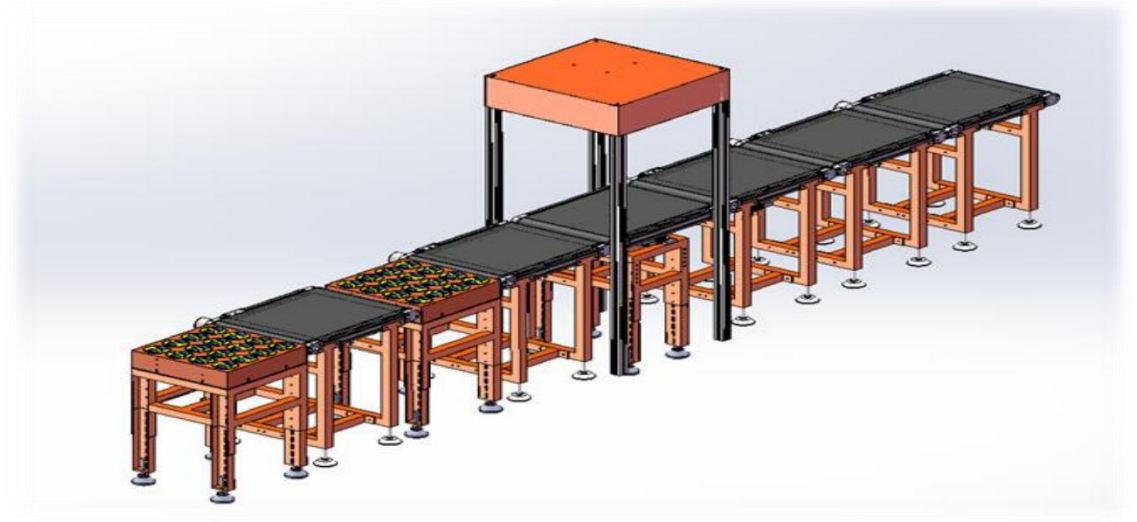
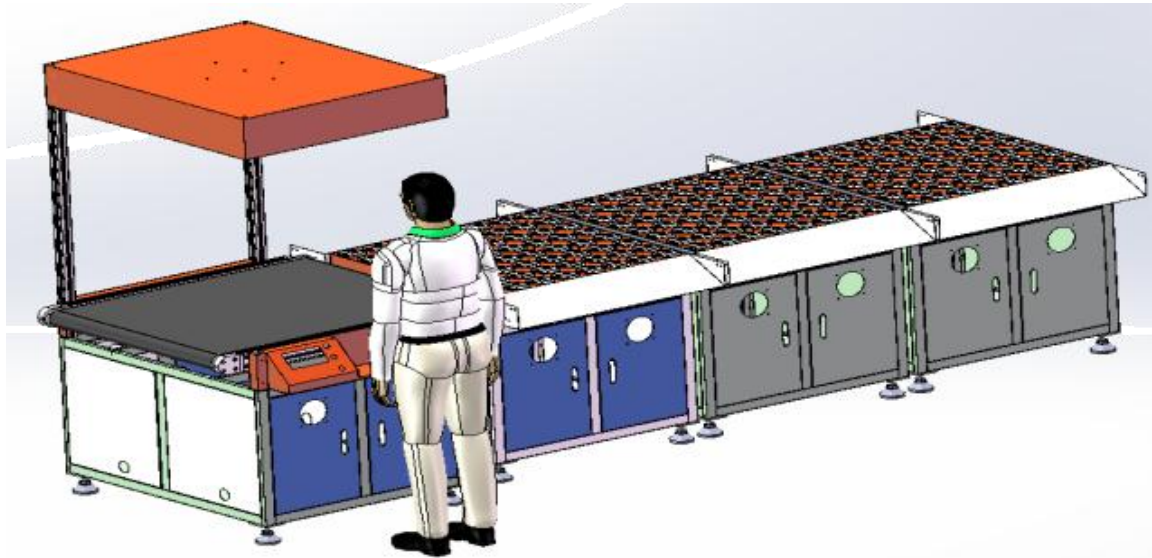
3. High-speed belt, small connecting distance, reduce manual handling, and arrange items in an orderly manner.

DWS automatic scanning and weighing machine + helical gear drive sorting machine

The acceleration section can be linked with the on-site line body to ensure that the packages pass through one by one.



-----Schematic diagram of swivel wheel sorting line-----



DWS sorting line



DWS sorting line





PART 03

Main parameters of rotary wheel sorter

Setting angle and connection mode

01

setting angle

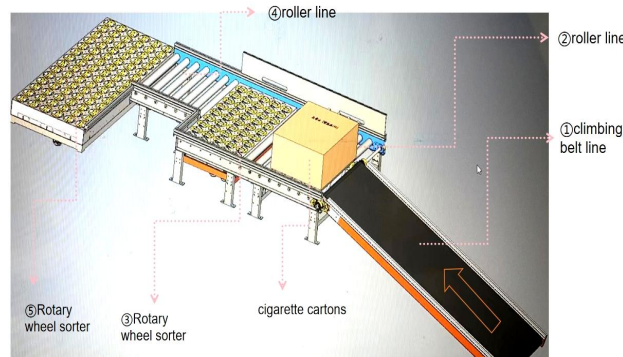
The angle of the rotary wheel sorter determines the diversion direction of the items; 0-360 degrees can be adjusted to adapt to different items.



02

Connectable types

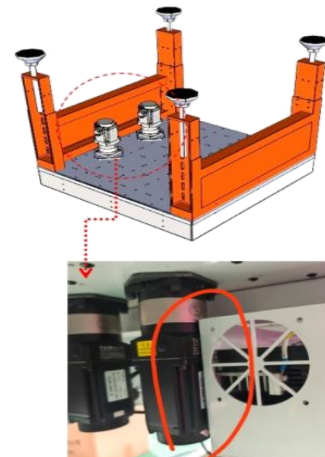
The rotary wheel sorter is connected with the roller line and conveyor belt for merging, diversion, weighing and rejection;



03

Driving mode of rotary wheel

The driving mode of the rotary wheel includes 2 sets of 0.4KW servo motors + 2 sets of reducers, one set for straight driving and the other for steering.



servo motor :2 sets+ reduce :2 sets

04

material select

The material of the rotary wheel is a layer of polyurethane overmold outside the POM to reduce the impact on the items.





helical gear drive sorting machine



01

Thermoplastic polyurethane-coated tape rollers ensure transportation friction;

02

PA66 nylon high-strength plastic-steel skeleton guarantees the life of the mechanism.



