

### Dimensions

Tolerances for space requirements <sup>+3</sup> 0<sup>3</sup>

Dimensions in cm.

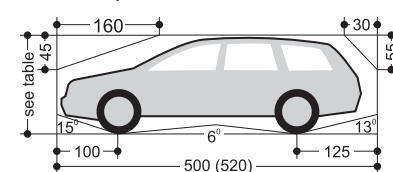
### Suitable for

Standard passenger cars:

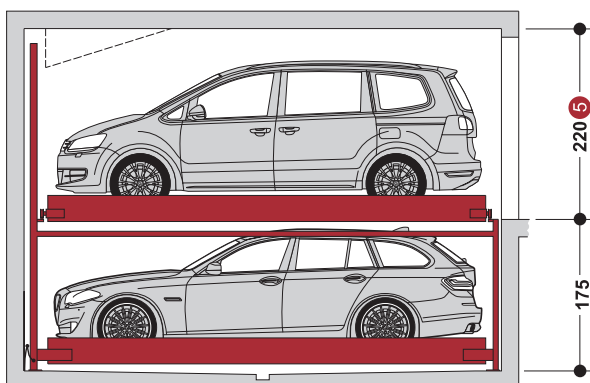
For PW 2.3 m according to clearance and maximal surface load.

	Standard	Special <sup>2</sup>
Width	190 cm <sup>4</sup>	190 cm <sup>4</sup>
Weight	max. 2000 kg	max. 2600 kg
Wheel load	max. 500 kg	max. 650 kg

### Clearance profile

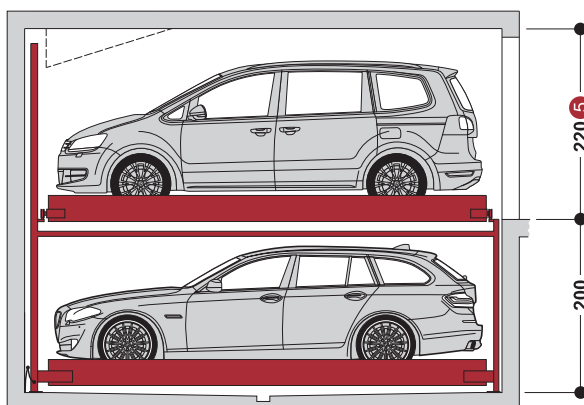


### SP11-175



Height	Car height
220	GF 200 LF 150

### SP11-200



Height	Car height
220	GF 200 LF 175

- Standard type
- System can be upgraded to 2.6 T with special changes.
- To follow the minimum finished dimensions, make sure to consider the tolerances, during construction.
- Car width for platform width 230 cm. If wider platforms are used, it is also possible to park wider cars.
- If height H is larger, vehicles with the maximum height as applicable for the GF can be parked on the LF, otherwise there will be free space available on the ceiling.
- Potential equalization from foundation grounding connection to system (provided by the customer).

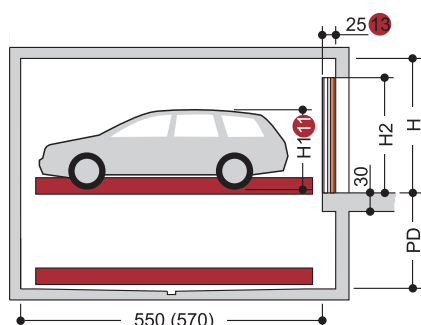
- Slope with drainage channel and sump.
- These floor areas need to be horizontal and equal level across the full width of the pit
- For convenient use of your parking space and due to the fact that the cars keep becoming longer we recommend a pit length of 570 cm.
- At the transition section between pit floor and walls no hollow mouldings/ coves are possible. If hollow mouldings/ coves are required, the systems must be designed smaller or the pits accordingly wider.



If sprinklers are required, make sure to provide the necessary free spaces during the planning stage.

