

MUTRADE[®]



MUTRADE SOLELY REPRESENT JIUROAD WORLDWIDE



ARP Series Automatic Rotary Parking system

Please notice that all the specification and technical details quoted within this catalog/datasheet/installation manual maybe out of date or have minor differences with our standard equipment from time to time. Our company reserve the right to change technical details in the description, information and illustrations in this documentation. All the specification and technical details will be subjected to the drawing confirmed by the sales contract.

CE This parking system is compliant to:
- EC Council Directive 2006/42/EC Machinery
- DIN EN 14010

Web: www.mutrade.com
Tel.: +86 532 5557 9606 / 5557 9608 E-mail: inquiry@qdmutrade.com
Address: No. 106 Haier Road, Jimo District, Qingdao, 266200 P.R. China



> Introduction

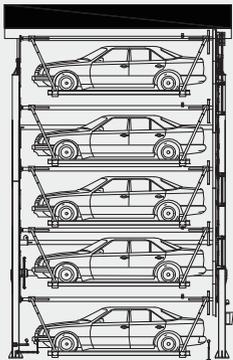
Rotary parking system is one of the most space-saving systems that allows you to park up to 16 SUVs or 20 sedans in only 2 conventional parking spaces. The system is independent, no parking attendant is required. By inputting a space code or swiping a pre-assigned card, the system can recognize your vehicle automatically and find the faster path to deliver your vehicle down to ground either clockwise or counterclockwise.

Features:

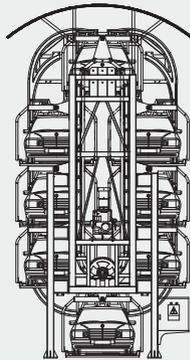
- Suitable for all types of vehicles
- Least cover area than other automated parking systems
- Up to 10 times space saving than traditional parking
- Quick time of car retrieval
- Easy to operate
- Modular and simpler installation, averaging 5 days per system
- Quiet operation, low noise to neighbors
- Car protection against dents, weather elements, corrosive agents and vandalism
- Reduced exhaust emissions driving up & down aisles and ramps looking for a space
- Optimal ROI and short payback period
- Possible relocation & reinstallation
- Wide range of applications including public areas, office buildings, hotels, hospitals, shopping malls, and car showrooms, etc.

