

**Automated Warehouse Storage Solution**  
**Make Your Warehouse Smart**



### Nanjing Ouman Storage Equipment Co.,Ltd

Add: No. 9,Yinning Road, Jiangning District, Nanjing,China.  
Tel: +86 25 52781380 Fax:+86 25 52159990  
Email: sales@omracking.com  
Web: www.omasrs.com www.omracking.com



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*Make your warehouse Smart*



### Product Catalog

Nanjing Ouman Storage Equipment Co.,Ltd

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## COMPANY PROFILE

Nanjing Ouman Storage Equipment Co,Ltd was established in the year of 2007 in Nanjing,China. During decades years of development, we not only manufacture the standard racking systems but also provide the one stop whole warehouse storage solution for our clients. Ouman owns international ISO9001 & CE certifications and other many talents for automated warehouse racking solutions. Till now, we have completed thousands of successful projects in domestic and oversea markets. Our main oversea markets focus on the South-East Asia, Mid-East, Part of America market, Ocean markets and Europe markets. For the automated warehouse solution, we mainly provide radio shuttle system, four way shuttle system, ASRS, Miniload system, mobile pallet racking system, roll-out cantilever rack, AGV forklift, AGV system and etc.



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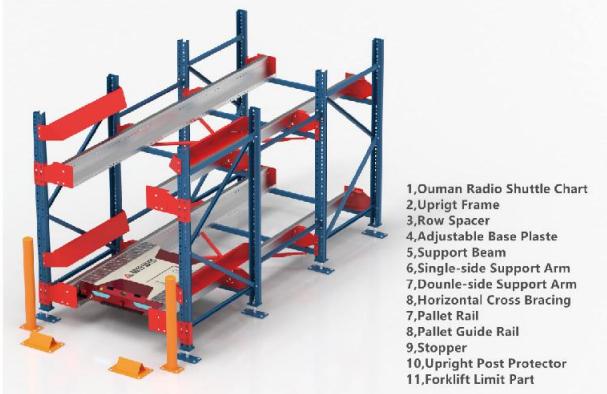
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### BUSINESS PARTNERS

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## 01 Radio Shuttle Racking System

Radio shuttle racking is an advanced warehouse storage racking system. The most character is high storage density, convenient in inbound&outbound,high working efficiency. FFO&FILO models improve the warehouse management. The whole radio shuttle racking system consists of the pallet shuttles, rackings,forklifts and etc. And it is used widely in the cold storage,food industries, beverage industries.



### Advantages:

- Improve the storage capacity,130% more storage pallets than traditional pallet racking.
- High Safety Storage, no need forklifts to drive into aisles and more safety devices equipped in the radio shuttle rack system.
- Improve the working efficiency and save the time.
- Greater precision of pallet organization.
- Can work in the cold storage and high temperature.



## Technical Data of Radio Shuttle

Radio Shuttle Cart		
Item No.	Item Name	Item Information
Basic Data	Size(mm)	L1040*W960*H180mm
	Self Weight(kg)	200kg
	Max Loading(kg)	1500kg Max
	Operation Method	Manual&Automatic Operation
	Communicate Method	Wireless Communication
	Control Method	PLC,SIEMENS,
	Noisy Level	<60db
Basic Data	Temperature	-40°C~40°C,-25°C~40°C,0°C~40°C
	Running Speed	Empty loading:1m/s,Full loading:0.8m/s
	Running Acceleration	<0.5m/S <sup>2</sup>
	Running Motor	Brushless Servo Motor 48V/750W
	Lifting Height	40mm
	Lifting Up Time	4S
	Lifting Down Time	4S
Positioning Method	Lifting Motor	Brushless Servo Motor 48V/750W
	Running Location	Laser Positioning
	Pallet Location	Laser Positioning
Safety Device	Lifting Location	Proximity Switch Positioning
	Cargo Detecting	Background Suppression / Photoelectric
	Anti-collision	Anti-collision Sensor
Remote Control	Working Frequency	433 MHZ Communication Distance≥100m
	Communication Method	Two-way Communication Function
	Temperature	0°C~50°C
Battery Performance	Power Supply Method	Lithium Iron Phosphate Battery
	Electrical Press	48V
	Battery Capacity	30AH
	Charging Times	1000times
	Charging Time	2~3h
	Working Time	6~8h