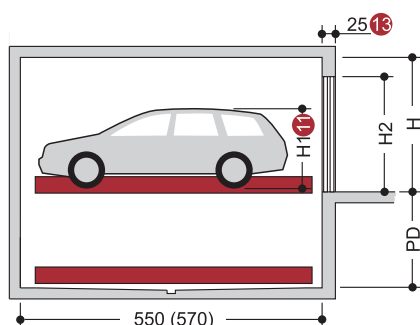
## Garages with sliding doors (standard) | Width dimensions

### Sliding door behind columns



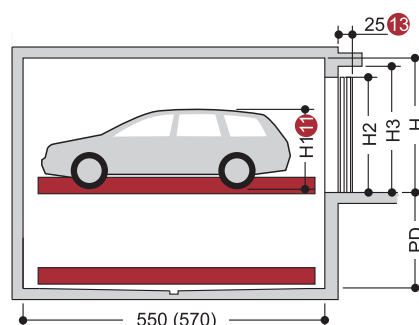
Type	PD	H	H1	H2
SP11	175	220	200	210
SP11	200	220	200	220

### Sliding door between columns



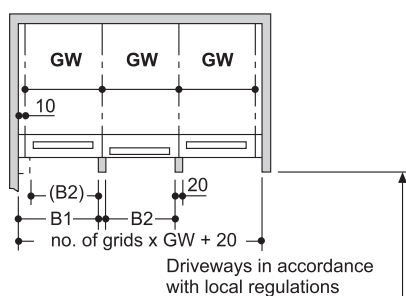
Type	PD	H	H1	H2
SP11	175	220	200	220
SP11	200	220	200	220

### Sliding door in front of columns



Type	PD	H	H1	H2	H3
SP11	175	220	200	210	220
SP11	200	220	200	210	220

### Columns per each grid unit

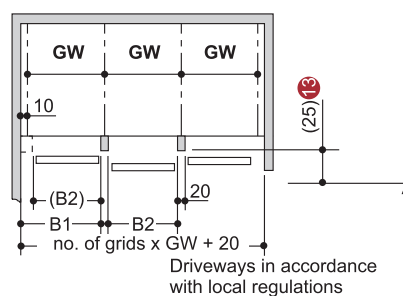


Usable platform width	GW <sup>12</sup>	B1	B2
220	240	240	220
230	250	250	230
240	260	260	240
250	270	270	250
260	280	280	260
270	290	290	270

### Columns per each grid unit

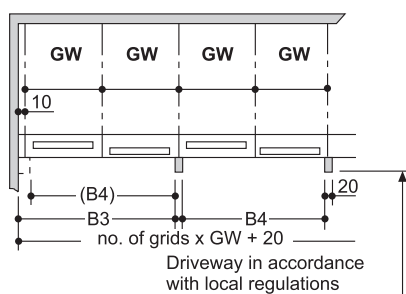
Not available

### Columns per each grid unit



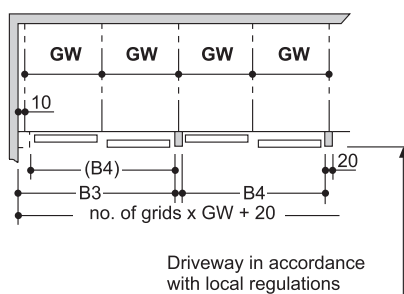
Usable platform width	GW <sup>12</sup>	B1	B2
220	240	240	220
230	250	250	230
240	260	260	240
250	270	270	250
260	280	280	260
270	290	290	270

### Columns every second grid unit



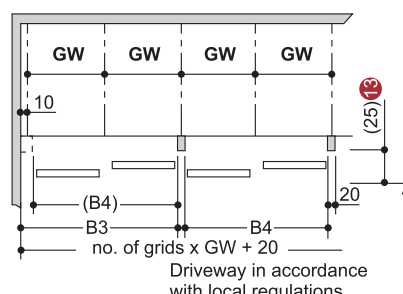
Usable platform width	GW <sup>12</sup>	B3	B4
220	240	480	460
230	250	500	480
240	260	520	500
250	270	540	520
260	280	560	540
270	290	580	560