Allowing you to park up to either

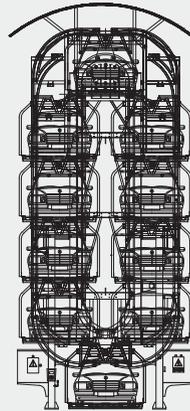
20 sedans / 16 SUVs



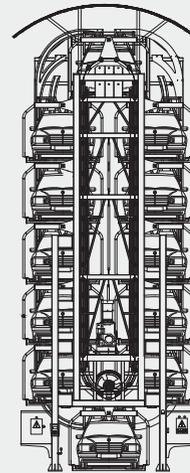
ARP-8



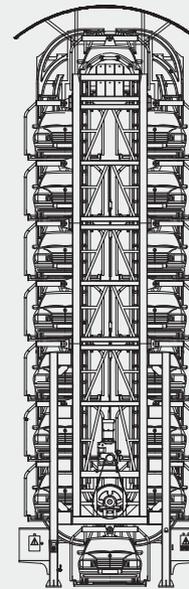
ARP-10



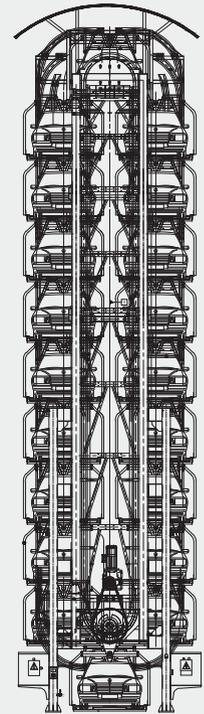
ARP-12



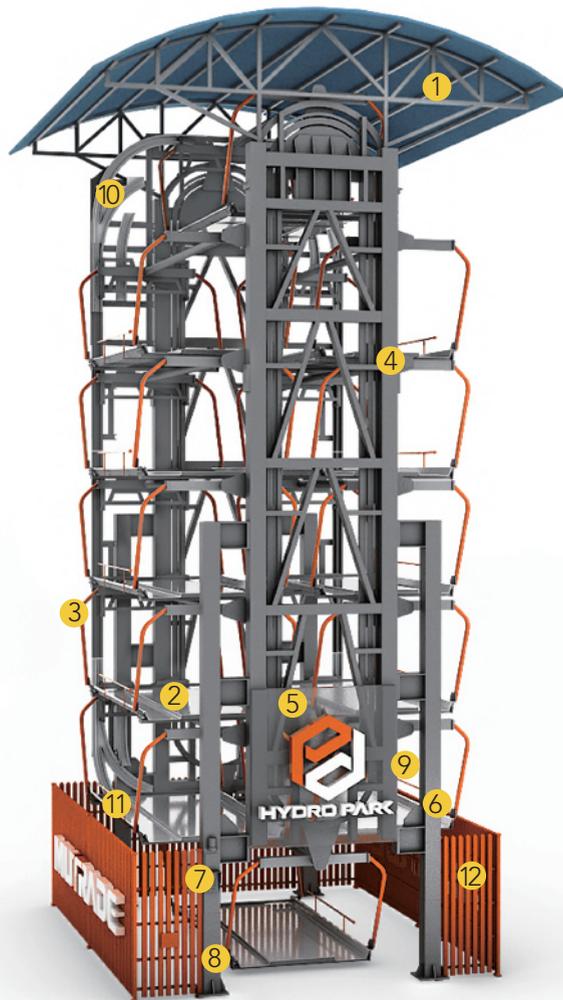
ARP-16



ARP-20



General parts



1 Rain shelter

2 Platform

3 Platform suspension arm

4 Rack

5 Gear motor

6 Post

7 Control panel

8 Photocell sensor

9 Electric box

10 Guide rail

11 Car door stopper

12 Fence

Main Features

German motor

SEW/NORD brand motor, max 22kw, to ensure stable running and long durability

Accurate & stable manufacturing

Modular design and high-precision equipments enable tolerance <2mm in main structure manufacturing

Robotic welding

Robotic welding machines keep each module standard and accurate, and also increase system safety & stability

Safe and flexible lifting system

Non-lubricated contact between guide rollers & rail achieves flexible rotation and reduces working noise and power consumption.

Three stages & four chains transmission system

This unique transmission system provides stronger support for system safety and smooth running.

High strength alloy steel chains

The self-developed giant chains, made of alloy steel, have superior high strength, safety factor is no less than 10; and they adopt tin-bronze shaft sleeve and Teflon finishing for smoother rotation and better corrosion performance.

ARP Series

Windproof & anti-seismic performance

Our unique design achieves stability under 10th grade wind and magnitude 8.0 earthquake even when platform moves to top position.

Extra safety preventing door open

A special developed car door stopper is equipped on platforms to protect the ARP system and vehicles from door open during system running in case people are left inside.

Intelligent ground loop detector

Open or shut the door automatically as per system operation status and prevent unauthorized entrance.

Retrieval at blackout or power off

A manual parking & retrieval device are equipped to take your cars safely even at blackout or power off situations.

E-charging optional

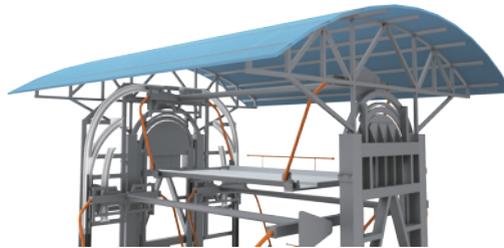
Intelligent and uninterruptible fast electric charging system is optional, and super easy to operate.

Powder coating

One of the best rustproof finishing, and rich colors are optional

Gifts for Free

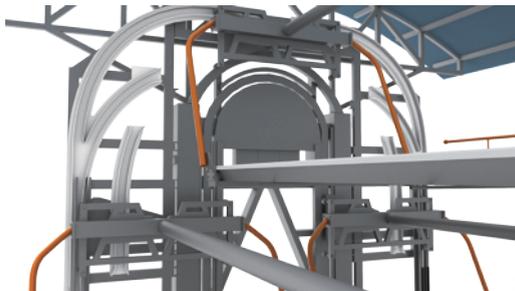
- › The 5 accessories/parts are offered free as standard to celebrate the exclusive collaboration between Mutrade & Jiuroad in global market except Mainland China, taking effective from July 14th, 2022.



