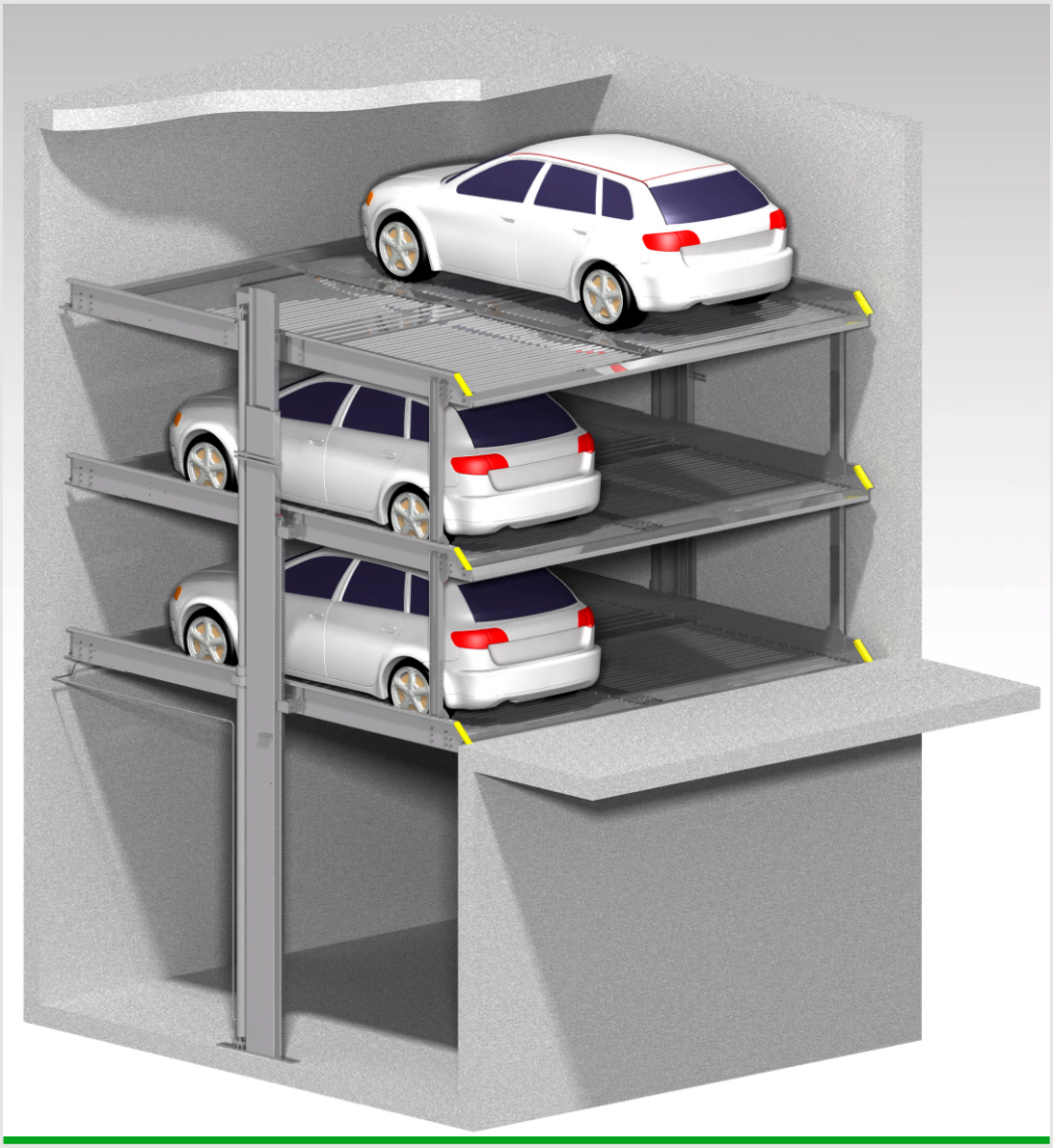
Level Park
PARKING SYSTEMS
SERBIA

PRODUCT DATA

Dimensions, technical data and specifications



A36

www.levelpark-rs.com

level Park
E-mail sales@levelpark-rs.com
Internet www.levelpark-rs.com

A36(A36R)
Stack Parker

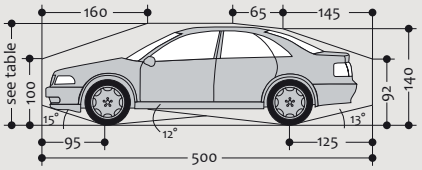
Dimensions

All space requirements are minimum finished dimensions. Tolerances for space requirements +3 ° ①

