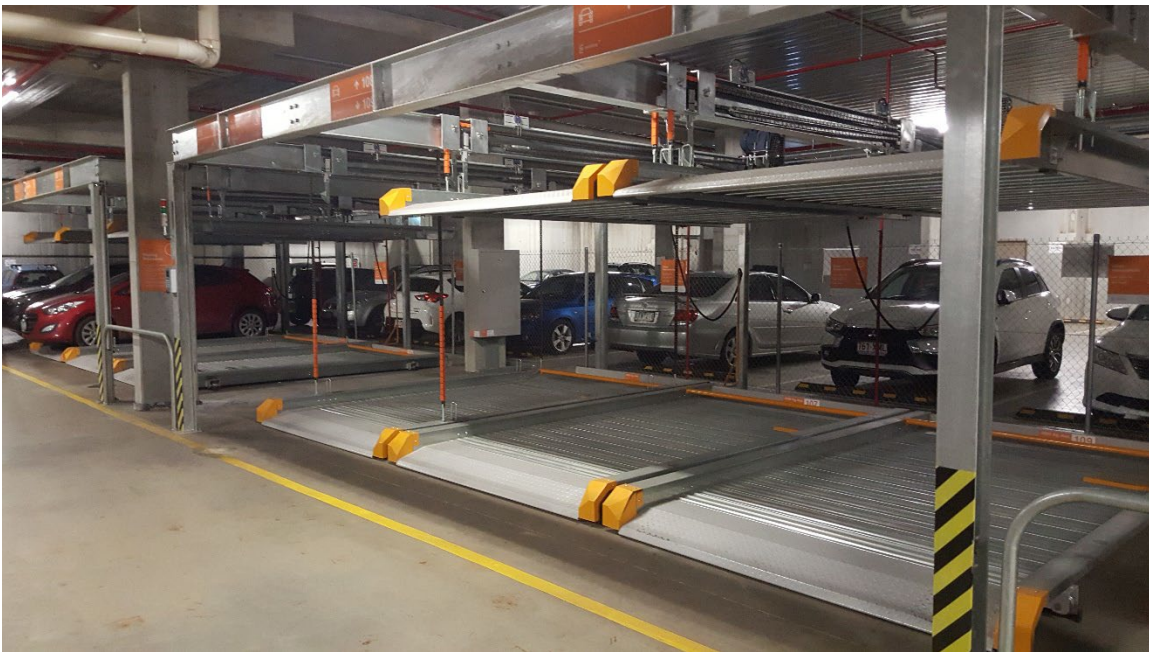


# 2 Layer Lift-sliding Mechanical Parking Facility

## Introduction & Specifications



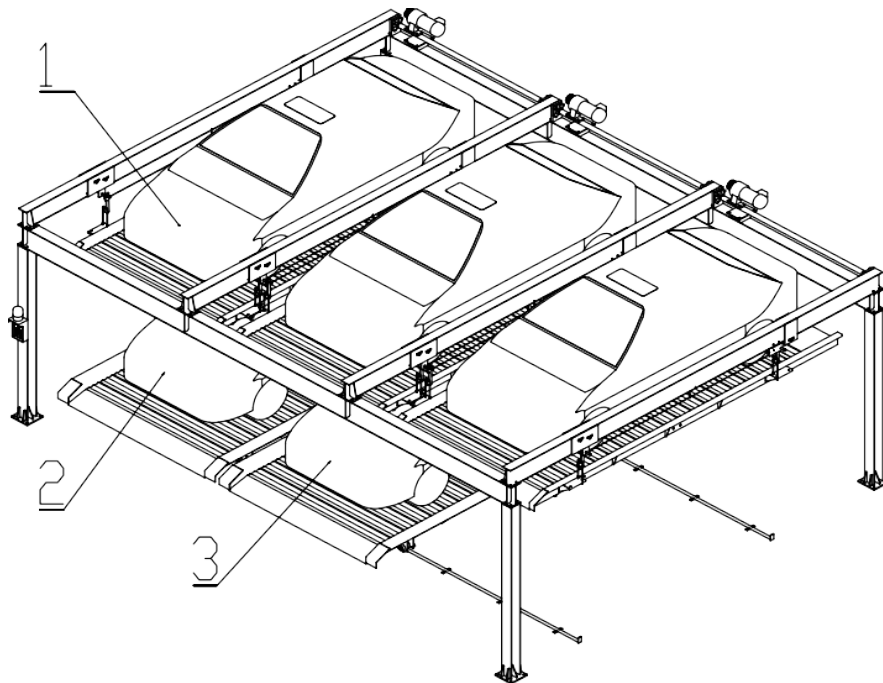
## Brief Introduction:

