

# MASTER 万事达

Specialized In Logistics Equipment



## 穿梭子母车密集存储系统 SHUTTLE & CARRIER INTENSIVE STORAGE SYSTEM

天津万事达物流装备有限公司  
Tianjin Master Logistics Equipment Co., Ltd.

# Shuttle & Carrier Intensive Storage System

## 穿梭子母车密集存储系统



穿梭子车  
Shuttle

### SHUTTLE & CARRIER INTENSIVE STORAGE SYSTEM



穿梭母车  
Carrier



## WMS

库房管理系统



## WCS

设备控制系统



货架系统  
Racking system



提升机系统  
Elevator  
lift



输送系统  
Conveying system

系统由穿梭母车、穿梭子车、提升机、水平输送系统、货架系统、WMS 管理系统、WCS 控制系统组成。具有存储密度大，出入库效率高，系统运行稳定、安全、冗余度高的特点，广泛的适用于食品、饮料、乳品、医药、烟草、精细化工等行业。

The system is composed of carrier, shuttle, elevator, horizontal conveying system, racking system, WMS and WCS. It is featured with high storage density, high in-and-out-of-storage efficiency, stable system operation, safety, and high redundancy. The system is widely used in various industries, such as food, beverage, dairy, pharmaceutical, tobacco, and fine chemical industry, etc.

# Shuttle

## 穿梭子车



### 穿梭子车负责纵向存储巷道的物料搬运

穿梭子车采用8轮设计,不但使用寿命长且运行平稳,有效避免了轨道接缝过大造成的失衡。

WIFI 接收系统采用的国际知名西门子品牌, 具有信号稳定、速率快、信号覆盖范围广等特点。

电机采用进口伺服电机, 更宽泛的动力输出、更精准的速度及制动控制、更迅捷的信息通讯且可靠性高、故障率低。伺服电机的回初始点功能可确保穿梭子车回到起始位置, 提高穿梭子车的运行安全。

### SHUTTLE IS USED FOR MATERIAL HANDLING IN LONGITUDINAL STORAGE AISLE

The shuttle is designed with 8 wheels, has a long service life and stable operation, and can effectively avoids the imbalance caused by excessive rail joints.

WIFI receiving system adopts the internationally renowned brand - Siemens, which has the characteristics of stable signal, fast speed and wide signal coverage.

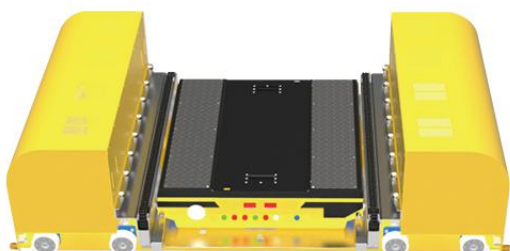
The motor adopts imported servo motor, which has wider power output, more precise speed and brake control, more rapid information communication, high reliability, and low failure rate. The zero return function of the servo motor ensures that the shuttle returns to home position, thus improving operating safety of shuttle.

序号 Number	名称 Name	参数 Parameter
1	额定承载 Rated load	1200 KG
2	空车速度 No-load speed	1.2 米 / 秒 1.2 m/s
3	重载速度 Overload speed	0.8 米 / 秒 0.8 m/s
4	电池 Battery	48V/40AH 锂电池 48V / 40AH lithium battery
5	续航能力 Endurance	≥ 8 小时 ≥ 8 hours
6	电池寿命 Battery Life	≥ 1500 次 ≥ 1500 times
7	驱动电机 Motor	进口高性能伺服电机 Imported high performance servo motor
8	使用环境温度 Operation ambient temperature	-20°C ~ 50°C
9	PLC	西门子 Siemens
10	光电 Photoelectric	倍加福或同等品牌 Pepperl Fuchs or equivalent
11	供电方式 Power supply	电池或超级电容 Battery or super capacitor
12	车轮设计 Wheel design	8 轮设计 8-wheel design



# Carrier

## 穿梭母车



### 穿梭母车负责横向方向上的物料搬运

穿梭母车上安装有激光阅读器，母车轨道上贴有二维码，母车通过扫描轨道上的二维码进行定位，定位精度  $\pm 2\text{mm}$ 。

母车上装有无线接收器，用于接收局域网信号，接收上级系统下发的指令来完成入库出库作业。

母车上的托盘导向设计，对托盘进行校正，确保货物安全输送对接。

### THE CARRIER IS USED FOR MATERIAL HANDLING IN THE LATERAL DIRECTION

A laser reader is installed on the carrier, and a QR code is affixed to the track of carrier. Carrier positions by scanning the QR code on the track, with a positioning accuracy of  $\pm 2\text{mm}$ .