03

The structure of the aviation precision gear set operates stably;



04

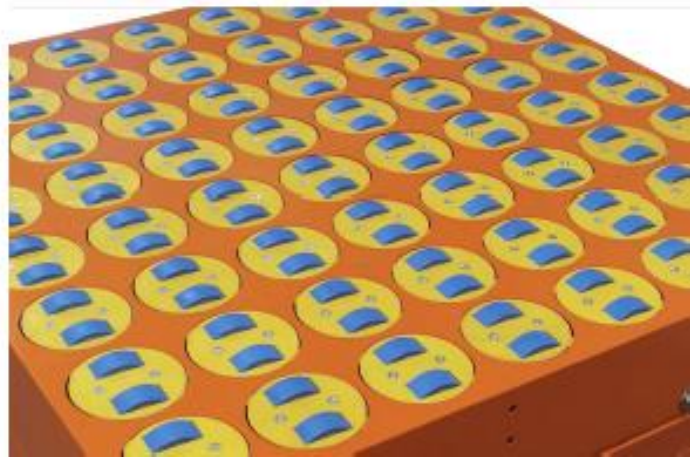
Easy to replace





helical gear drive sorting machine

Parameter参数	Parameter Description参数说明
1、steering motor 转向电机	400W high voltage servo motor + reducer, support triple overload, maximum speed 3000rpm/min. (400W高压伺服电机+减速器, 支持三倍过载, 最大转速: 3000rpm/min)
2、Drive motor 驱动电机	Motor gear, adjustable running speed, default: 100M/min. (电机齿轮, 运行速度可调, 默认: 100M/min)
3、egular size 常见尺寸	Length*width*height=830*830*800mm, also can be customized according to requirements. (一般有830*830*800mm, 根据实际要求可订制)
4、运行速度 running speed	The maximum speed of the surface running is 130M/min, the controller can adjust the speed, and the turning speed is $\geq 0.5s$ (表面运行的最大速度130M/分钟, 控制器可调速, 转向速度 ≥ 0.5 秒)
5、传动机构 Transmission mechanism	motor gear, modular design, easy to replace. (电机齿轮, 模块化设计, 更换简单)
6、制作工艺 Craftsmanship	Sheet metal paint, color can also be customized according to requirements. (钣金烤漆, 颜色也可根据要求订制。)
7、电控设计 electrical control	Modular design, the inclined balance wheel is equipped with an electric control cabinet alone, and the modular access method can also be customized, using aviation plugs to quickly connect in series. (模块化设计, 斜摆轮单独配有电控柜, 也可以定制模块化接入方式, 采用航空插头快速串联起来使用。)
8、应用场景 Application	It can be used to rotate the assembly line at any angle, or it can be connected with the assembly line (可应用任意角度回转流水线, 或与流水线对接)
9、分拣效率 Sorting efficiency	According to the size of the goods, the general sorting efficiency is ≥ 3000 pieces/hour, and through multi-servo group steering, it can reach 6000~8000 pieces/hour. (根据货物尺寸来定, 一般分拣效率 ≥ 3000 件/小时, 通过多伺服分组转向, 可达6000~8000件/小时。)
10、转向方向 Turn direction	30°, 45°, 60°, 90° and other angles are available. (可提供30°、45°、60°、90°等角度。)
11、系统对接 Docking system	Support technology 485, 282, TCP and other external interfaces (支持485、282、TCP等对接外部接口)

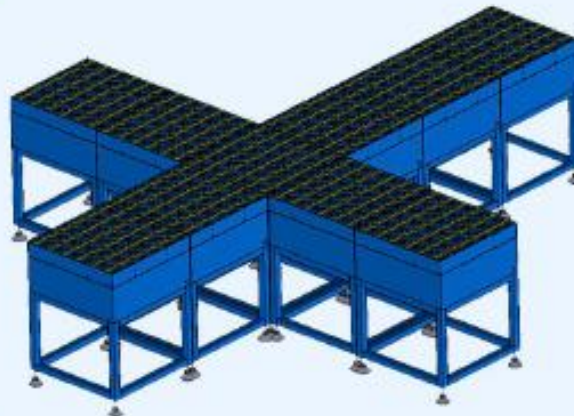
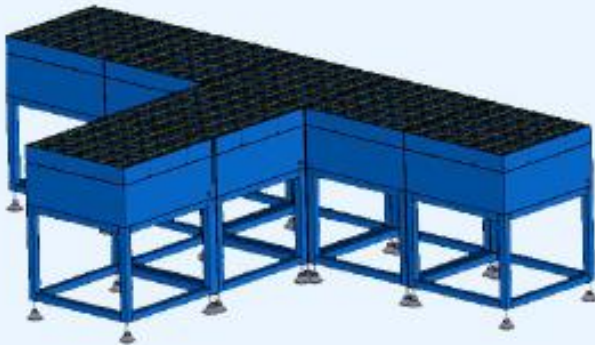




helical gear drive sorting machine



It can be arranged flexibly according to the customer's site to reduce the usable area;



Meet the requirements of sorting line layout such as inflow and diversion.

➤➤➤ | DWS automatic scanning and weighing machine + helical gear drive sorting machine

Various
accessories

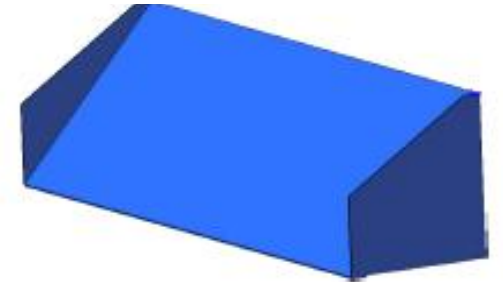
sensor, control grid



Helical gears:
driving transport and reversing



Chute:
Effectively reduce the impact
of objects.



Servo motor + reducer



1、Rolling servo with 5 ratio
reducer, adjustable line speed
0~3000mm/s

2、The deflection servo is matched
with a 10-ratio reducer, and the
deflection is 90 for 200 milliseconds.