## Delivery Photos of Radio Shuttle



## Project Photos



## 02 Four Way Shuttle Racking System

The four-way shuttle is a self-developed 3D intelligent radio shuttle that can walk both vertically and horizontally on the racking guide rails; it can realize the inbound and outbound operations of plastic totes or cartons through programming (storage in and out goods and handling). With the vertical lifting system, it can reach any cargo space, realize the true four-way driving and three-dimensional shuttle. It can be perfectly integrated with the logistics information system (WCS/WMS) to realize automatic identification, access and other functions. An intelligent robot that realizes "goods-to-person" picking.



### Advantages

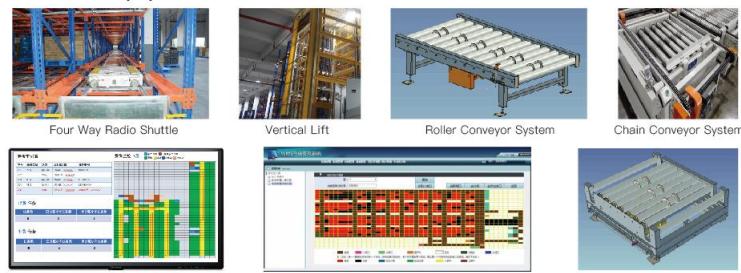
- Realize fully automatic, intelligent and no need workers to operate.
- Fast operation and high degree of intelligence, and suitable for different types of warehouse.
- Increase the storage capacity 30%-70%.
- Work with other automatic equipment, AGV forklift, automatic conveyor system and etc.
- Strong expansivity, adding shuttles and rackings to reach more pallet positions.
- FIFO and FILO models.



### Technical Data of Four Way Shuttle

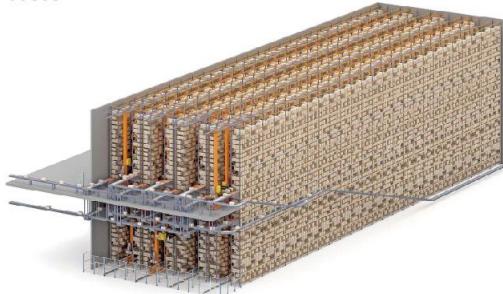
Item	Specification	Technical Data
Product Features	Model No.	OMCS1500
	Operation Model	Full automation/manual
	Self Weight	430kgs
	Max load capacity	1500kg
	Position Model	Encoder and photoelectric sensor
	Position Accuracy	±2
	Temperature	-25°C-0°C
Drive Information	Battery Voltage	72V/30Ah
	Battery Weight	13kg
	Battery Life	5-6h
	Charging time	2-3h
	Travel Motor Rated Power	1.1kw
	Direction Changing&Lifting Rated Power	0.8kw
Shuttle Size	Shuttle size	L980*W1136*H180
	Height of direction changing	38mm
	Length of lift board	1136
	Width of lift board	120
	Height of lift board	11
	C/C distance of lift board	572
	Wheelbase- Main Aisle	876
Shuttle Performance	Wheelbase- Sub Aisle	700
	Pallet Size	1200*1000/1200*1200
	Travelling speed(Empty/Full loading)	1.2m/s and 1.4m/s
	Lift speed(Empty/Full loading)	1.3mm/s and 1.3mm/s
	Decline speed(Empty/Full loading)	1.3mm/s and 1.3mm/s
	Travelling acceleration	0.3m/s <sup>2</sup>
Wheel Information	Direction-change time	3s
	Lift time	3s
	Qty of wheels	Drive wheel-8pcs / Weighing wheel-4pcs
	Size of wheels	Drive wheel-160*60 / Weighing wheel-110*60
	Wheel Distance-Main Aisle	1138mm
	Wheel Distance-Sub Aisle	984mm