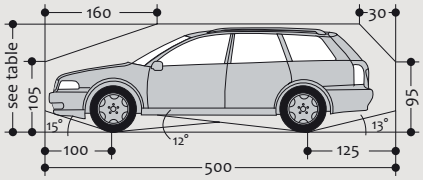
Suitable for

Standard passenger cars and station wagons. Height and length according to contour.

Standard passenger car (L)



Standard station wagon (K)



Standard passenger cars are vehicles without any sports options such as spoilers, low-profile tires, etc.

Parking possibilities

	Standard A36	Reinforced A36 (R)
Width in cm	190 ②	190 ②
Weight in kg	max.2000	max.2500
Wheel load in kg	max.500	max.650

The systems provided are consistent with DIN EN 14010, the VDMA 15423 spec. and the EC Machinery Directive 2006/42/EC.

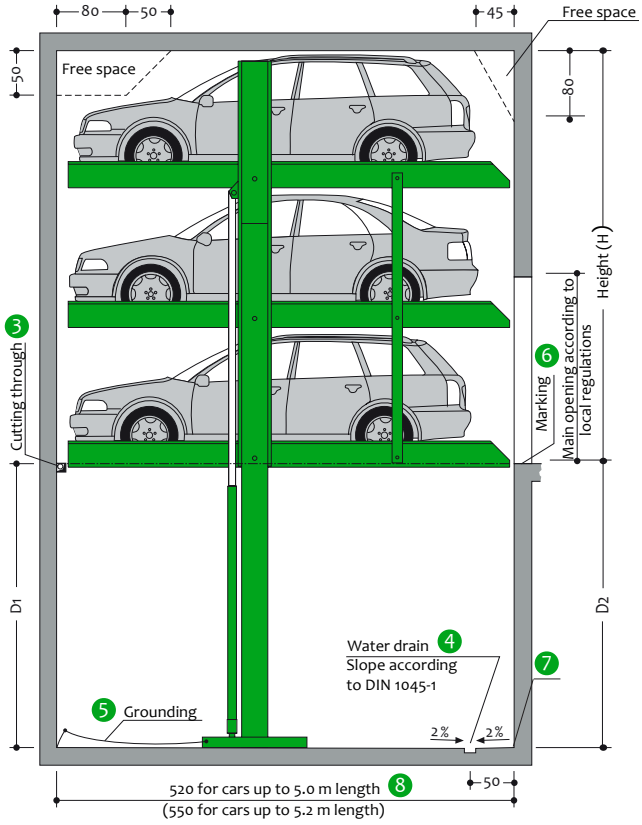
Platforms accessible horizontally.

2000 Max. load per parking space in kg.

Specification

- SP (single platform) = 3 vehicles
- DP (double platform) = 6 vehicles
- Independent parking
- Horizontal access to all parking levels
- Car heights 150 cm - 170 cm
- Car length 500 cm - 520 cm
- Usable platform width up to 270 cm for SP and up to 520 cm for DP
- **A36 :** Load capacity = 2000 kg per parking place
  Usable platform width up to 270 cm for SP and up to 500 cm for DP
- **A36 (R) :** Load capacity = 2500 kg per parking place
  Usable platform width up to 270 cm for SP

Garage without door



Notes

① To comply with the minimum finished dimensions, the tolerances according to VOB, Part C (DIN 18330 and 18331) and DIN 18202 must also be considered.

② Car width for platform width 230 cm. For the greatest possible ease-of-use, we recommend platform widths of 250 to 270 cm (SP) or 500 cm (DP).

③ For dividing walls: cutting through 10 x 10 cm.

④ Slope with drainage channel and sump.

