CAR PARKING SYSTEMS

ROTARY PARKING SYSTEMS
ПР-10/ПР-12/ПРД-10

Rotary parking systems ПР-10, ПР-12 and ПРД-10 are often called carousel parkings because of their operating principle.

Cars are parked on parking pallets. The pallets are moved by means of 2 drive chains moving along closed guide rails. Closed guide rails prevent the car from falling even if the drive chain breaks.

Parking systems provide efficient use of space in restrained urban conditions. They do not require operating personnel, however, if this equipment needs to be installed near shopping centres, control by a dedicated operator is possible.

Since they are designed for parking a small number of cars, the car parking/retrieval time is minimal. If your car is in the topmost parking space, you will only have to wait 3 minutes to retrieve it, or less if the car is in a lower space.

A double parking space can accommodate up to 12 small and medium class cars or 10 SUV cars.

PARKING SYSTEM SPECIFICATIONS
ПР-10, ПР-12, ПРД-10

PARAMETER	VALUE		
	ПР-10	ПР-12	ПРД-10
Number of parked cars	10	12	10
Vertical travel speed of the parking platform on a straight section, m/s	0.06		
Rated drive power, kW	7.5	11	11
Rated power consumption at full parking load, kW	9.5	14	14
Overall dimensions, mm, not more than: - length × width height with light roofing (supplied as a separate set) height without light roofing	 7,000×5,600 12,500 12,000	 7,000×5,600 14,350 13,850	 7,000×6,000 14,700 14,100
Maximum parameters of a parked car: - length, mm; - width (with mirrors), mm; - height, mm;	 5,200 2,100 1,600		 5,200 2,300 1,900
Maximum car waiting time, s	160	192	192
Maximum weight of a parked car, kg, no more than	2,150	2,150	2,500
Parking system weight, kg, not more than	18,500	21,500	23,000

COMPONENTS OF ROTARY PARKING SYSTEMS ПР-10/ПР-12/ПРД-10

1. Car entry/exit

Components preventing the parking space from swaying:

- the upper rollers of the parking space are confined by damper elements;
- the lower rollers of the parking space rest on buffer supports;
- the rollers above the entrance preventing the parking space from longitudinal movement.

2. Orientation of the car during parking

- a ramp is installed for entry into/exit from the parking space;
- the flanging of the ramp and the parking space helps the driver to position the car across the width;
- parking is carried out until the front wheels stop, which determines the position of the car along the parking space.

3. Mirror

Located inside the parking are to facilitate car entry.

4. Drive

A powerful drive ensures trouble-free operation of the parking system even with parking loaded on one side.

5. Parking space

A solid parking space pallet protects the car from dirt and technical fluids from overhead cars.

6. Damper system

Stabilises parking spaces during their movement.

7. Control system

- vandal-proof control cabinets;
- only key holders have access to control;
- the car is delivered along the optimal path;
- automated control system.

8. Optical sensors

Safety perimeter and car presence sensors ensure the safe operation of the parking system.

9. Fencing

Restricts access to the hazardous parking area for unauthorised people.

10. Roof

Protects against direct precipitation.

AUTOMATIC PARKING SYSTEM **ПЛ-25**

The ПЛ-25 parking system is designed to accommodate small and medium-class cars or SUV cars. The parking system uses a high-speed lifting device for vertical car movement, with parking spaces located to its left and right.

The parking system structure is based on a metal frame. The structure can be clad with glass, polycarbonate, or painted siding. The steel structure is hot-dip galvanised, ensuring the longest possible service life.

The parking space is determined automatically by the control system depending on the car size and the availability of vacant spaces for a car of that size. The lifting and lowering of the car is carried out on a carriage that moves along vertical guide rails. The carriage is moved by the main drive using pull chains. The movement of parking spaces to the central zone and back (car loading and unloading) is carried out by geared motors of the drive beams only in the horizontal plane.