The PUZZLE Type Parking System offers the advantages of a simple structure and easy maintenance without strict requirements on civil engineering, making it attractive to customers. The system mainly consists of five parts: Steel frame, Supporting Platform, Transmission System, Control System, and Security Protection System. It can be installed above or underground, and the number of layers can be customized according to customers' requirements, with options for both single-row or multiple-row layouts.

## Working Principle:

The PUZZLE Type Parking System operates by storing and retrieving cars through the movement (rising, descending, and swaying sliding) of the Supporting Platform, allowing the driver to enter the system.

As shown in the pictures, there are two levels. To retrieve cars numbered No. 1, No. 2, and No. 3, one space needs to be removed forward, leaving one vacant space. Car No. 1 will descend to the ground, allowing cars on the ground pallet to be directly driven away.



## **Construction & Part Details:**

This is a two-level puzzle parking system consisting of five main parts: steel structure, pallets, transmission system, control system, and safety guard system. The steel structure primarily uses H-type steel, while the pallets are made of galvanized wave plates. The transmission system includes lifting and sliding transmission components. The control system comprises a major loop and control loop, with various safety protection measures, such as emergency limited switches, overlength and over height detection devices, entrance detection for people and cars, sound and lifting warning devices, and anti-fall devices, ensuring operational reliability and safety for people and cars.

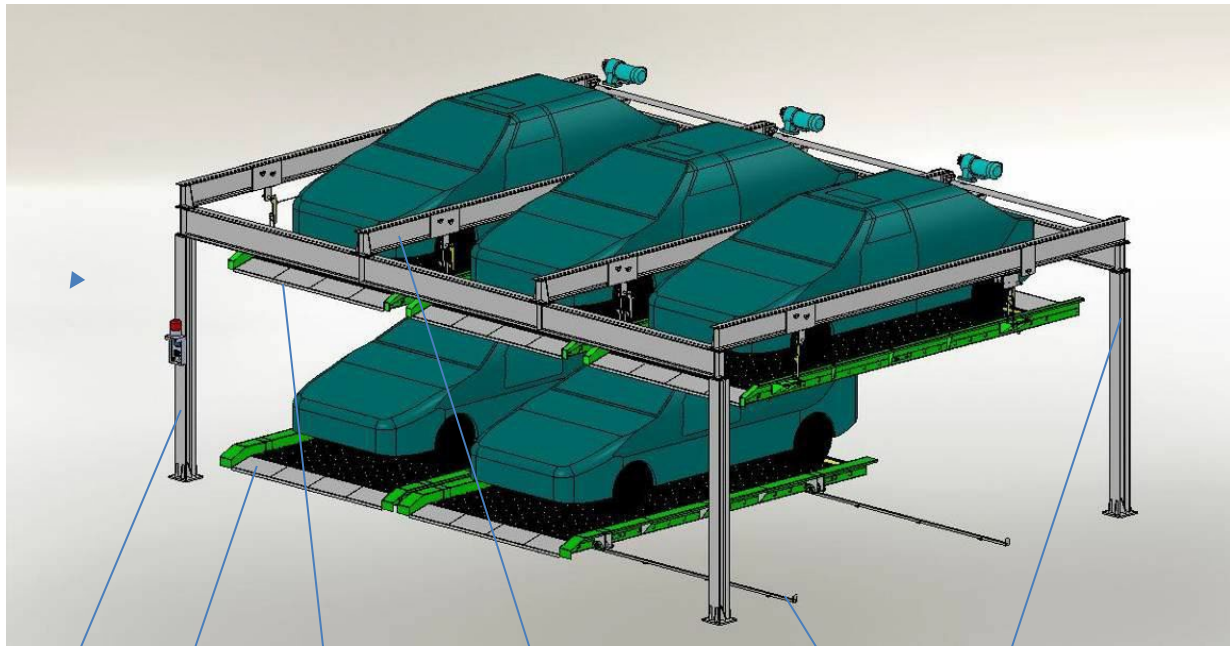
The steel structure serves as the foundation of the parking system, providing support and stability to the entire structure. It consists of cross-beam structure with four columns, including columns, beams, and longitudinal components. The steel surface is treated with hot-dip galvanization or paint to prevent rust and maintain an elegant appearance. This treatment also extends the service life of the steel, even in cold and damp environments.