### Columns every second grid unit



Usable platform width	GW <sup>12</sup>	B3	B4
220	240	480	460
230	250	500	480
240	260	520	500
250	270	540	520
260	280	560	540
270	290	580	560

### Columns every second grid unit



Usable platform width	GW <sup>12</sup>	B3	B5
220	240	480	460
230	250	500	480
240	260	520	500
250	270	540	520
260	280	560	540
270	290	580	560

! End parking spaces are generally more difficult to drive into. Therefore, we recommend our wider platforms for end parking spaces. Parking larger vehicles on standard width platforms may make getting into and out of the vehicle difficult. This depends on the type of the vehicle, approach and above all, on the driver's skill.

<sup>11</sup> H1 = Height of the vehicle on ground floor platform.

<sup>12</sup> GW = Grid unit width **must** strictly conform to dimensions quoted.

<sup>13</sup> Applies to manually operated doors only. The electricity driven doors must have 35 cm.

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- Free spaces

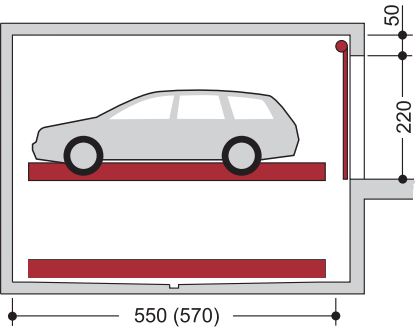
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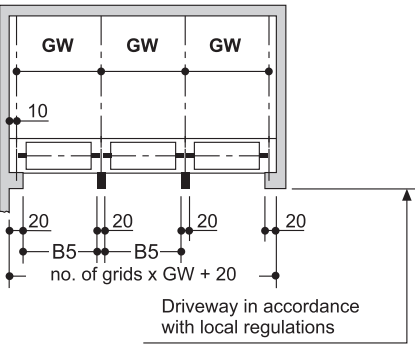
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Garages with roll doors | Width dimensions

Roll door behind columns



Columns per each grid unit

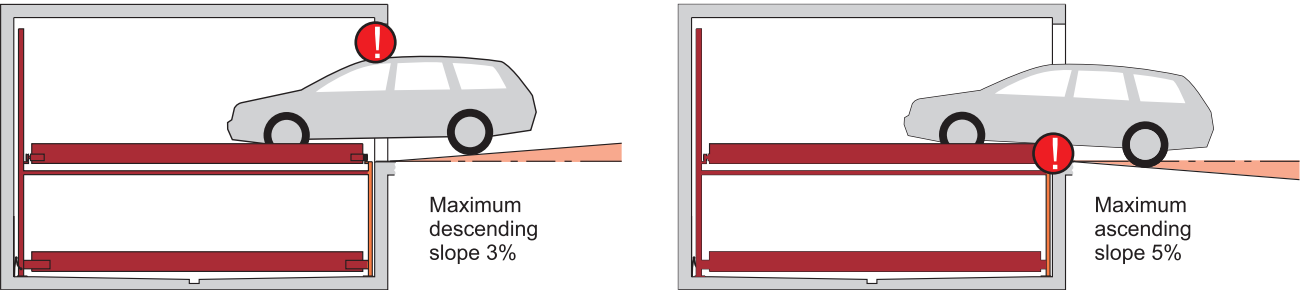


Usable platform width	GW <sup>12</sup>	B5
220	240	220
230	250	230
240	260	240
250	270	250
260	280	260
270	290	270

! End parking spaces are generally more difficult to drive into. Therefore, we recommend our wider platforms for end parking spaces. Parking larger vehicles on standard width platforms may make getting into and out of the vehicle difficult. This depends on the type of the vehicle, approach and above all, on the driver's skill.