Conveying speed and reset speed

Definition and importance of conveying speed

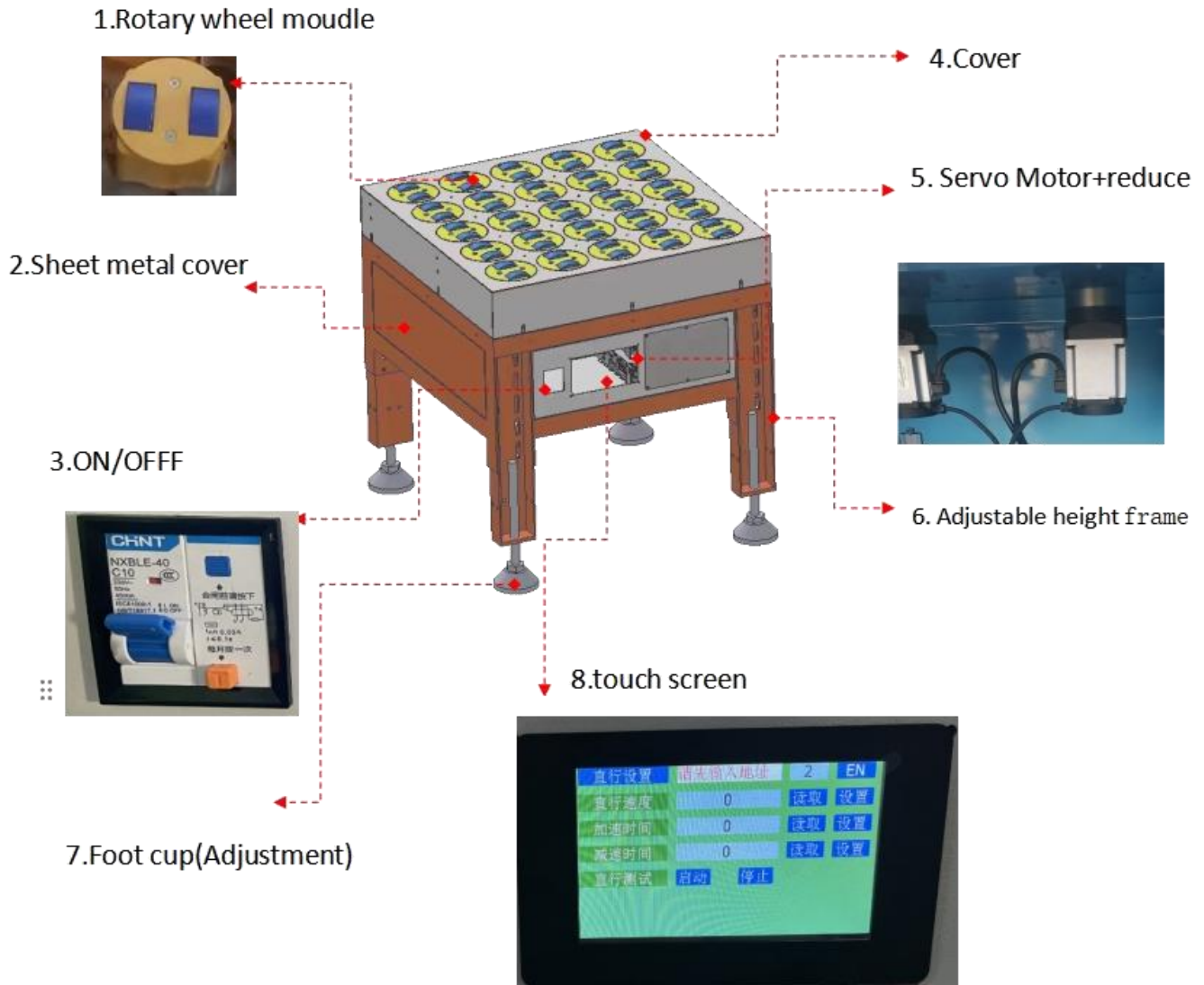
Conveying speed determines the sorting efficiency and is one of the key indicators of the performance of rotary wheel sorter.

0-100 m/Min adjustable.

The impact of reset speed on sorting efficiency

The reset speed affects the cyclic working capacity of the equipment and is an important parameter to ensure continuous sorting operation.

About 260ms (0.26s)

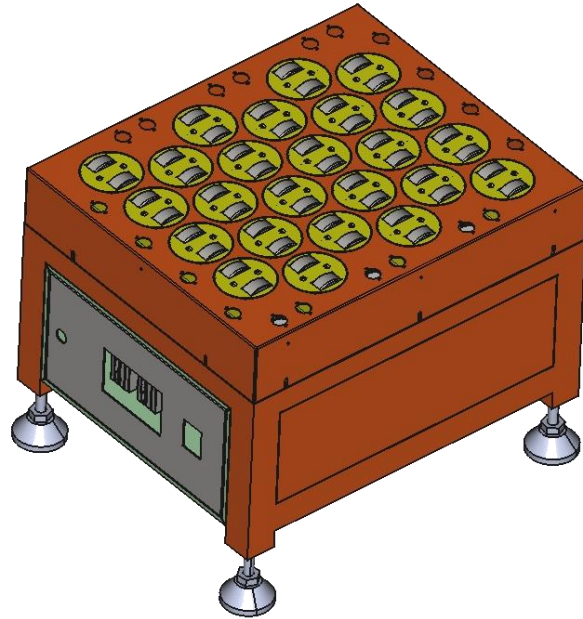


Dimensions and arrangement



Wheel diameter

The diameter of the rotary wheel sorter determines its processing capacity, and the common diameter is 95mm.



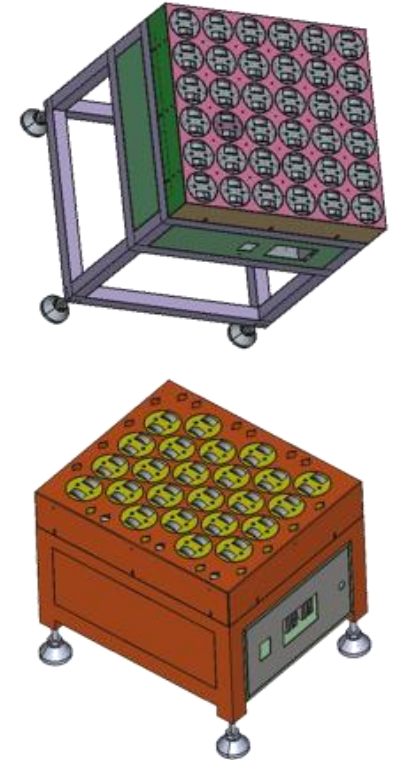
Quantity of rotary wheel sorter

The number of rotary wheels is generally designed according to the maximum and minimum sizes of the carton.



Wheel spacing

The spacing between wheels is 100mm.



Layout

There are two ways to arrange the rotary wheel: positive arrangement and staggered type