### Related Equipment



### 03 Automated Storage and Retrieval Systems

Automated storage and retrieval systems is always know as AS/RS or ASRS systems. The automatic storage system including the controlled software, computers, and stacker cranes, handling equipment,conveyor system, storing system, WMS/WCS and retrieving system in a warehouse. Taking full advantage of limited land, ASRS system increases the space utilization as a main purpose.The utility rate of ASRS system is 2–5 times of the normal warehouses.



#### Advantages

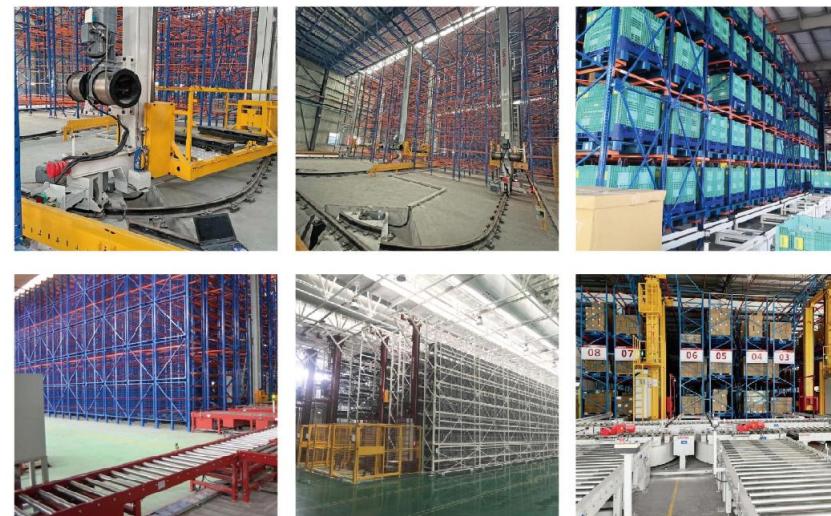
- Improved floor space utilization.
- Reduced labor requirements and costs.
- Increased picking accuracy (reduced picking errors).
- Improved picking throughput (speed).
- Tighter inventory control.
- Improved ergonomics.

#### Different Types of Stacker Crane

单立柱	单立柱 单位板叉	单立柱 夹抱式货叉	单立柱 转弯堆垛机
Max load 1500kg	Max load 1000kg	Max load 4000kg	Max load 4500kg
Pallet Size Standard or Customized			
Overall Height <22m(30m)	Overall Height <15m	Overall Height <24m	Overall Height <30m (45m)
Max Speed 180m/min	Max Speed 300m/min	Max Speed 120m/min	Max Speed 180m/min
Drive Positioning Accuracy ±5mm	Drive Positioning Accuracy ±5mm	Drive Positioning Accuracy ±5mm	Drive Positioning Accuracy ±5mm
Lift Positioning Accuracy ±3mm	Lift Positioning Accuracy ±3mm	Lift Positioning Accuracy ±3mm	Lift Positioning Accuracy ±3mm
Fork Positioning Accuracy ±2mm	Fork Positioning Accuracy ±2mm	Fork Positioning Accuracy ±2mm	Fork Positioning Accuracy ±2mm