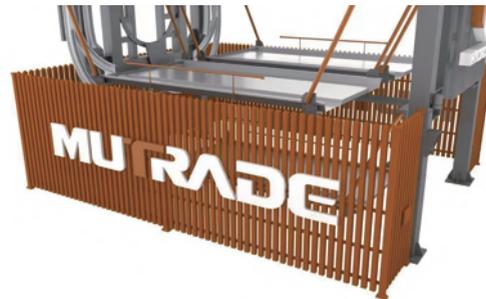
Rain shed



Car door stopper



Windproof & anti-seismic rail



Safety Fence



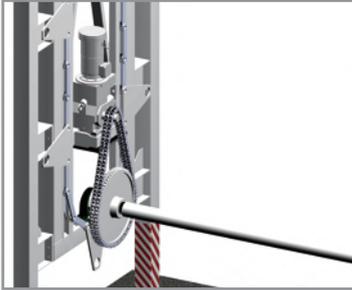
Auto door

> Sedan type systems

Model Number	ARP-8	ARP-10	ARP-12	ARP-16	ARP-20
Sedan spaces	8	10	12	16	20
Motor power (kw)	6.0	7.5	9.2	15	22
System height (mm)	9,920	11,760	13,600	17,300	20,960
Max retrieve time (s)	100	120	140	160	140
Rated capacity (kg)	2000				
Car size (mm)	Sedans only; L*W*H=5300*2000*1550				
Cover area (mm)	L*W=6,500*5,500		L*W=6,500*5,700		
Power supply	380v, 50hz, 3ph (standard)				
Operation	Button / ID Card				
Finishing	Powder coating				

> SUV type systems

Model Number	ARP-8S	ARP-10S	ARP-12S	ARP-16S
SUV spaces	8	10	12	16
Motor power (kw)	7.5	9.2	15	22
System height (mm)	12,100	14,400	16,700	21,300
Max retrieve time (s)	130	150	160	145
Rated capacity (kg)	2500			
Car size (mm)	SUVs allowed; L*W*H=5300*2100*2000			
Cover area (mm)	L*W=6,500*5,700			
Operation	Button / ID Card			
Power supply	380v, 50hz, 3ph (standard)			
Finishing	Powder coating			

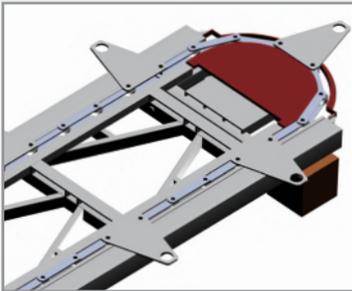


> High speed auto door

The door can be installed in front of system. It automatically shuts during system running to prevent entrance by mistake and protect the cars from theft and vandalism. It can also detect vehicles access and open intelligently.

> Emergency stop button

It can be activated to stop the system at any time and cut off power in case of any emergencies or system malfunctions.

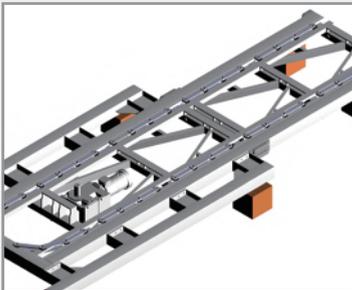


> High strength structural joint

The entire system is manufactured modularly and automatically to ensure perfect performance and smooth operation. And a high strength and precision part for structural connection is one of the key factors to achieve so

> High precision manufacturing

Large CNC universal gantry milling machine, CNC double-sided milling processing, and other CNC machine tools to ensure manufacturing tolerance <2mm

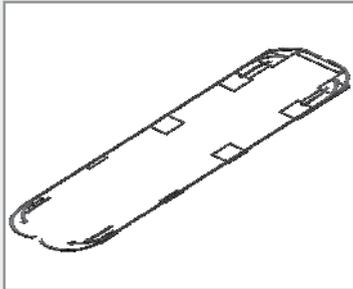


> Giant lifting chains for highest safety

To achieve superior safety, German technology is adopted in developing our own giant lifting chains, with tin-bronze bushing and self-lubricating bearing.

> Rain shed

Arc-shaped rain shed is optional on top of system to protect the system and vehicles from hard weathers; without effecting the system stability against strong winds or snows.



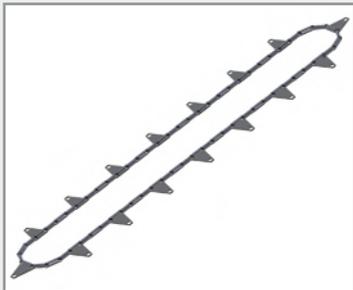
> **Car door stopper**

Car door opening is highly hazardous to both the vehicles and system. A specially made device can be added to prevent such happening during system running.