DWS Sorting Line Shipment



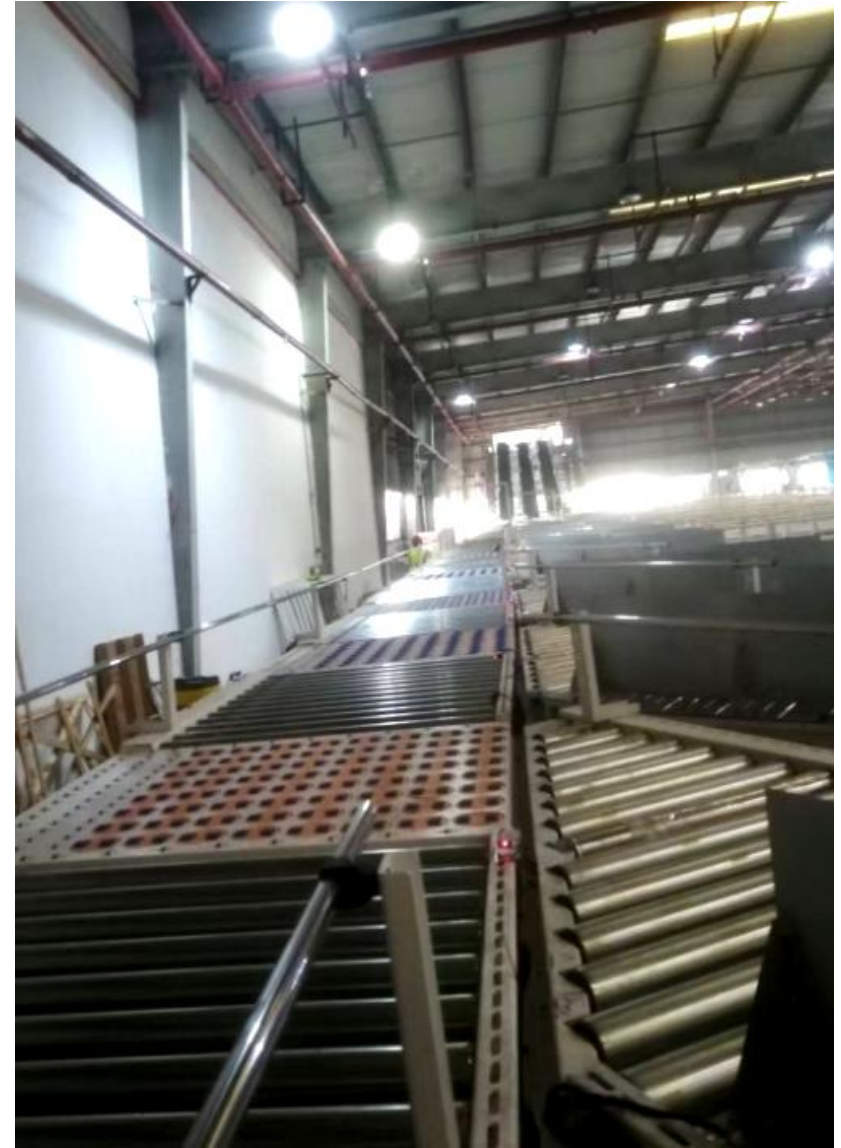
Shipping outside Guangdong Province:

Wooden frame for shipment outside Guangdong Province + pallet for bottom



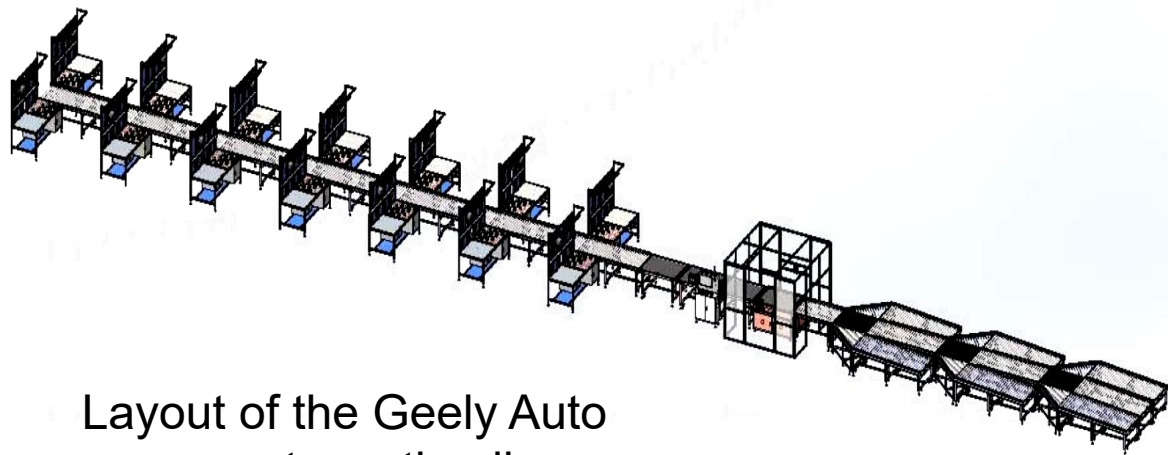
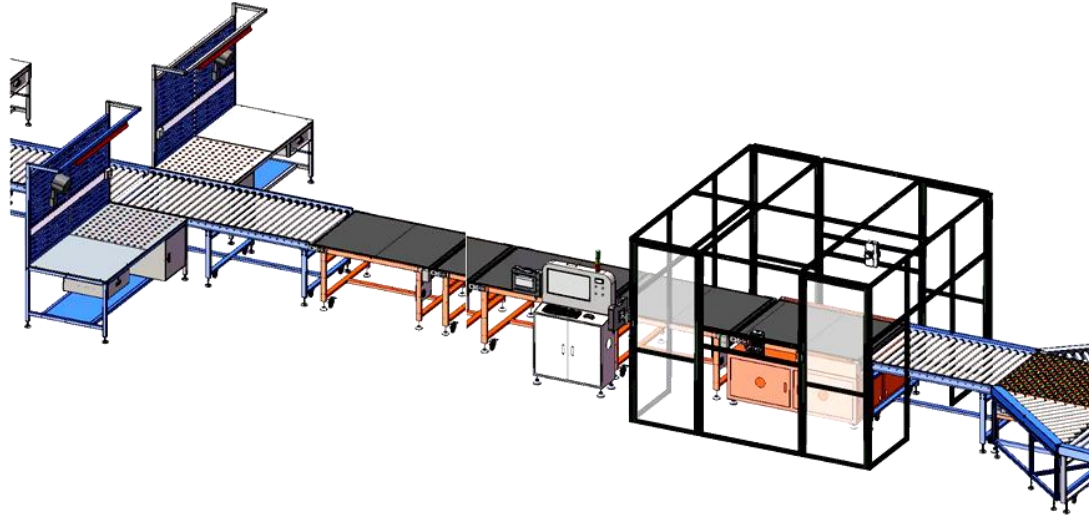
Transportation within Guangdong Province: Land transportation method for goods shipped in Guangdong Province

-----Customer:Media Group -----



Media Group DWS line

-----Customer :Geely Auto-----



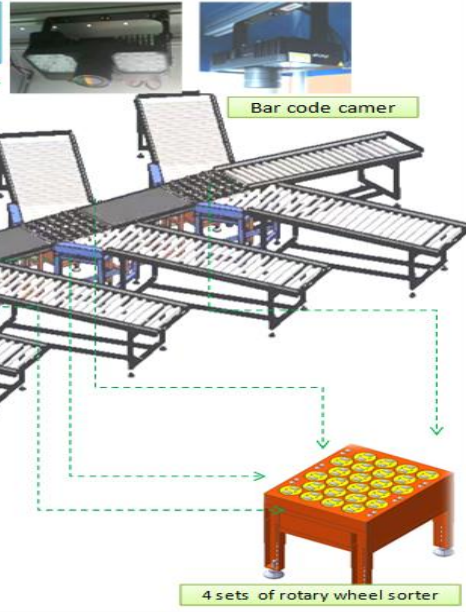
Layout of the Geely Auto
spare parts sorting line.