KEY PARAMETERS, DIMENSIONS AND CHARACTERISTICS OF THE PARKING SYSTEM

PARAMETER	VALUE
1. Number of parked cars, pcs.: **- without fire protection for the steel structure** **- with fire protection for the steel structure**	 **up to 26** **up to 50**
2. Maximum load capacity of a parking space, kg	**2,500**
Maximum size of a parked car: **- length, mm;** **- width (with mirrors), mm;** **- height, mm**	**5,200** **2,100** **1,500** **1,950 (SUV)**
4. Nominal vertical speed of the load-carrying carriage, m/s, not more than	**1.6**
5. Nominal supply voltage, V	**380**
6. Nominal supply frequency, Hz	**50**
7. Nominal motor power, kW: **a) main drive (vertical movement)** **b) rotary mechanism drive** **c) parking space mechanism drives**	 **37** **2.2** **0.18**
8. Nominal power consumption, kW	**55**
9. Operating mode	**S1**
10. Number of operations per hour, not more than	**60**
11. Overall dimensions of the module in plan, mm, not more than	**7,900×8,800**
12. Average car retrieval time, s	**130**
13. Equipment weight (for 26 parking spaces), kg, not more than	**104,500**

Advantages:

- for the convenience of users and to reduce the time it takes for a car to exit the loading and unloading zone, the equipment is equipped with a turntable that allows the car to exit in forward gear;
- all parking spaces are covered from below with profiled sheets, which prevents dirt or technical fluids from falling onto the car parked underneath;
- the control system ensures safe pedestrian access to the loading zone: the gates open only after the carriage is fully lowered and the car is rotated (option).

The limiting values of climatic environmental factors for the equipment range from minus 25 to plus 40°C.

DEPENDENT PARKING SYSTEM П3-2
DOUBLE CAR TYPE

Parking lots of this type are called dependent, as to allow the exit of the upper car, it is first necessary to vacate the parking space on the level below. Can be used in any open or closed areas with limited height. Parking systems can be equipped with either a single control system or a group control system (from 3 to 5 units with a common hydraulic power unit and a common electrical cabinet).

The main assemblies of the parking system are hot-dip galvanised and painted, the pallet is made of galvanized sheet material. The hydraulic control system allows using one common hydraulic pump, one common hydraulic tank, etc. for multiple adjacent parking systems (from 3 to 5).

The parking system is a stationary installation, is not a permanent structure, and can be easily assembled and installed. If necessary, it can be relocated to another place.

Advantages:

- it can be easily secured to the base using anchor bolts;
- low price among parking systems of other types;
- the main target users of a dependent parking system can be considered households owning two cars.

SPECIFICATIONS

PARAMETER	VALUE
Number of parked cars	**2**
Nominal vertical travel speed of a parking space, m/s	**0.03**
Parking space lifting/lowering time, s, not more than	**50**
Nominal power consumption, kW	**3.0**
Parking system dimensions, not more than, mm: **width** **length** **height**	 **2,550** **4,600** **2,400**
Dimensions of a parked car, not more than, mm **length** **width** **height (for the lower parking space)**	 **5,200** **1,950** **1,950**
Maximum weight of the parked car (upper level), kg	**2,150**

The weight of the car on the lower level is not limited.

The height of the parked car on the upper level depends on the ceiling height when installed in a closed area or an underground parking lot.