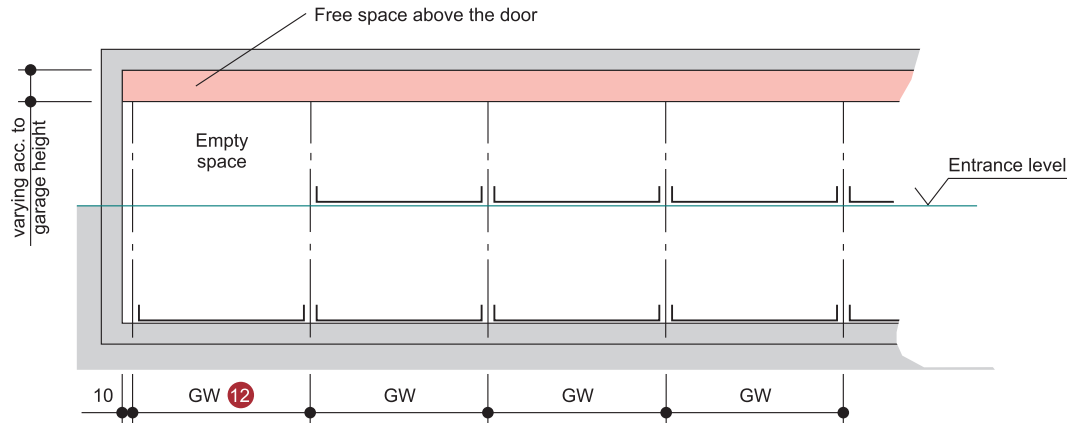
<sup>12</sup> GW = Grid unit width **must** strictly conform to dimensions quoted.

Entrance



! The illustrated maximum entrance angles must not be exceeded. Incorrect entrance angles will cause serious maneuvering & positioning problems on the parking system for which the local agency of INDAC Parking Systems accepts no responsibility.

Longitudinal free space



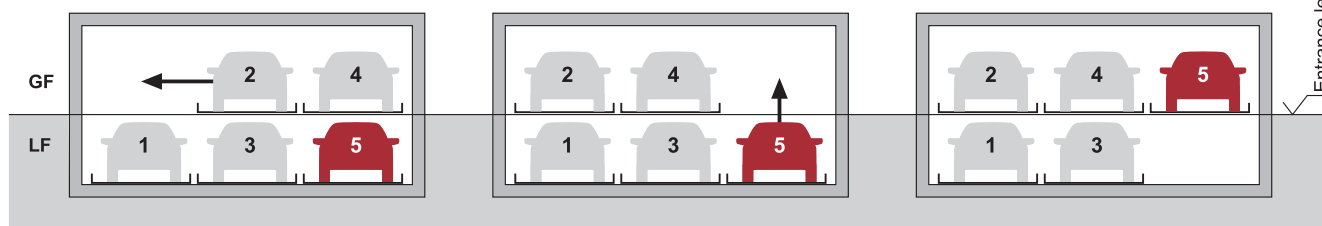
<sup>12</sup> GW = Grid unit width **must** strictly conform to dimensions quoted.

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## Function with standard numbering and identification of parking levels

e.g. for parking space No. 5:

Check first that all doors are closed, then select No. 5 on operating panel.



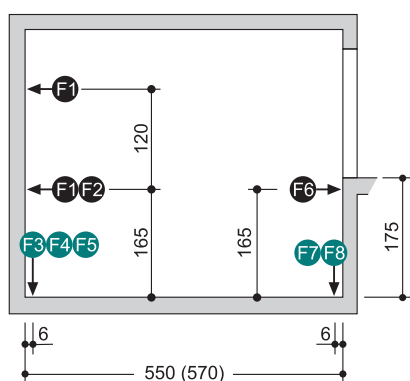
For driving the vehicle off platform No. 5 the upper parking platforms are shifted to the left.

The empty space is now below the vehicle which shall be driven off platform. Platform No. 5 will be lifted.