-----Customer :CUBAMAX-----



The DWS line introduce
Scanning, weighing, and rotary wheel sorting line



-----Customer -----

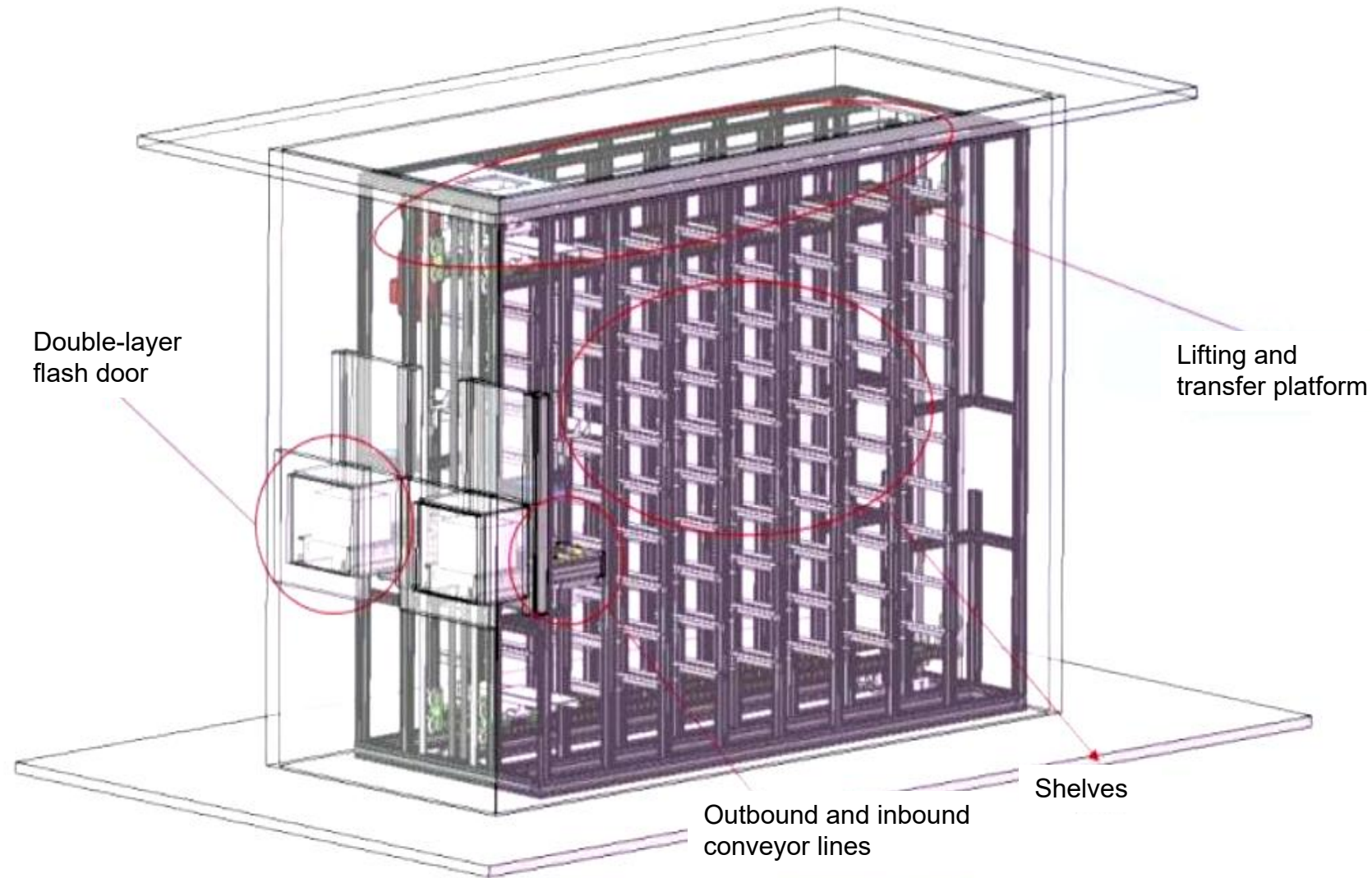


中国福利彩票
CHINA WELFARE LOTTERY



Three-dimensional warehousing- 3D drawing show

3D drawing show





PART 04

Mini automated storage



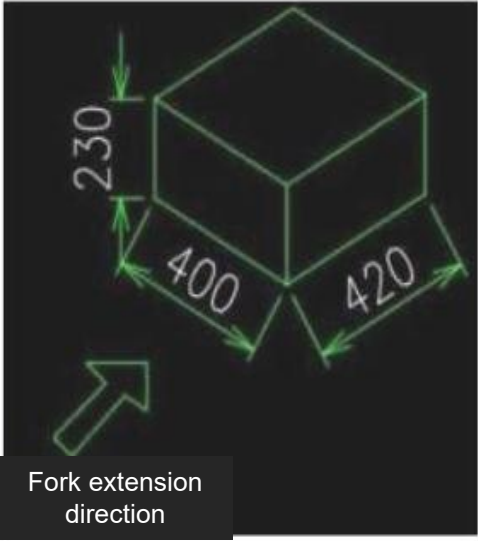
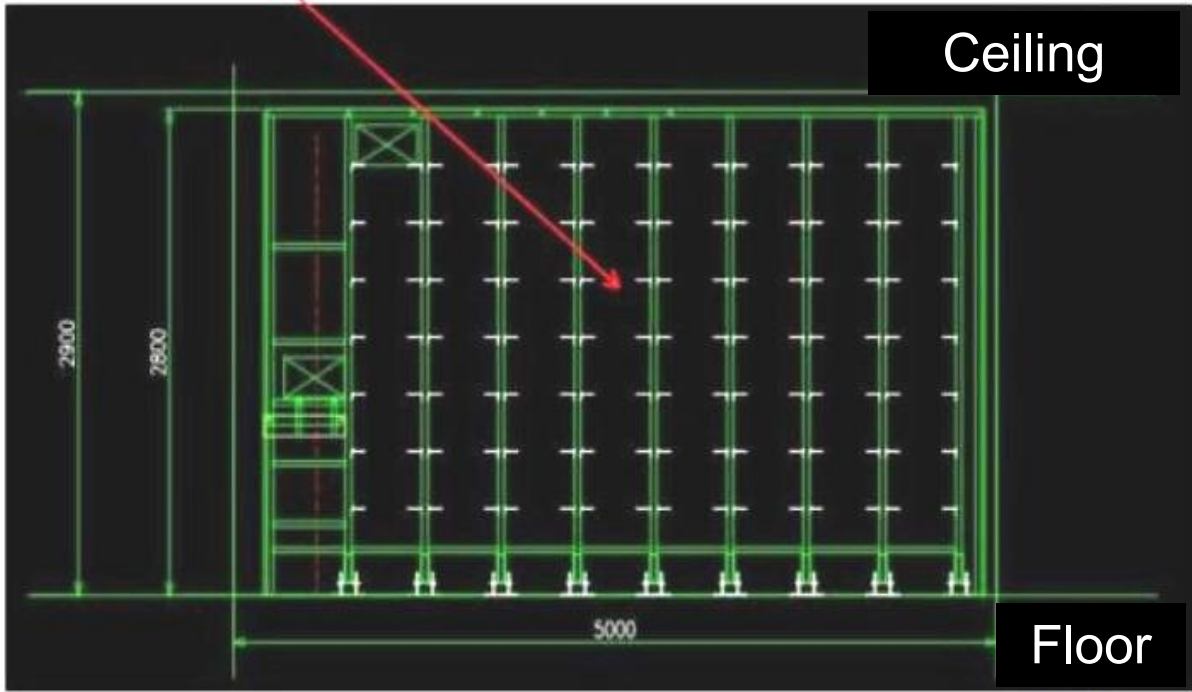
Shelves in three-dimensional warehouses