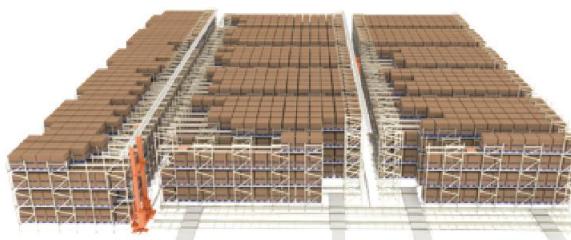
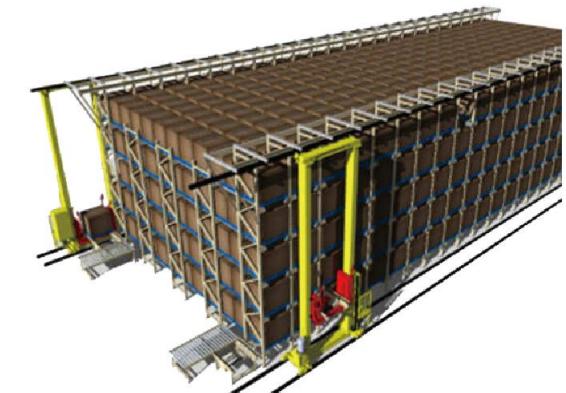
双立柱 厂道堆垛机	双工位单立柱堆垛机	大件堆垛机	双工位双立柱 堆垛机
Max load 4500kg	Max load 10000kg	Max load 4500kg	Max load 4500kg
Pallet Size Standard or Customized			
Overall Height <30m(45m)	Overall Height <15m	Overall Height <30m	Overall Height <30m
Max Speed 180m/min	Max Speed 180m/min	Max Speed 180m/min	Max Speed 180m/min
Drive Positioning Accuracy ±5mm	Drive Positioning Accuracy ±5mm	Drive Positioning Accuracy ±5mm	Drive Positioning Accuracy ±5mm
Lift Positioning Accuracy ±3mm	Lift Positioning Accuracy ±3mm	Lift Positioning Accuracy ±3mm	Lift Positioning Accuracy ±3mm
Fork Positioning Accuracy ±2mm	Fork Positioning Accuracy ±2mm	Fork Positioning Accuracy ±2mm	Fork Positioning Accuracy ±2mm

#### Project Photos



## 04 ASRS + Radio Shuttle System

AS/RS + Radio shuttle system is a kind of automatic racking system that utilizes the stacker crane as the shuttle carrier and vertical lift, thus achieving a highly space usage solution, with the help of shuttles and conveyors under the control of WMS and WCS for the operation of warehouse automation. It is suitable for machinery, metallurgy, chemical, aerospace, electronics, medicine, food processing, tobacco, printing, auto parts, etc,



### Features

- Stackers carry out the longitudinal and vertical handling while shuttles completing the lateral handling among the rack channels.
- Conveying lines complete handling towards entrance/exit ports.
- WMS and WCS control handling equipment to achieve fully automatic inbound and outbound operations.

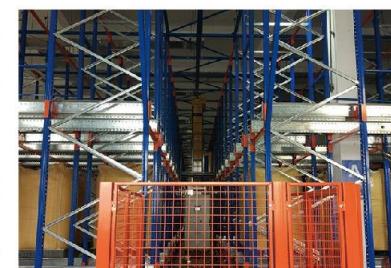
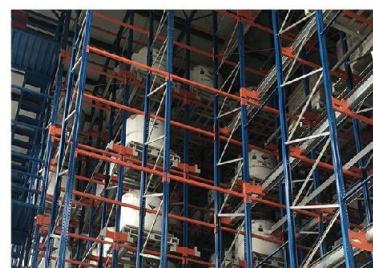
### Features of Stackter Crane

- Max. travel speed of stacker: 160m/min
- Max. lifting speed of stacker: 30m/min
- Max. capacity of stacker: 1500kg
- Radio shuttle speed: 60m/min
- Conveyor line speed: 0–12m/min
- Pallet size: 800–2000mm\*800–2000mm
- In/Out Throughput: 30 pallet/hr

### Advantages

- Efficient system of compact storage for warehouse.
- Optimization of storage, loading and unloading stages.
- Lower risks to the warehouse operating staff & to equipment and racks.
- Removes the need for special fork-lifts.
- Very high throughput and careful loading handling.
- Less chances of damage to the racking, due to the fact the forklift does not enter the loading bay.