⑤ Grounding of the system to be connected to the central grounding on-site (to be provided by the customer).

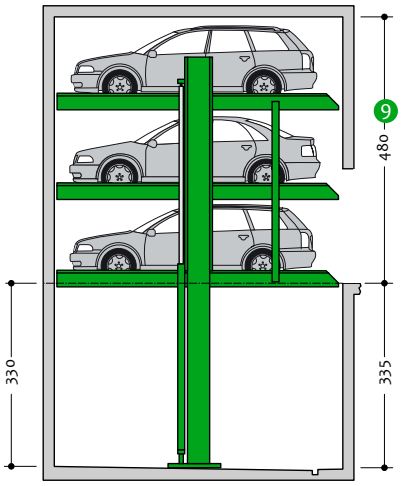
⑥ In compliance with DIN EN 14010, 10 cm wide yellow-black markings compliant to ISO 3864 must be applied by the customer to the edge of the pit in the entry area to mark the danger zone (see "Load plan", page4).

⑦ At the transition section between the 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.

⑧ For cars up to a length of 5.20 m, we recommend a pit length of 5.40 m.

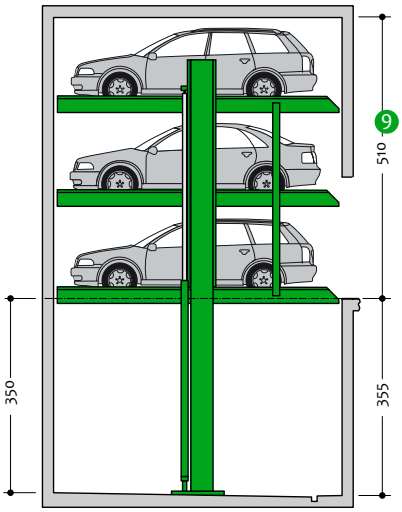
Overview of stack parker variants and building heights

A36-330



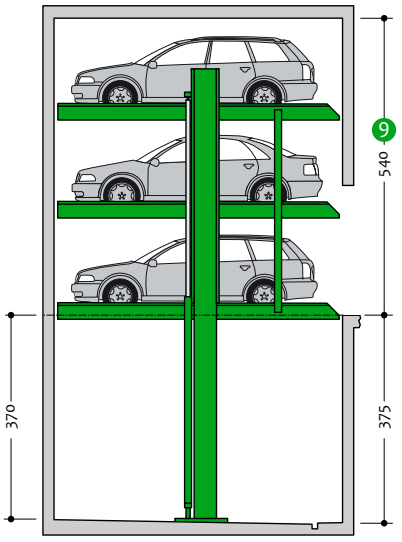
Type	Car height		
	Upper	Midle	Lower
A36-330	150	150	150

A36-350



Type	Car height		
	Upper	Midle	Lower
A36-350	160	160	160

A36-370

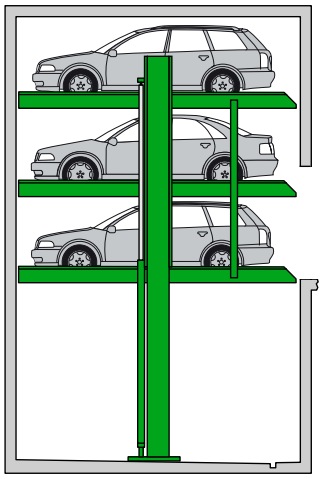


Type	Car height		
	Upper	Midle	Lower
A36-370	170	170	170

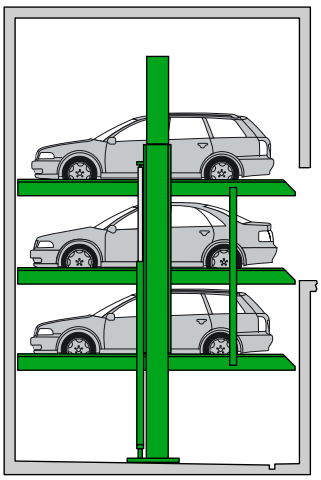
9 If the ceiling is higher, correspondingly higher vehicles can be parked on the top.