Three-dimensional warehouse inventory planning instructions:

- 1. Inventory quantity: 112;
- 2. Single-depth lane machine: 1;
- 3. Warehouse net height: 2.8 meters;
- 4. Number of shelves: 7 layers;
- 5. Shelf layer form: bull leg type;

Summary of the number of storage locations				
Cargo size	columns Qty.	layers Qty.	rows Qty.	storage spaces Qty.
L420*W400*H230	8	7	2	112
Total				112

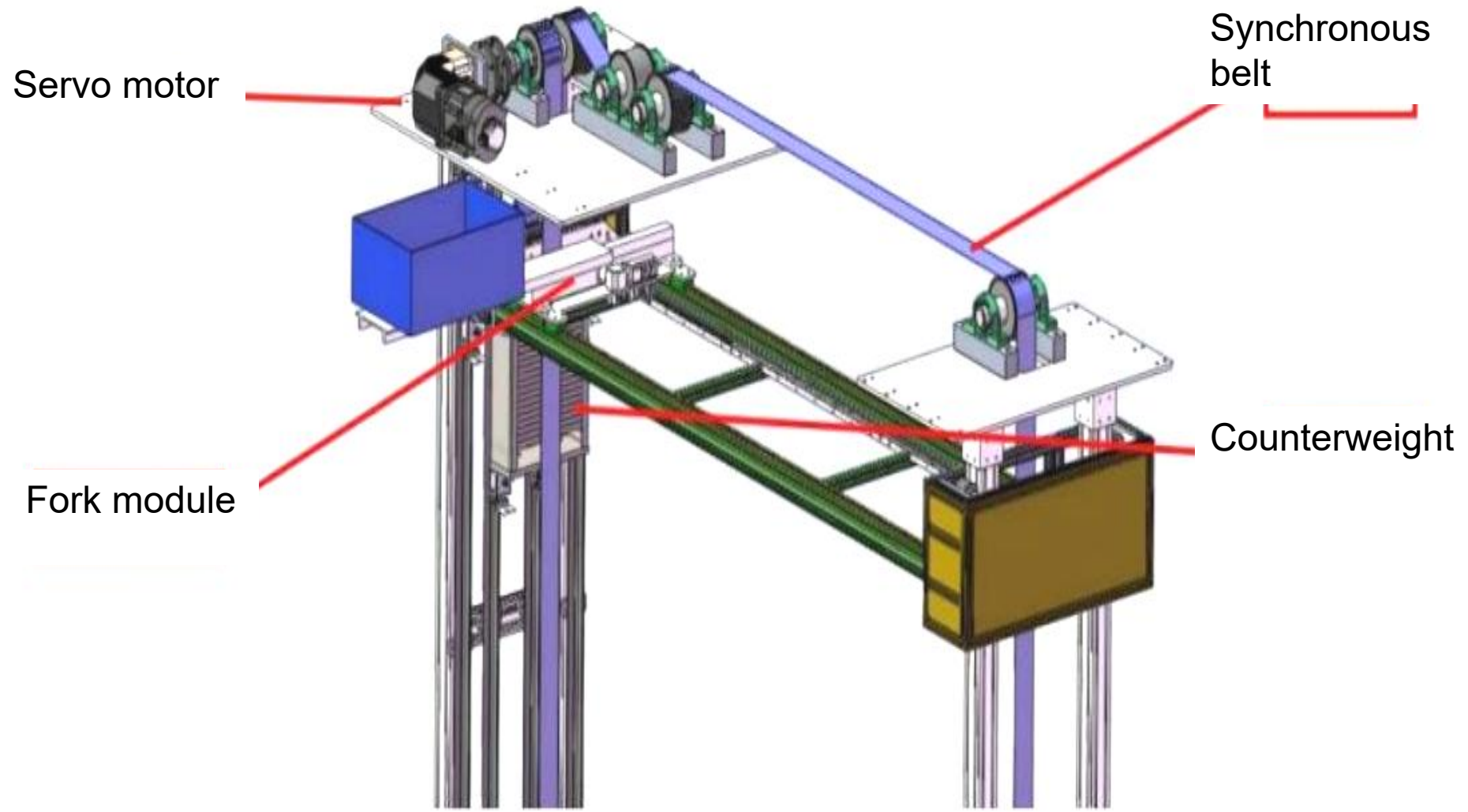


Carton bos size

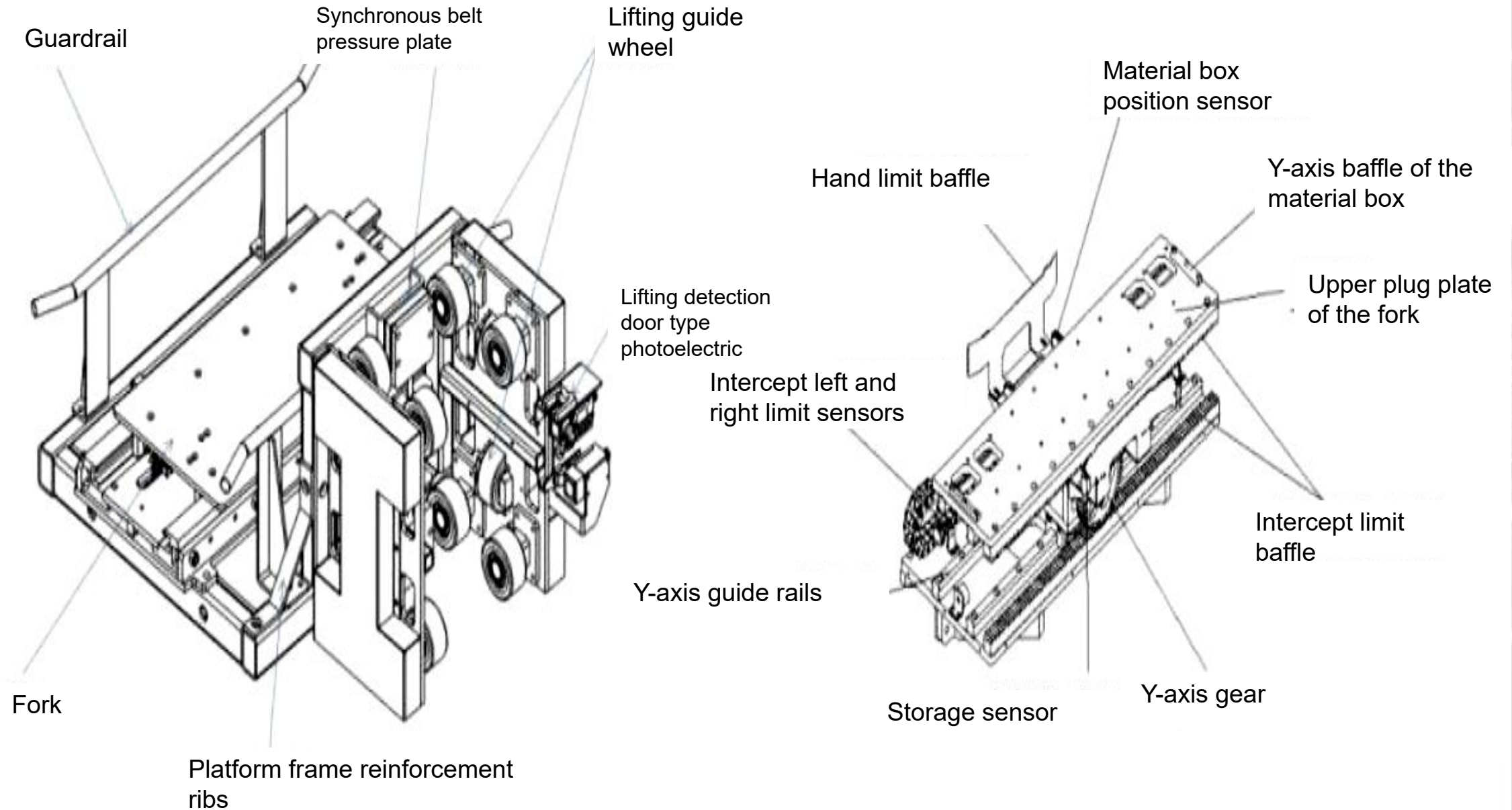
Introduction to the lifting and transfer platform of the three-dimensional warehouse



Introduction to the lifting and transfer platform of the three-dimensional warehouse



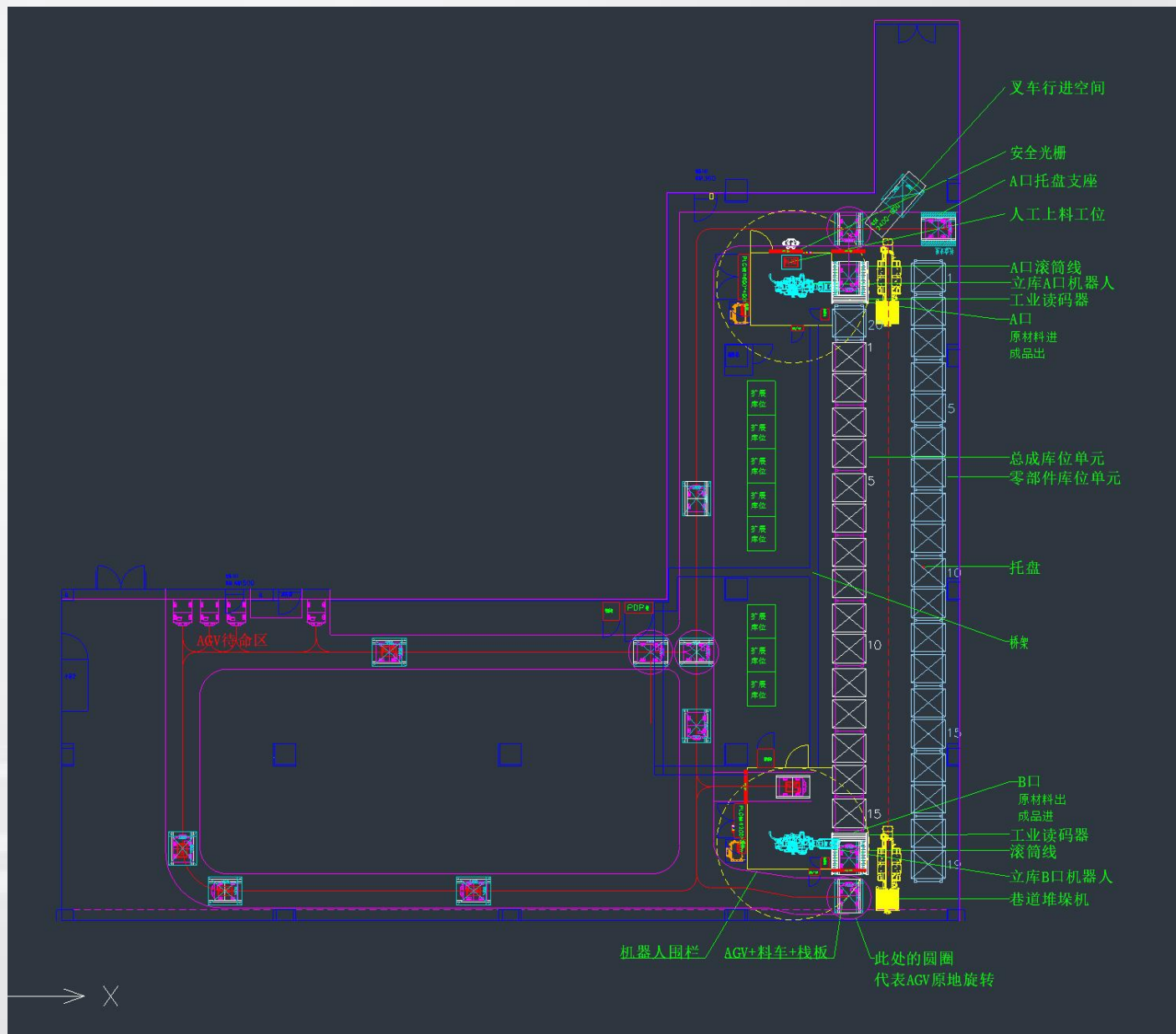
Forklift mechanism for picking up goods in three-dimensional storage