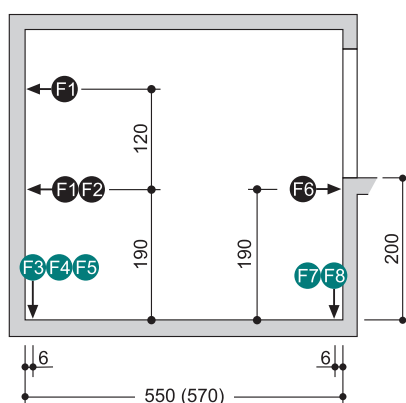
The vehicle on platform No. 5 can now be driven off the platform.

## Load data

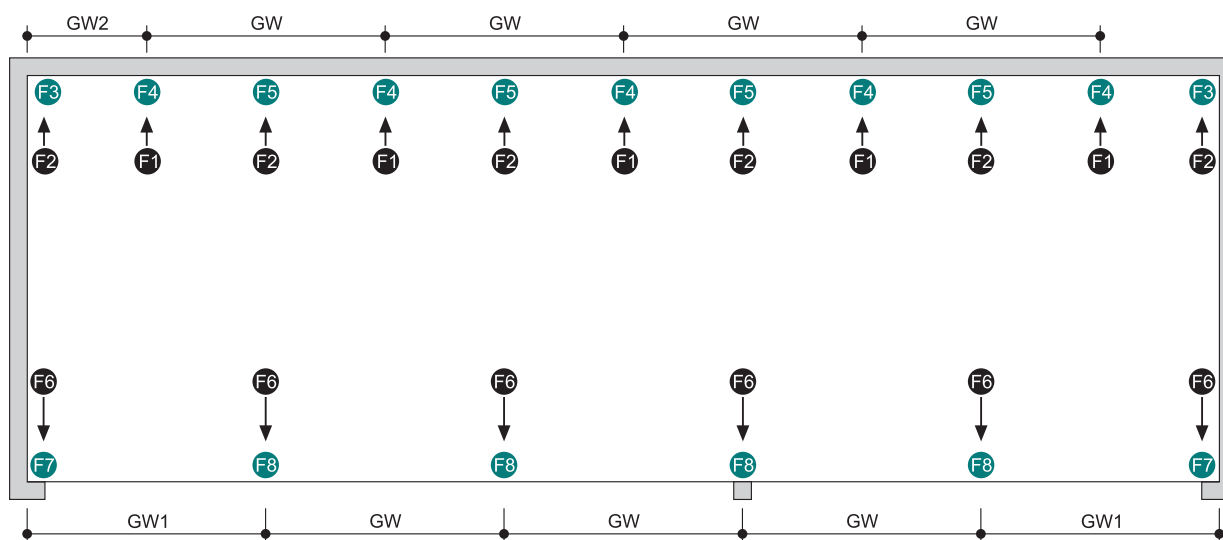
### SP11-175



### SP11-200



## Load data-top view



Usable platform width	GW <sup>12</sup>	GW1	Rb2
220	240	250	130
230	250	260	135
240	260	270	140
250	270	280	145
260	280	290	150
270	290	300	155

Platform load	F1	F2	F3	F4	F5	F6	F7	F8 <sup>13</sup>
2000 kg	±5	±2.5	±9	+40	±18	±2.5	±15	+30
2600 kg	±5	±2.5	±9	+50	±18	±2.5	±15	+35

**!** The system is anchored to floor and walls. The drilling depth in the floor is approx. 15 cm. The drilling depth in the walls is approx. 12 cm. Floor and walls are to be made of concrete (grade of concrete min. C20/25).

The dimensions for the points of support are rounded values. If the exact position is required, please contact INDAC Parking Systems.

<sup>12</sup> GW = Grid unit width **must** strictly conform to dimensions quoted.