Structural features: High-strength bolts are used to secure the frame, providing excellent strength and stiffness. The cross-beam structure groups three spaces together, allowing for faster and more convenient vehicle access.

The pallets consist of uploading pallets and sliding pallets, along with side beams and a galvanized wave board assembly structure. The main role of the pallets is to carry vehicles. The side beams are made through steel roll forming and include water reservoirs. The pallet plate is a 2mm thick galvanized wave plate, fastened with bolt connections for a beautiful appearance, high strength, and good rigidity. The rear side of the pallets is equipped with vehicle gag level posts to ensure that vehicles stop in the appropriate positions. Sliding pallets are equipped with sliding transmission devices for flexible movement, safety, and reliability.

Structural features: The wave plate adopts a cascade structure, and cold side beams are connected to water reservoirs, preventing dripping, slipping, and ensuring a long life

## Assembly Structure:



Front Frame Assembly -1x

Middle Beam Assembly- 4x

Rear Frame Assembly-

Rails - 2x

Sliding Pallet- 2x

Fixed Pallet- 3x

## Main Structural Elements in this Puzzle System:

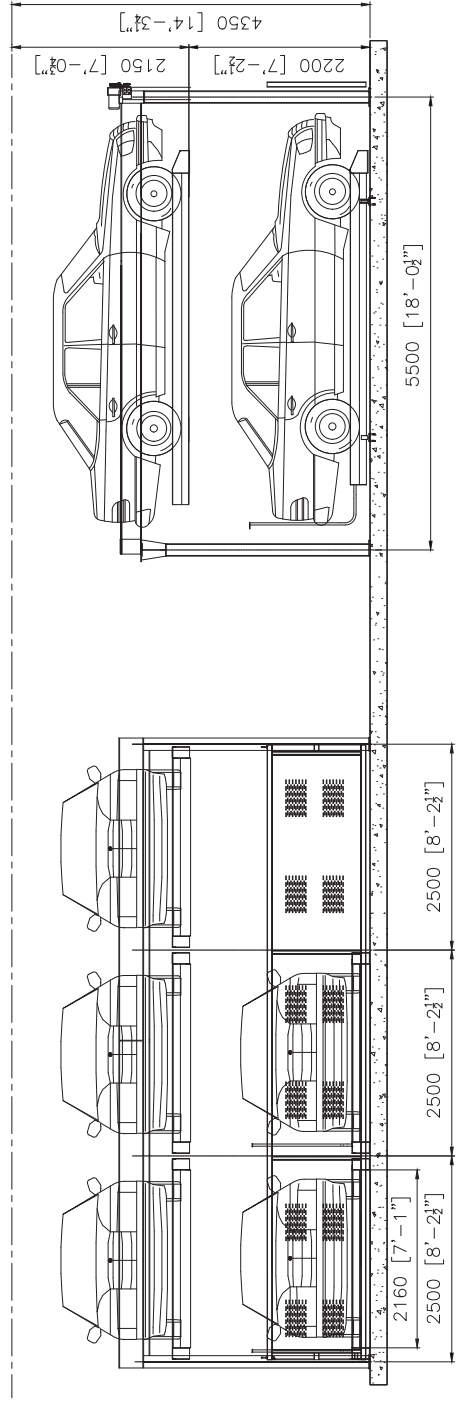
1. Front Frame Assembly rough weight: 1200 lbs.  
2.5meters x 6.0 meters 0.5 meters
2. Rear Frame Assembly rough Weight: 2000 lbs.  
2.5meters x 6.0 meters 0.5 meters
3. Middle Beam (4 beams) Assembly rough Weight: 650 lbs.  
5.5 meters x 0.25 meters 0.25 meters
4. Sliding Pallet Assembly rough Weight: 1100 lbs.  
4.3 metersx2.5 metersx0.4 meters
5. Fixed pallet Assembly rough weight: 1000 lbs.  
4.3 metersx2.5 metersx0.4 meters
6. Rails: Rough weight 100 lbs.