> **Windproof device**

When system goes up to 20m, wind load is one of potential hazards to structural stability. The wind proof device can keep the whole structure stable under the 10th grade wind even when platforms are moving to the highest position.



> **Seismic resistance**

Our ARP system has been certified by professional third party to be safe at Magnitude 8.0 earthquake, thanks to the high strength structural design and high-precision manufacturing.

> **Automatic car wheel positioner**

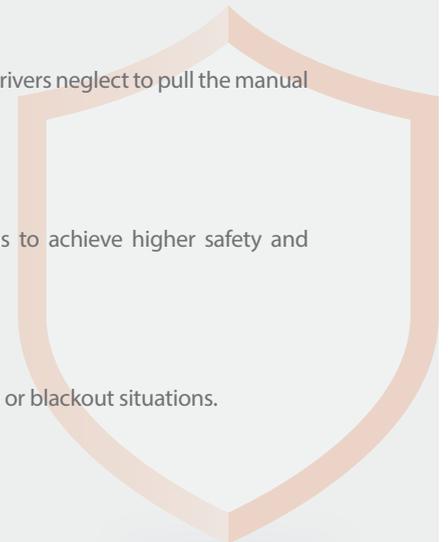
The positioner can prevent car moving during system running in case drivers neglect to pull the manual brake before leaving the car, or under the force of strong wind.

> **Dual closed-loop anti-swing system**

An anti-swing system are arranged on both top & bottom positions to achieve higher safety and stability during system running.

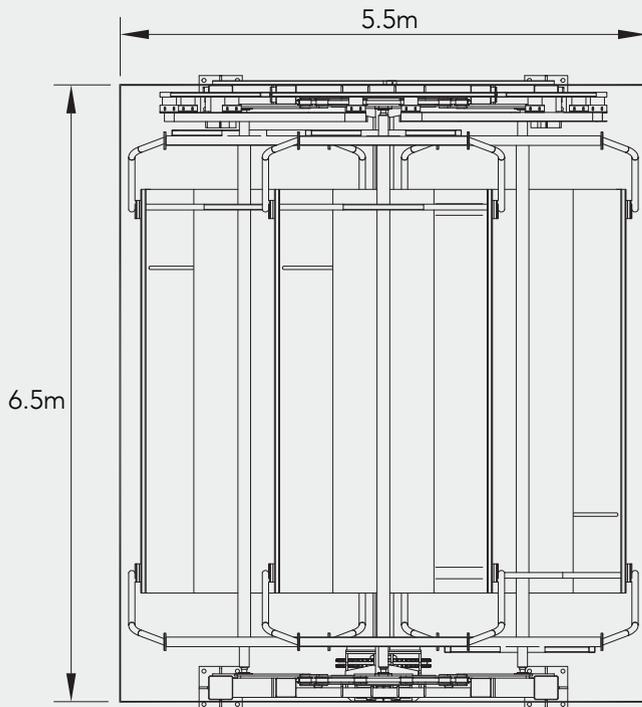
> **Car retrieval at power failure (Optional)**

This device allows drivers to retrieve vehicles at power failure scenarios or blackout situations.