### Application



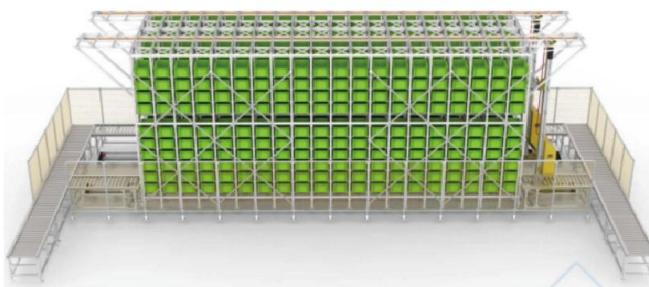
## 05 Miniload ASRS System

Mini Load ASRS is an ideal automated storage solution for smaller loads such as bins, totes, carton boxes, etc. These systems provide both high storage capacity and high throughput throughout the operation. The Mini-Load Automated warehouse for bins is made up of a central aisle, along which a stacker crane travels, and two racks built on either side used to store bins.



### Features of Miniload ASRS

- Maximum load capacities up to 150kg.
- Compatible with dense case storage such as totes/case loading, etc.
- High storage capacity and high throughput operation.
- World-class high-speed mini-load crane.
- Can be combined with a pallet AS/RS to provide residual case management with high density storage.



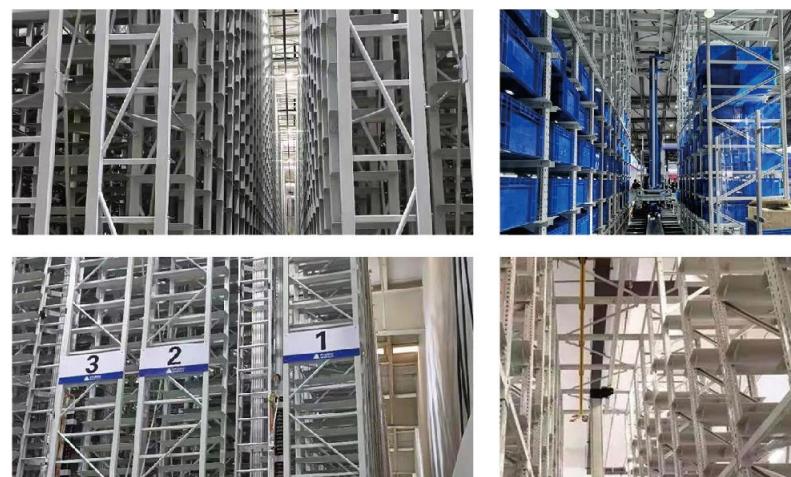
### Features of Miniload Stacker Crane:

- Single side column stacker crane
- Max load capacity: 150kg
- Stackier Crane fork: single&double type
- Max. travel speed of stacker: 6m/s
- Max. lifting speed of stacker: 3m/s
- Fork speed:0.75m/s
- Location accuracy: ±3mm
- Temperature: -5°C~+40°C

### Advantages

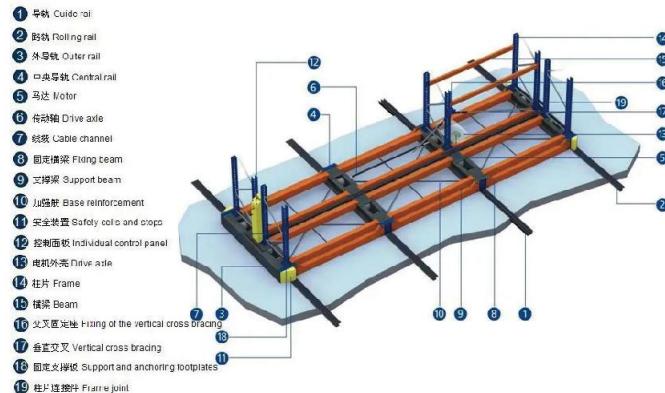
- Miniload ASRS can save up at least 85% warehouse space and utilize the warehouse.
- With the use of miniload, warehouse can replace the forklifts , operators and other material handling equipment.
- Warehouse can achieve the FIFO , LIFO JIT and etc.
- Miniload can save the labor cost and reduce by up to 2/3.
- Improve the warehouse inventory control.
- Miniload asrs can improve the picking accuracy to 99% at least.