Function

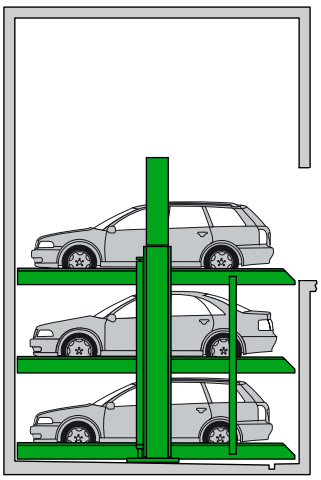
System raised



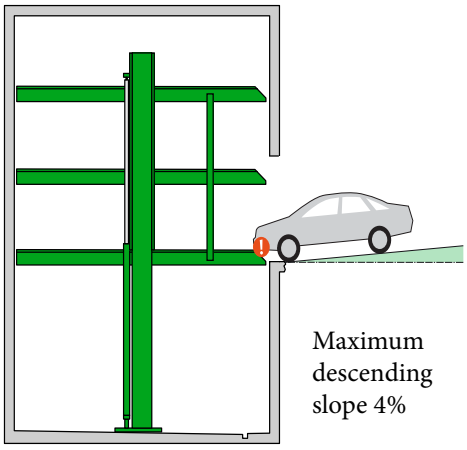
Midle position



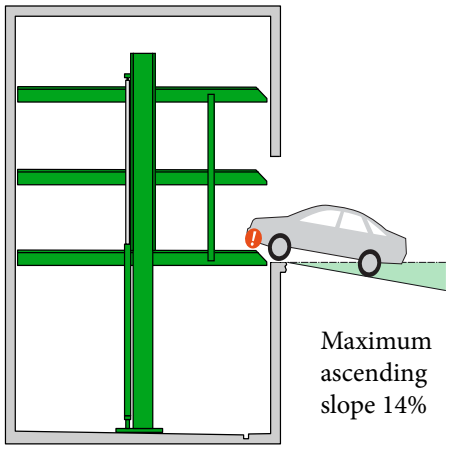
System lowered



Access incline



Maximum descending slope 4%



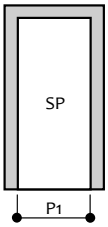
Maximum ascending slope 14%

The illustrated maximum approach angles must not be exceeded. Incorrect approach angles will cause serious maneuvering and positioning problems on the parking system for which the producer accepts no responsibility.

Width dimensions for garage without door

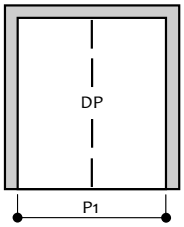
Dividing walls

Single platform (SP)



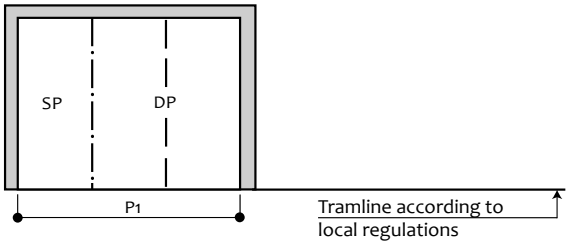
Usable platform width	P1
230	270
240	280
250	**290**
260	**300**
270	**310**

Double platform (DP)



Usable platform width	P1
460	500
470	510
480	520
490	530
500	**540**

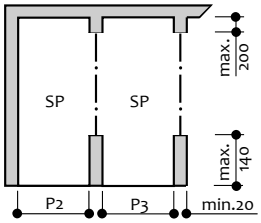
Single and double platform (SP+DP) - Example



Usable platform width	P1
230+460	770
240+470	790
250+480	810
260+490	**830**
270+500	**850**

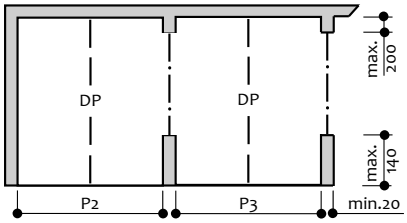
Columns in pit

Single platform (SP)