As you can see these subassemblies are very light, can be moved easily and can be installed in place pretty quickly.

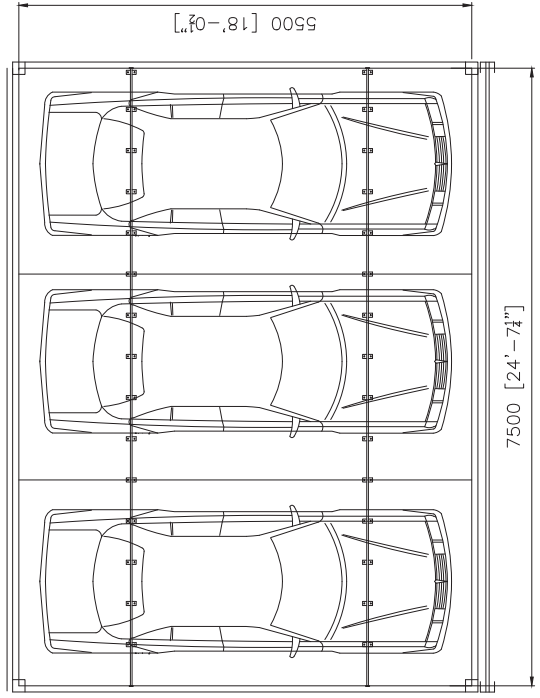
Electrical wiring can be such made with connectors that also will need minimum time for reinstallation.

All these columns & Rails are mounted with anchors, these can be installed quickly and moved as needed.

All these items 1-6 can all be put on one flat bed and be transported easily.



## TWO LEVEL LIFT & SLIDE SYSTEM TOTAL: 5 SPACES IN THIS DESIGN



Size specification table

Technical Data Sheet	
car	Dtype
s length	≤5000mm
i width	≤2000mm
z 1 level height	≤2000mm
z 2 level height	≤2000mm
e pit level height	≤2000mm
e weight	≤2500Kg
Lifting speed	13-19' per minute
Traverse speed	19-76' per minute
Drive method	Motor chain type
Lifting motor power	2.2KW
Traverse motor power	0.2KW
Power capacity	3KW
Power	AC480V 60Hz Three-phase five-wire system
Operation method	Button operation/IC card operation (optional)
Maximum noise	≤62db(A)
car quantity	2×N (row number) -1
Pick up time	45S

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DESIGNER: R.P. SYSTEMS  
 FINISH REF: SCALE: NTS  
 DRAWING NO: SHEET 2 OF 2  
 DATE: 02/2022  
 APPROVED BY: R.R. DATE: 02/2022

TURBO ANGLE