### Application



## 06 Mobile Pallet Racking

Electric mobile pallet rack is the most common form of density storage, with the aid of forklift to access the goods. It is a dynamic solution providing up to double the storage capacity in the same area, of conventional pallet racking. Its space. The utilization rate can reach more than 85%. The electric mobile rack is made up of track rail, mobile trolley, motor, rack, detection device, operation panel and software control system. And we have the guide rail type of mobile pallet racking and non guide rail mobile pallet rack.



### Features of Mobile Pallet Rack

Item Name	Mobile Pallet Racking
Types	Guide Rail type & Non guide Rail
Loading capacity	32ton per bay & 16ton per bay
Pallet levels	2-3 pallets/level
Wheel Size	210mm/226mm &300mm
Speed	10m/min Max
Power of Motor	0.4KW, 0.75KW
Transmission Part	Bottom bracing, Trolley, Motor, Transmission shaft
Control Part	Control system, Software
Guide Part	Guide rail or side guide rail
Warehouse	For different type of warehouse.
Cold Storage	≤ -30degree

### Advantages

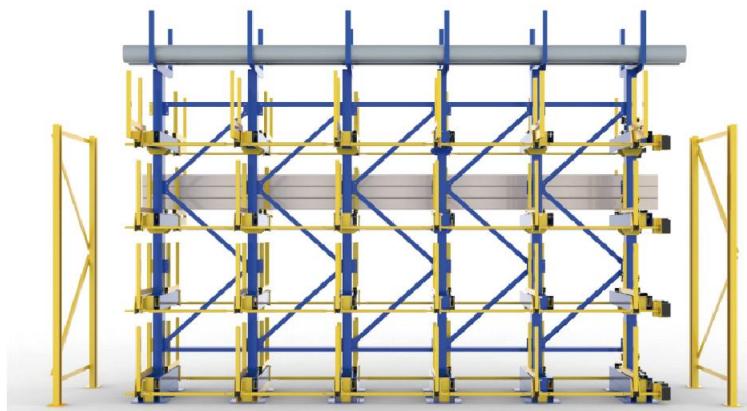
- Save up to 50% of the space required by conventional pallet racking, and increase storage capacity by up to 80%.
- 100% individual pallet access and access the inventories easily.
- Suitable for any kind of warehouse goods.
- Ideal for use in cold-storage rooms, the lowest temperature is -30 Degree Celsius.
- Latest PLC-technology for perfect support of optional functions, plus touch screen with clear graphical display for optimum visibility.
- Low maintenance and servicing required.
- Application: Earthquake-proof design, deep-freeze warehouses, manufacturing industry, food and drug industry, new energy industry.

### Application



## 07 Roll-out Cantilever Racking

Roll out cantilever rack storage system is another special type of cantilever rack. It is designed for storing long materials, such as plastic pipes, steel pipes, round steel, long wooden materials. The arms can be fully extended by turning the crank, which make it much easier to load and unload the materials. Roll out cantilever rack allow you to store long materials inside a drawer system. With this rack, you can free up to 50% of your floor space.