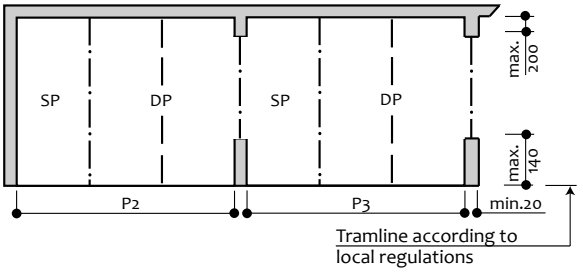
Usable platform width	P2	P3
230	260	250
240	270	260
250	**280**	**270**
260	**290**	**280**
270	**300**	**290**

Double platform (DP)



Usable platform width	P2	P3
460	490	480
470	500	490
480	510	500
490	520	510
500	**530**	**520**

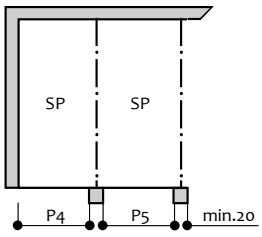
Single and double platform (SP+DP) - Example



Usable platform width	P2	P3
230+460	760	750
240+470	780	770
250+480	800	790
260+490	**820**	810
270+500	**840**	**830**

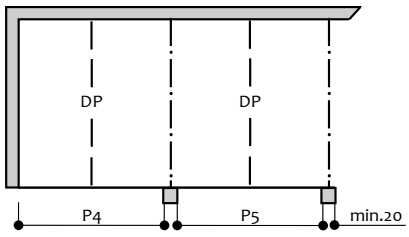
Columns outside pit

Single platform (SP)



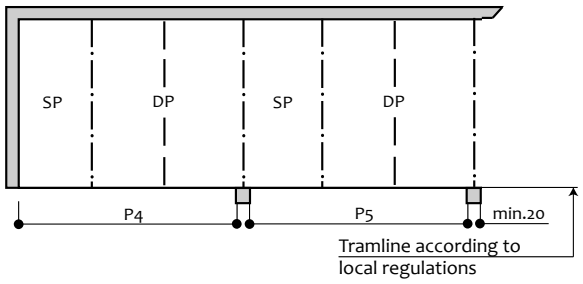
Usable platform width	P4	P5
230	260	250
240	270	260
250	**280**	**270**
260	**290**	**280**
270	**300**	**290**

Double platform (DP)



Usable platform width	P4	P5
460	490	480
470	500	490
480	510	500
490	520	510
500	**530**	**520**

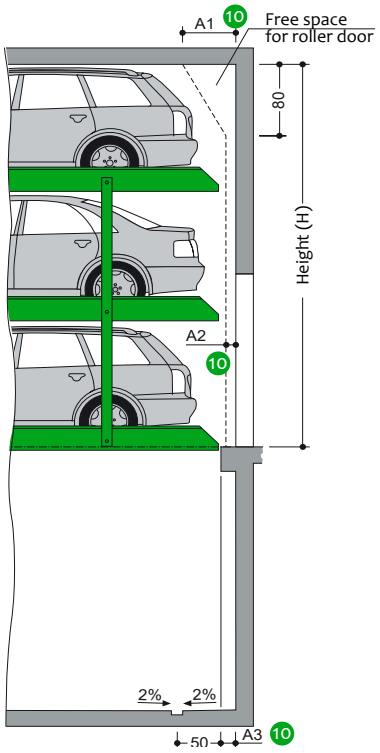
Single and double platform (SP+DP) - Example



Usable platform width	P4	P5
230+460	760	750
240+470	780	770
250+480	800	790
260+490	**820**	810
270+500	**840**	**830**

HINT: End parking spaces are generally more difficult to park. Narrower platform widths can cause problems during use (depending on the type of car, access and individual driving behaviour). We recommend our wider platforms for end parking spaces.