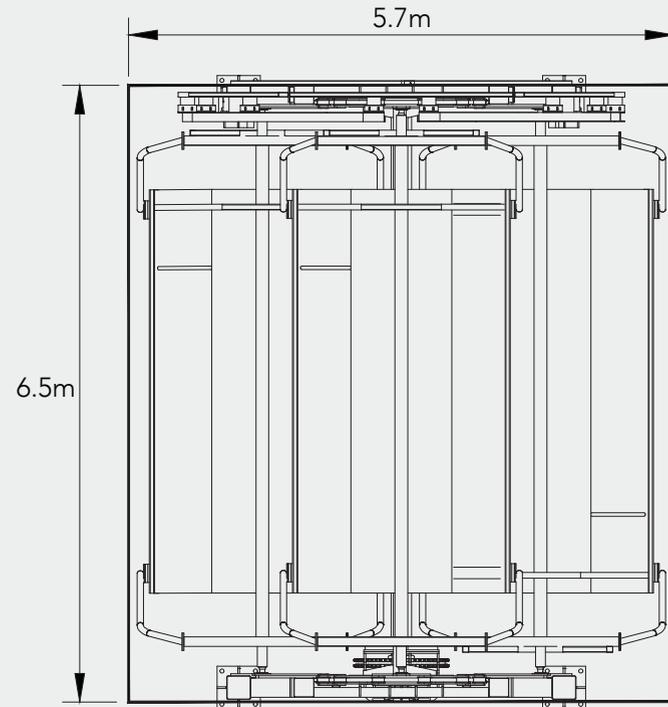


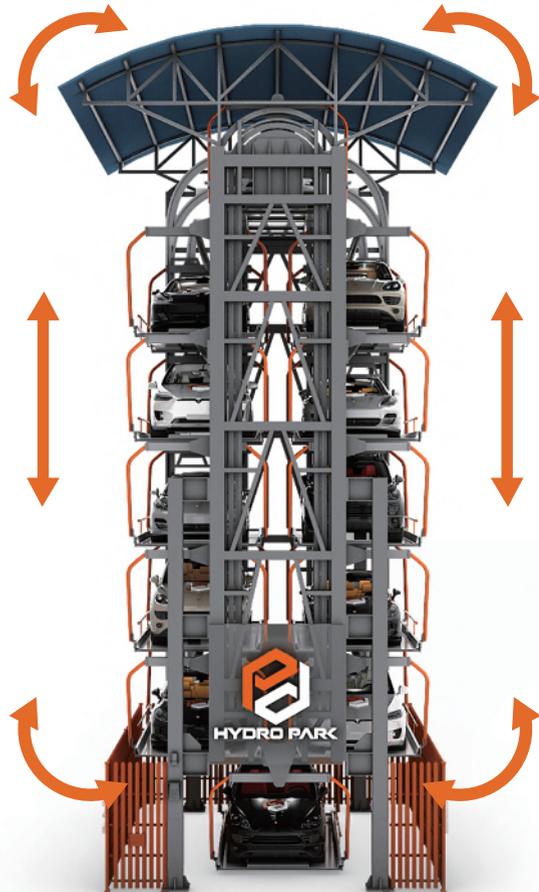
Dimensions

Sedan system



SUV system





System rotates in both directions to deliver your car to ground

Two ways to operate the system:

- › 1. Code: input the space number of desired platform, then press RUN to start.
- › 2. Card: users can swipe a specific card to get a certain platform down to the entrance level. Each card matches a specific platform.
- › 3. Face: a facial recognition screen is optional to read your face in a second and deliver the platform to ground.

LED display



Keypad

Emergency stop button

Key switch

Reset

To ensure proper and stable function of entire ARP system in the long run, regular and periodic inspection & maintenance are also of vital importance:

> Weekly

- 1) All connecting parts and transmission parts shall be working properly free from any bad abrasion and big clearance;
- 2) All bolts shall be tight and fastened
- 3) Lubricate the chains and add lithium grease every 2 weeks.

> Quarterly

- 1) Check the status of all safety devices and electrical system
- 2) Check the whole set of transmission system, including chain wheel, gearing mesh, bearing, etc.

> Monthly

- 1) Conduct comprehensive inspection to lubrication status of whole system
- 2) All steel surface or welding joints shall be free from any cracks
- 3) Check the function of limit switches, photoelectric sensors, etc.
- 4) Lubricate the oil type bearings

> Annually

- 1) Perform overall inspection for ARP system, including mechanical & electrical parts, lubrication status, running status, wearing conditions, etc.
- 2) Lubricate reducer as per reducer manufacturer instruction;
- 3) Lubricate other sliding parts as per actual situations

Scope of application

Suitable for residential buildings, office buildings, hotels, hospitals, and any other commercial areas where vehicles enter & exit frequently.

Temperature

Theoretically the system is designed to operate between -40° and $+40^{\circ}$ C. Atmosphere humidity 50% at $+40^{\circ}$ C. If the local circumstances differ from the above, please contact Mutrade.

Electrical installation preparation

Cabling preparation to be performed by the customer

- To the main switch. Cables shall be in place prior to commence of installation
- Connect to the main switch during installation
- System functional check testing can be performed by the electrician provided by the customer

Grounding and equalization (if applicable): to be done by customer as per local regulations.

Parking

- Input car number or swipe IC card to lower your platform down to ground
- Drive the car forward onto the platform
- Put the brake on after vehicle parked on the platform
- Open the car door and leave the system carefully

Protection against corrosion

Proper maintenance work has to be carried out according to Mutrade Cleaning and Maintenance Instruction regularly. Clean up structural parts and platforms of dirt and road salt as well as other debris.

Fire safety

Each and every fire safety requirement and all possible mandatory item(s) and equipment (fire extinguishing systems and fire alarm systems) are to be provided by the customer as per local laws and regulations

References