Features of Roll-out Cantilever Rack

Item Name	Roll out cantilever rack
Type	Compact Type, operated by manual operation
Arm Length	L600mm, L800mm, L1000mm
Aisle Width	1400mm, 1500mm, 1800mm
Arm Loading	1000kg, 800kg, 600kg
Column loading	0-11 T loading
Cargo size	3m, 6m, 9m, 12m, 15m
Column center space	≤ 2m
Max floor loading	≥ 1000kg per sqm
Extension speed	2m/min
Retraction speed	2m/min

### Specification of Roll-out Cantilever Rack

Column Size: 200\*100  
Loading Arm: 60\*40\*3.0  
Roll-out Arm: 100\*40  
Tube for Arm: 160\*60  
Fixed Arm: 70\*50 tube



### Advantages

- 100% extendable arms.
- Easy to roll out at any time.
- Ideal for transport of profiles with a crane.
- Compact storage system with a clear overview.
- Only 1 person required.
- A quick and safe way of working.
- Number of drawers and loading capacity can be determined by the customer.

### Application



## 08 AGV Forklift

Automatic guided vehicle (AGV) forklift is a computer controlled mechanism that performs a series of functions without the interference or guidance of a human. They are part of a complex and complicated technical system that is composed of computer programming, robotics, and peripherals. It is the typical automated guided vehicle (AGV) with forks. This specific kind of AGV is inspired by the conventional human manned forklifts. The forklift AGV is designed to provide both horizontal and vertical movement of the load. They can also be configured to stack loads in racks.



Specification of Forklift

Item Name	OM001	OM002	OM003	OM004
Power Type	Lithium iron phosphate battery			
Driving Type	AGV	AGV	AGV	AGV
Max Loading	1500kg	1500kg	2000kg	2000kg
Loading Center	500mm	500mm	500mm	500mm
Total Weight	1850kg	2150kg	2100kg	2250kg
Lift Height	1600~4500mm	4000~5500mm	1600~4500mm	4000~5500mm
Total Length	≤2400mm	≤2450mm	≤2530mm	≤2600mm
Total Width	900/1105mm	900/1105mm	900/1105mm	900/1105mm
Fork Size	1070/100/35	1070/100/35	1070/122/40	1070/122/40
Outside Width of Fork	220~710mm	220~710mm	264~732mm	264~732mm
Forward Distance	570mm	570mm	685mm	685mm
Turn Radius	1760mm	1760mm	1950mm	1950mm
Speed(Empty Load)	5.5km/h	5.5km/h	5.5km/h	5.5km/h
Speed(Full Load)	6km/h	6km/h	6km/h	6km/h

### Types of AGV Forklift



Stand-up AGV Forklift



Reach AGV Forklift



VNA AGV Forklift

### Benefits of AGV Forklift

- Reduced labour costs & improved working efficiency.
- Improved productivity & reduced product damages.
- Reduced facility damage & improved safety.
- Improved flexibility & improved Material Accountability.

### Application



## 09 ACR System

Autonomous Case-handling Robot (ACR) systems are highly efficient Goods-to-Person solutions designed for totes & cartons transportation and process optimization, providing efficient, intelligent, flexible, and cost-effective warehouse automation solutions through robotics technology.

In the system, the Robots walking in the warehouse with following the QR code navigation.

ACR system includes the ACR, intelligent charging pillar, racking shelving, multi function working station , WMS, WCS and relative internet hardware system.

Now the ACR system has been applied in Fashion, 3PL, Retail, Electronics, Healthcare, E-commerce, and other industries.



## Technical Data of Multi Layer ACR



Item Name	Multi Layer ACR
Brand Name	Ouman/ OMRACKING
Lifting Height	Max Height 5200mm
Walking Speed	Avg: 1.5m/s , Max:1.8m/s
Plastic Container Nos	Normally 5pcs, but can do with 8+1 pcs
Plastic Container Size	600x400x120-300mm / customize size
Container Load	30kg-50kg
Navigation Methods	Inertial navigation+ DM Code
Battery life	More than 5.4h
Racking Type	Medium duty Racking Shelving
Aisle Width	1110mm
Ground Flatness	± 4mm/m <sup>2</sup>

## Advantage of Multi Layer ACR

- High Working efficiency  
Max plastic cases of our multi layers ACR carry is 8+1 pcs, this can help improve the working picking efficiency greatly.
  - Flexible payload dimensions  
Our automated picking robots supports separate and mixed picking of plastic totes and carton boxes. So it can support many different dimensions and types of cases.