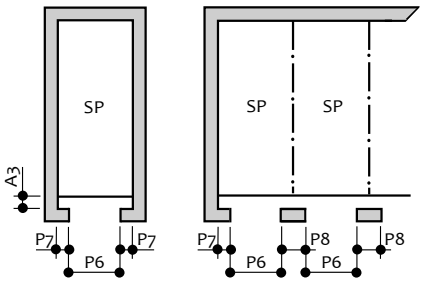
Garage with door in front of the parking system



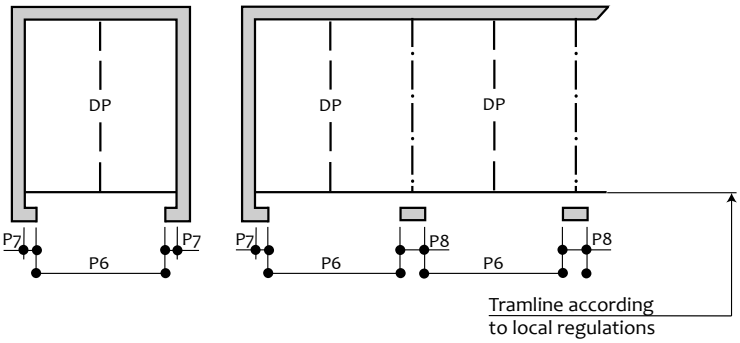
10 Dimensions A1, A2 and A3 must be coordinated with the door supplier.

Widths for garage with door in front of car parking system

Single platform (SP)



Double platform (DP)



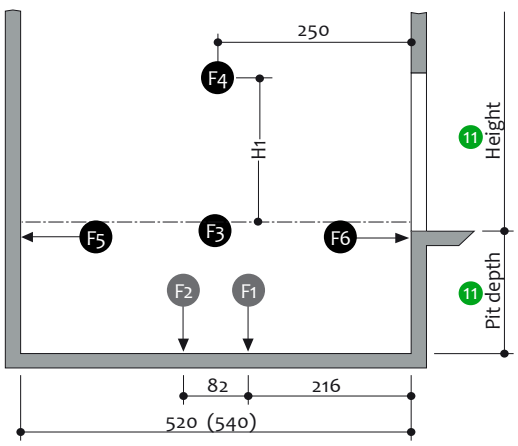
Usable platform width	Door width P6	P7	P8
230	230	16	30
240	240	15	30
250	**250**	**20**	**40**
260	**260**	**20**	**40**
270	**270**	**20**	**40**

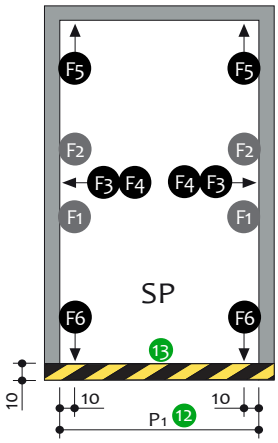
Usable platform width	Door width P6	P7	P8
460	460	12	25
470	470	17	35
480	480	12	25
490	490	15	30
500	**500**	**20**	**40**

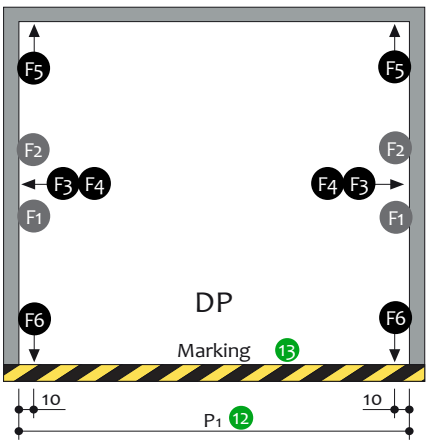
HINT: End parking spaces are generally more difficult to park. Narrower platform widths can cause problems during use (depending on the type of car, access and individual driving behaviour). We recommend our wider platforms for end parking spaces.