<sup>13</sup> All forces in kN (static loads)

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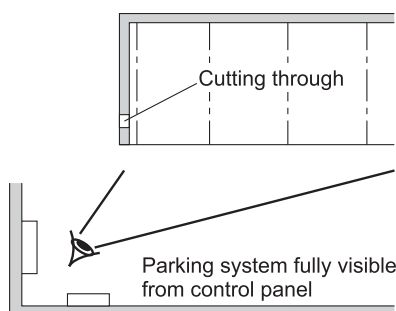
## Electrical details

### Control panel

The control panel must be accessible at all times from outside.

Dimensions approx. 100 x 100 x 30 cm.

Cutting through of wall from control panel to parking system (contact the local agency of INDAC Parking Systems for clarification).



### Electrical supply to the control panel/Foundation earth connector

A 3phase, 415V ( $\pm 10\%$ ), 50Hz ( $\pm 2\%$ ), 4 wire (3PH+N+PE) electrical supply to the control panel through a 4 pole RCBO (or MCB+ELCB), 25Amp. IDN (sensitivity/leakage current) 100 mA.

Supply line cable 5x4.0 mm<sup>2</sup>, copper (3PH+N+PE) with marked wire and protective conductor. Local regulations must be taken into consideration.

Electrical supply to the control panel must be provided by the customer during installation. The functionality can be monitored on site by our fitters together with the electrician. If this cannot be done during installation for some reason for which the customer is responsible, the customer must commission an electrician at his own expense and risk.

Safety of Machinery. Electrical Equipment, grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m).

### Operating device

Easy-to-survey positioning (e.g. on column).

Protection against unauthorized use.

May also be recessed in wall if required.

## Technical data

### Field of application

Generally parking system is suitable for the same car length for which the wheel stop is adjusted at the time of installation. In case different car is to be parked, wheel stop adjustment/confirmation from INDAC Parking Systems shall be required.

### Care

To avoid damages resulting from corrosion, make sure to follow our cleaning and care instructions and to provide good ventilation of your garage.

### Environmental conditions

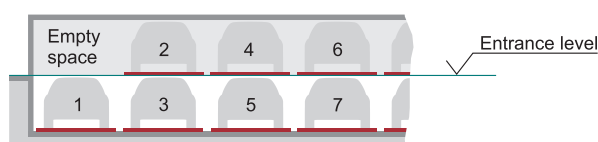
Environmental conditions for the area of multiparking systems: Temperature range 5°C to +40°C. Maximum outside temperature of +45°C.

If the local circumstances differ from the above, please contact INDAC Parking Systems.

### Numbering

Standard numbering of the parking spaces:

Initial position: lower floor platform No. 1 at entrance level (covering of pit, safety regulation).



Different numbering is only possible at extra cost

Please take note of the following specifications:

- In general, the empty space must be arranged to the left.
- The numbers must be provided 8-10 weeks before the delivery date.

## To be provided by the customer

### Safety fences

Any constraints that may be necessary in order to provide protection for the park pits for pathways directly in front, next to or behind the unit. To be provided prior to start installation of car parking systems.

### Numbering of parking spaces

Consecutive numbering of parking spaces.

### Building services

Any required lighting, ventilation, fire extinguishing and fire alarm systems as well as clarification and compliance with the relevant regulatory requirements.

### Drainage

For the middle area of the pit we recommend a drainage channel, which you connect to a floor drain system or sump (50 x 50 x 20 cm). The drainage channel may be inclined to the side, however not the pit floor itself (longitudinal incline is available). In the interests of environmental protection we recommend painting the pit floor. Oil and petrol separators must be provided according to the statutory provisions when connecting to the public sewage system.

### Wall cuttings

Any necessary wall cuttings.

### Strip footings

If due to structural conditions strip footings must be effected, the customer shall provide an accessible platform reaching to the top of the said strip footings to enable and facilitate the mounting work.

### Electrical supply to the control panel/Foundation earth connector

Suitable electrical supply to the control panel must be provided by the customer during installation. The functionality can be monitored on site by our fitters together with the electrician. If this cannot be done during installation for some reason for which the customer is responsible, the customer must commission an electrician at their own expense and risk.

Safety of machinery, electrical equipments, grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m).