The carrier is equipped with a wireless receiver for receiving LAN signals and receiving instructions sent by the superior system to complete the inbound and outbound operations.

The carrier is designed with a pallet guide to correct the pallet, so as to ensure the safe transportation and docking of goods.

序号 Number	名称 Name	参数 Parameter
1	额定承载 Rated load	1200 KG
2	适用环境温度 Applicable ambient temperature	-20℃ ~ +50℃ (电池) (battery)
3	空车速度 No-load speed	150-180 米 / 分 150-180 m/min
4	重载速度 Overload speed	90-120 米 / 秒 90-120 m/s
5	电池 Battery	48V/100AH 或 96V/50AH (多元锂电池) 48V / 100AH or 96V / 50AH (multiple lithium batteries)
6	续航能力 Endurance	10 小时 (常温) 10 hours (room temperature)
7	驱动电机 Motor	进口高性能伺服电机 Imported high performance servo motor
8	适用环境温度 Applicable ambient temperature	-20℃ ~ +50℃ (电池) (battery)
9	PLC	西门子 Siemens
10	光电系统 Photoelectric system	倍加福或同等品牌 Pepperl Fuchs or equivalent
11	供电方式 Power supply	电池或滑触线 Battery or slide wire

# Elevator Lift

## 提升机

### 提升机负责垂直方向的物料搬运及车辆换层

核心部件均为进口的高端品牌，配置双重制动信息系统，并用链条提升代替钢丝绳，运行更加安全稳定。

### ELEVATOR LIFT IS USED FOR VERTICAL MATERIAL HANDLING AND VEHICLE LAYER CHANGE

The core components are imported high-end brands, equipped with a dual brake information system, and use chain rope instead of the steel wire rope to make operation safer and more stable.

序号 Number	名称 Name	参数 Parameter
1	额定承载 Rated load	1200 KG
2	光电系统 Photoelectric system	倍加福 / SICK Pepperl Fuchs / SICK
3	PLC	西门子 Siemens
4	控制方式 Control method	具有联机自动 / 单机手动功能 With online automatic / stand-alone manual function
5	电机 Motor	西门子 Siemens
6	适用温度 Applicable temperature	-20°C ~ +50°C
7	传动系统 Transmission system	链条式 (变形量小、精度高、寿命长) Chain type (small deformation, high accuracy, long life)
8	精度控制 Precision control	条码精定位位误差 $\pm 2\text{mm}$ Bar code accurate positioning error $\pm 2\text{mm}$



### 输送系统

负责货物出入口与货架系统之间的货物输送。

### CONVEYING SYSTEM

Used for the transportation of goods between the goods entrance and exit and the racking system.