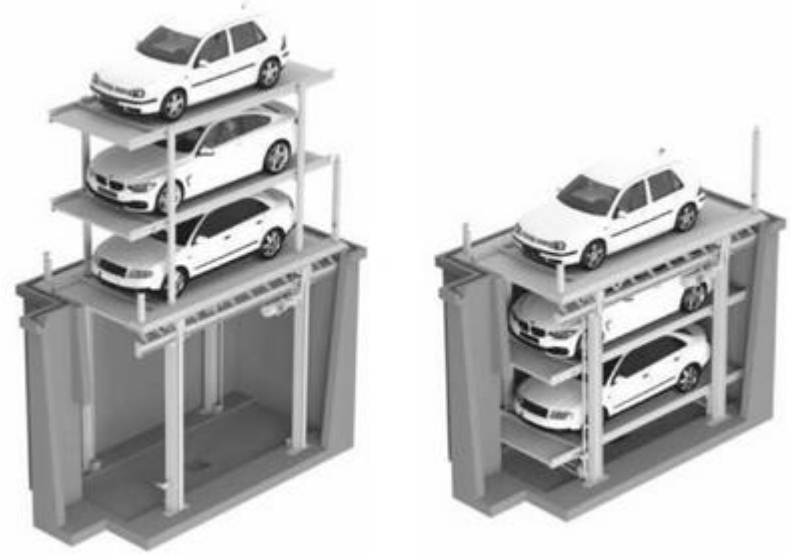
INDEPENDENT THREE-LEVEL UNDERGROUND PARKING

The parking is designed for open storage of one car located on the upper parking space and closed storage of two cars located on the lower parking spaces (below the parking platform entrance level).

The main assemblies of the parking system are hot-dip galvanised; pallets are made of galvanised sheet material. At the customer's request, we can manufacture parkings for off-road vehicles.

Advantages:

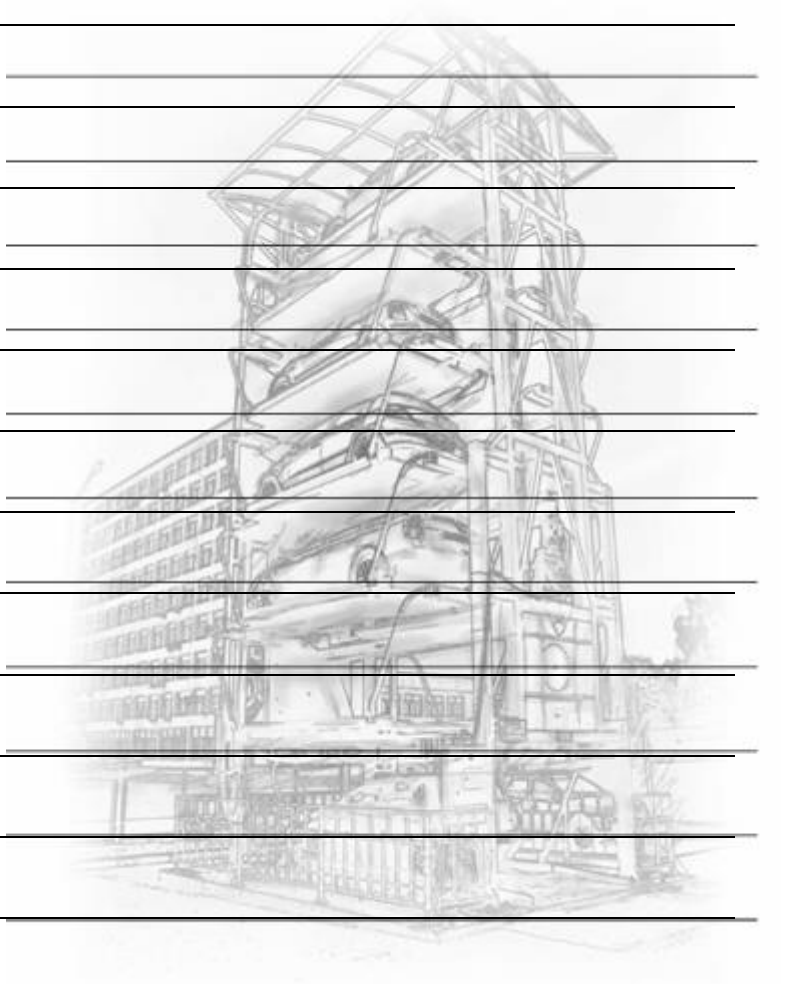
- an underground parking for three cars has the area of one parking space;
- when lowered, the parking lot is almost unnoticeable.



SPECIFICATIONS

PARAMETER	VALUE
Number of parked cars	3
Nominal vertical travel speed of a parking space, m/s	0.05
Rated power consumption of the drive, kW	8
Parking system dimensions, not more than, mm: width length	 3,050 5,700
Car dimensions, not more than, mm length width height (for the lower two levels)	 5,200 1,950 1,550
Maximum weight of the parked cars on the lower two levels, kg	2,150
Maximum weight of the parked car on the upper level, kg	2,500
Maximum car waiting time, s, not more than	90

FOR NOTES



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