### Door suspension

The lintel height H2 (see page 2) is absolutely necessary. With differing heights, additional fixings are required at extra cost.

### Door shields

Door shields that may be necessary. If desired, they can be ordered from INDAC Parking Systems for an additional cost.

### If the following are not included in the quotation, they will also have to be provided/paid for by the customer

- Costs for final technical approval by an authorized body

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## Description

### General description

Car Parking system providing independent parking spaces for cars, one on top of the other and side by side.

Dimensions are in accordance with the underlying dimensions of parking pit, height and width.

The parking bays are accessed horizontally (installation deviation  $\pm 1\%$ ).

Along the complete width of the puzzle parking an approach lane (during lane in accordance with local regulations) must be available.

Parking spaces are arranged on two different levels, one level on top of the other.

The platforms of the lower floor (LF) are moved vertically, the platforms on the ground floor (GF) horizontally. At approach level there is always one parking space less available. This vacant space is used for shifting the ground floor (GF) parking spaces sideways, thus enabling an lower platform (LF) parking space located below to be lifted to entrance / ground level. Consequently, a unit of three parking spaces (1 on the ground floor, 2 on the lower floor) is the smallest unit available for this parking system.

The puzzle parking SP11 allows parking of passenger cars and station wagons.

For safety reasons the platforms can only be moved behind magnetically locked doors, installed at the entrance.

All necessary safety devices are installed. This consists mainly of a chain monitoring system, locking lever for the lower platforms and magnetic door locks.

The doors can only be opened if the selected parking space has reached the park position and all openings are secured.

### A steel framework mounted inside the pit consists of

- Rigid supports
- Steel pillars with sliding platform supports
- Cross and longitudinal members
- running rails for the transversely movable ground floor (GF) platform

### Platforms consist of

- Side members
- Cross members
- Platform base sections
- 1 wheel stop (on the left per parking space)
- Screws, small parts, etc.

### Lifting device for lower floor (LF) platforms

- Hydraulic cylinder with solenoid valve
- Chain wheel
- Chains
- Limit switches
- The platforms are suspended on four points and guided along the supports using plastic sliding bearings.

### Drive unit of transversely movable platforms on the ground floor (GF)

- Geared motor with sprocket
- Chains
- Running and guide rollers (low-noise)
- Power supply via cable

### Hydraulic unit consists of

- Hydraulic power unit (low-noise, installed onto a console with a rubber-bonded-to-metal mounting)
- Hydraulic oil reservoir
- Oil filling
- Internal geared wheel pump
- Pump holder
- 3-phase-AC-motor (3.0kW, 230/400 V, 50 Hz)
- Motor circuit breaker
- Pressure gauge
- Pressure relief valve
- Hydraulic hoses (which reduce noise transmission onto the hydraulic pipe)

### Control system

- Central control panel (operating device ) used to select the desired parking space
- With series installation, the doors are opened manually  
If desired, this can also be done using electric motors
- Electric wiring is made from the electric cabinet by the manufacturer

### Laterally movable safety doors

#### Size

Sliding door, dimensions: approx. 2500 mm x 2000 mm (width x height).

#### Frame

- Frame construction with vertical centre stay made from extruded aluminium sections

#### Safety doors

Doors and door suspensions are not included in the standard version but can be delivered at additional cost as special equipment.

#### Door actuation

- Manually, i.e. the door is opened and closed by hand

For safety reasons the movement of the platforms as always mode behind locked doors.

#### Door rails

- The running gear of each door consists of 2 twin-pair rolling gadgets, adjustable in height
- The running rails of the doors are fixed to brackets or the concrete lintel, or on a building-specific door suspension using ceiling fittings
- The guide consists of 2 plastic rollers mounted to a base plate, which is doweled to the floor

**We reserve the right to change these specifications without prior notice.**

INDAC Parking Systems reserves the right in the course of the technical progress to use newer or other technologies, system, processes, procedures or standards in the fulfillment of their obligations other than those originally offered.

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