顶升移栽  
Climbing transfer



辊筒输送  
Roller conveying



链式输送机  
Chain conveyor



转角移栽输送机  
Corner transfer conveyor



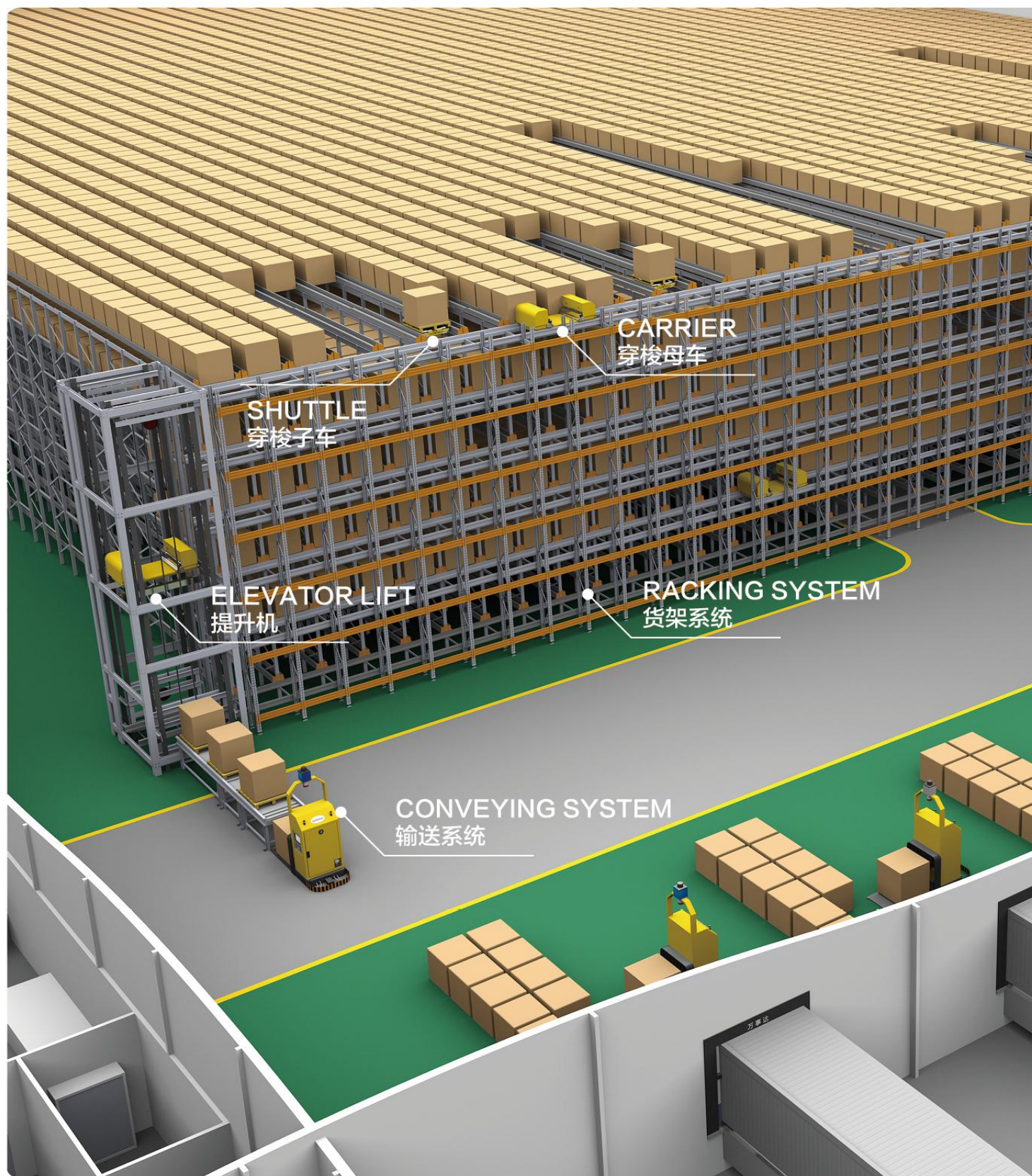
链式横移输送机  
Chain traverse conveyor



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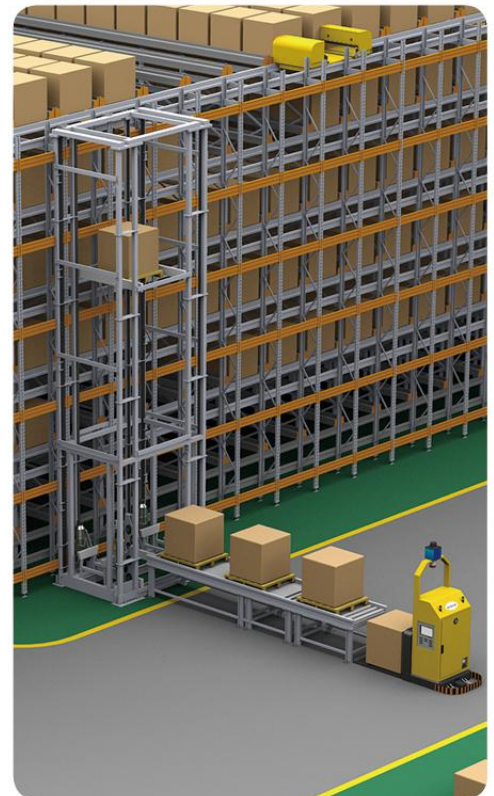
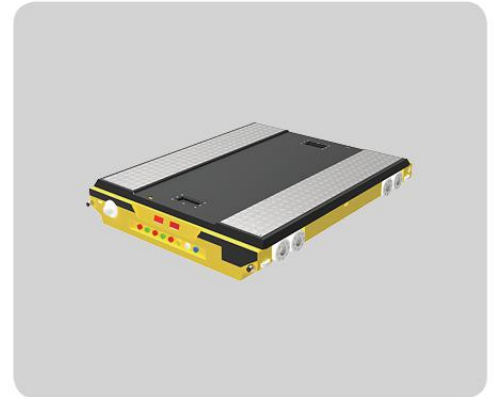
穿梭子母车密集存储系统鸟瞰图

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# System Aerial View





**MASTER 万事达**  
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