Load plan

Forces in kN







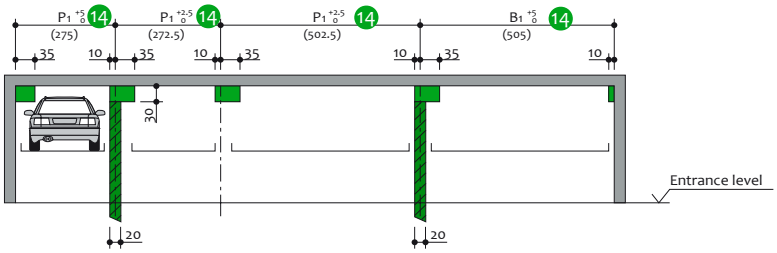
Platform load	Force (kN)					
	F1	F2	F3	F4	F5	F6
SP 2000 kg	±25	+55 -20	+3,5	+3,5	+12	+15
SP 2500 kg	±25	+63 -20	+3,5	+3,5	+12	+15
DP 2000 kg	±35	+80 -25	+4	±4	+12	+20

Type	H1
A36-330	225
A36-350	245
A36-370	265

11 Height dimensions (see "Overview of stack parker variants and building heights", page 2)
12 Width dimensions P1 (see "Širinske dimenzije garaže sa/bez vrata", page 3 i 4)
13 Označavanje u skladu sa DIN EN 14010 (Prikazane boje nisu u skladu sa DIN ISO 3864)

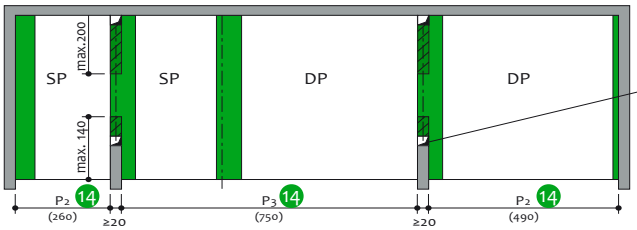
HINT: Units are dowelled to the floor. Drilling depth: approx. 15 cm, in the walls approx. 12 cm.
The floor plate and walls must be from concrete (quality min. C20/25).
Support points dimensions are rounded values. For exact dimensions, please contact the manufacturer.

Installation data



Free space for vertical pipelines, ventilation ducts

Clearances for longitudinal guidance



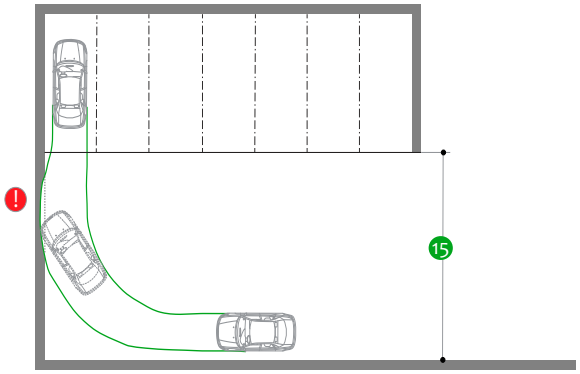
Clearances for longitudinal guidancei

( ) = The measurements in brackets are an example for platforms with a main opening of SP230/DP460 cm.

14 Dimensions P1, P2 i P3, see "Width dimensions for garage without door", page 3

HINT: Free spaces apply only to forward parked cars with driver exit on the left side!