- Strong flexible with racking solution  
If new warehouse, we can design with more rows racking shelving but if existing racking, we can provide renovation plan based on the old racking to achieve the function high storage density.

- High safety  
The automated picking robots have the safety device to make sure it works in safe condition.

## Types of ACR System



## Multi-Layer ACR



Telescopic Lift ACI



Fork-Lifting ACR

## Application



## 10 ACR System

The Latent Mobile Robot “Shelf-to-Person” is a mobile robot characterised by its lifting mechanism with optimized movement performance and high-level safety protection. The robot helps customers create a safer working environment and more profitable productivity.



### Features of LMR System

- CE certification
- 360° anti-collision protection
- Detection of obstacles of any dimension
- Chassis suspension system to adapt to uneven surfaces
- Supports different navigation methods (SLAM)
- Automatic route planning to avoid obstacles
- Supports different racking structures

### Advantage of LMR System

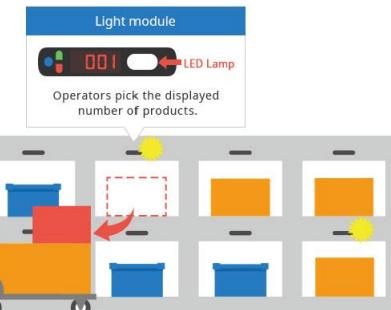
- LMRs improve labor productivity.
- Reduce picking errors with LMRs.
- LMRs reduce downtime caused by wasted travel of personnel.
- Reduce new employee training time with LMRs.
- Maximize facility efficiency with LMRs.

### Applications



## 11 Pick to Light System

Pick to Light systems are picking assistance systems that employ Pick to Light systems light modules. Plant and distribution center operators simply walk to the locations of illuminated modules and pick the displayed number of products. The instructions provided by these Pick to Light systems light modules make picking work accurate and speedy.



### Features & Advantages

#### ● Reducing Picking Errors

PTL improves order fulfillment performance by reducing the time spent walking between items required by an order, and removing the errors associated with reading paper pick lists.

#### ● High-Speed Piece Picking

PTL system is the fastest pick automation available to boost the speed and order quality of your broken case quantity/piece picking operations.

#### ● Best-of-Breed Solution

PTL is widely recognized as the best-of-breed pick-to-light system available on the market. We deliver proven performance and the latest innovations to your material handling operations.

### Application



## 12 Standard Racking Shelving System

### Pallet Racking System



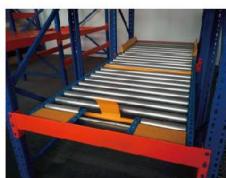
Selective Pallet Racking



Drive In Racking



Double Deep Racking



Gravity Pallet Racking



Push Back Rack



VNA Racking

### Medium Duty & Light Duty Shelving



Medium Duty B Shelving



Medium Duty A Shelving



Light Duty Shelving

### Angle Shelving



Slotted angle shelving



Rivet Angle Shelving



Angle Shelving

### Mezzanine & Steel Platform



Mezzanine Racking



Steel Platform

### Cantilever Racking



Single Side Cantilever Racking



Double Side Cantilever Racking

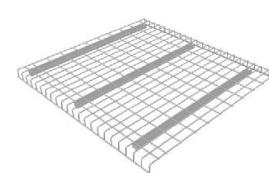
### Related Storage Equipment



Stacking Rack



Galvanized Wire Container



Galvanized Wire Decking



Steel Pallet



Plastic Pallet



Plastic Protector

## CERTIFICATIONS&PATENTS



## BUSINESS PARTNERS