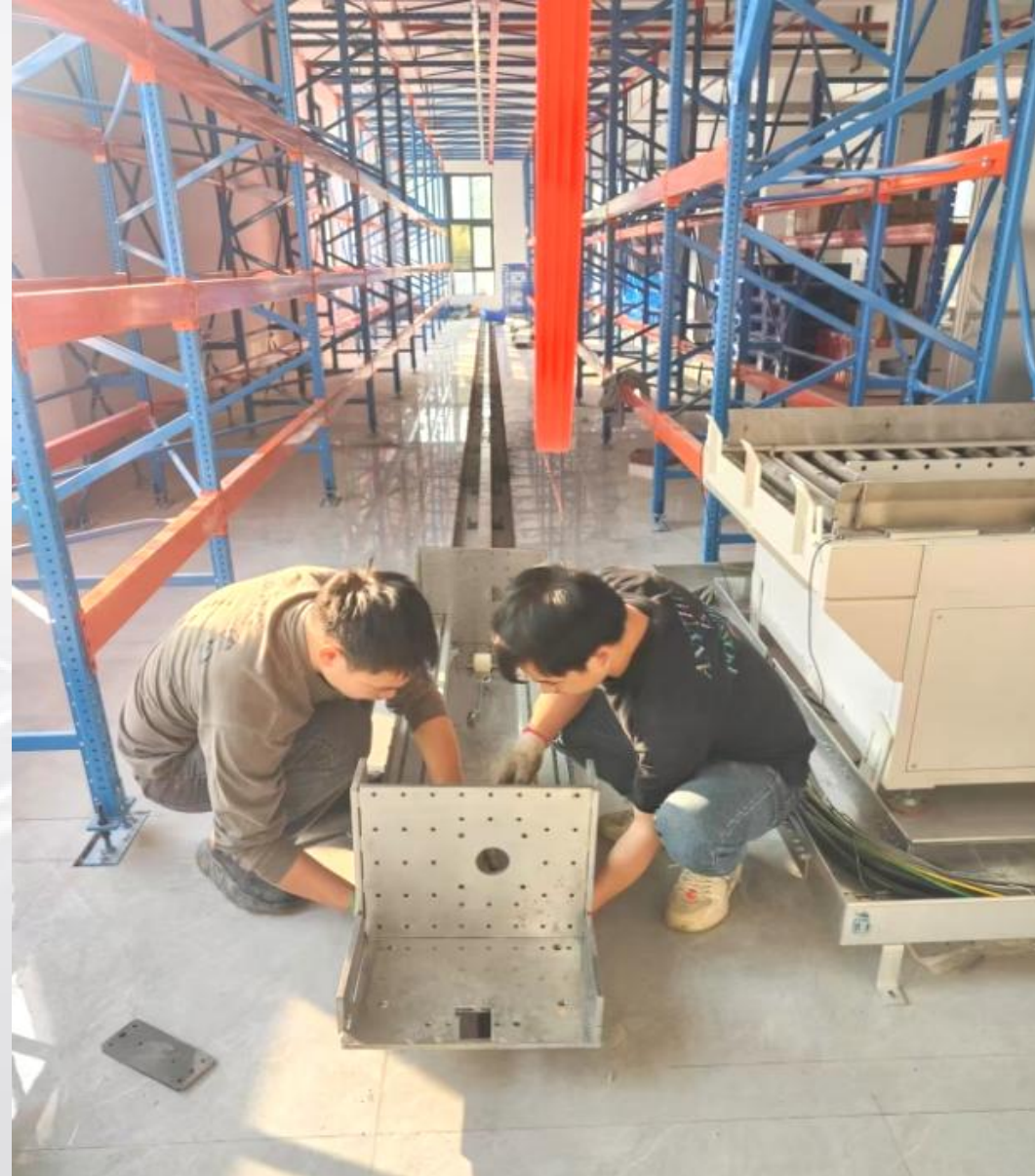
three-dimensional storage--Case 1



Cooperation with Guangxi Engineering Vocational and Technical College



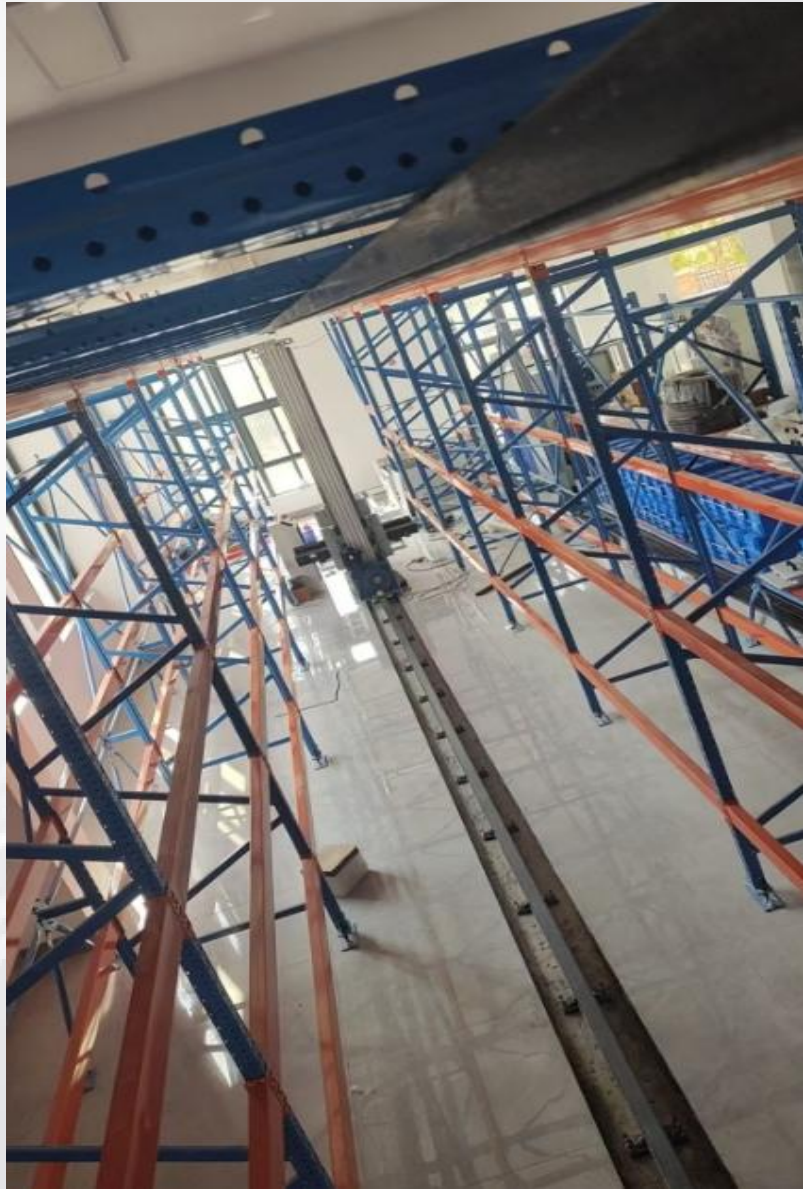
Cooperation with Guangxi Engineering Vocational and Technical College



Cooperation with Guangxi Engineering Vocational and Technical College



Cooperation with Guangxi Engineering Vocational and Technical College



Mini automated storage- case



Laneway loading and unloading cooperation case (Chongqing Kezhi Intelligent)