Wall clearance

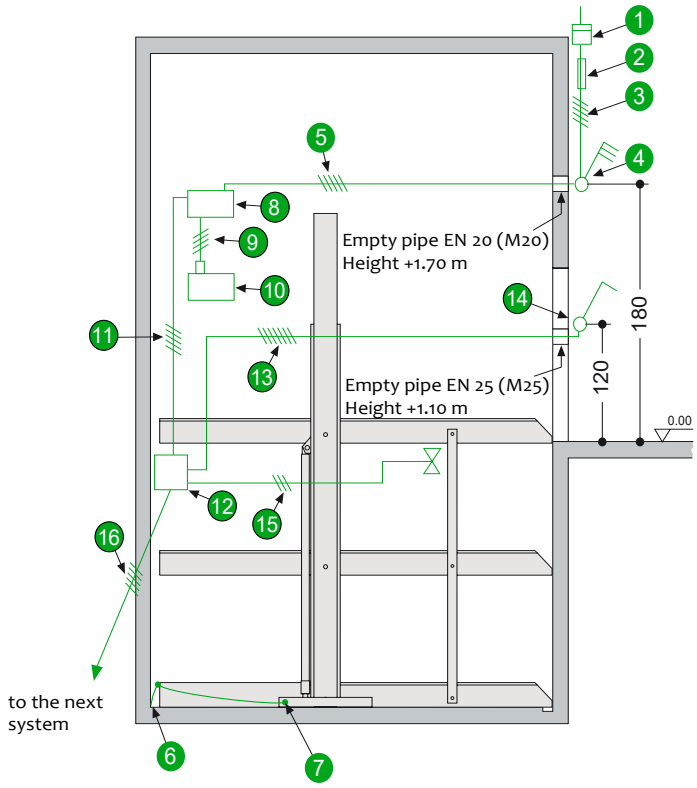


Narrower platforms may impede parking according to the following criteria.
- Driving lane width
- Entrance conditions
- Vehicle dimensions

15 Observe minimum driving lane width in accordance with local regulations!

Electrical installation

Installation diagram



Electrical data to be performed by the customer

No.	Qty.	Description	Position	Frequency
1	1	Power meter	in the supply line	
2	1	Pre-fuse: 3x safety fuse 20A (slow-blow) or Circuit breaker 3x20 A (trip characteristic K or C)	in the supply line	1 per 5,2 kW unit
3	1	Supply line 5 x 2.5mm² (3 PH + N + PE) with marked wire and protective conductor	to main switch	1 per uniti
4	1	Lockable main switch	defined by the project	1 per unit
5	1	Supply line 5 x 2.5mm² (3 PH + N + PE) with marked wire and protective conductor	from main switch to main cabinet	1 per unit
6	every 10 m	Foundation earth connector	corner pit floor	
7	1	Potential equalization from foundation grounding connection system according to DIN EN 60204		1 per system

Electrical data included in delivery of producer

No.	Description
8	Main cabinet
9	Spply cable 5 x 2,5 mm² 400VAC, with marked wire and protective conductor
10	Hydraulic unit 5,2 kW, 3 phase 400 V/50 Hz
11	Control line 5 x 1,5 mm² 24VDC, with marked wire and protective conductor
12	Distribution unit
13	Control line 7 x 1,5 mm² 24VDC, with marked wire and protective conductor
14	Control panel
15	Control line 3 x 0,75 mm² 24VDC, with marked wire and protective conductor
16	Connection cable to the next system 5 x 1.5 mm² with marked wire and protective conductor

Technical hint

Application area

By default, the system is not suitable for short-term parkers (changing users). If necessary, please contact producer of parking system.

Power pack

Installed on vibration metal mounted, low-noise hydraulic power units. Nevertheless, we recommend separating the garage from the house.

Available documents

- Wall recess plans
- Maintenance offer/contract
- Declaration of conformity

Corrosion protection

According to the supplementary sheet of corrosion protection.

Balustrade / Barriers

When the allowable fall is exceeded, balustrades are attached to the equipment. If the traffic lanes are directly next to or behind the installations, barriers according to DIN EN 294 (DIN EN ISO 13857) are required on site. This also applies during the construction phase.

Environmental conditions

Ambient conditions for the range of our parking systems: Temperature range -10 to +40° C. Relative humidity 50% with a maximum outside temperature of +40° C. If lifting or lowering durations are mentioned, these refer to an ambient temperature of +10° C and an arrangement of the system immediately next to the hydraulic unit. At lower temperatures or longer hydraulic lines, these durations increase.

Soundproofing

According to DIN 4109 (sound insulation in building construction), para. 4, note 4, parking systems fall into the field of technical installations (garage systems).

Normal sound insulation (Special agreement) DIN 4109, Supplement 4, Note for planning and execution, proposals for increased sound insulation. In paragraph 4.1, Table 4, the values for the permissible sound pressure levels in rooms requiring protection are specified for noise from building services. According to line 2, the maximum sound pressure level in living rooms and bedrooms must not exceed 30 dB (A). Noise from the user is not subject to the requirements (see Table 4, DIN 4109).

The following measures are required to maintain this value:
- Soundproofing package according to offer/order
- Sound insulation of the building in min. R'w = 57 dB (performance on site)

Increased sound insulation
DIN 4109, paragraph 4, noise protection of technical equipment and installations.
Agreement: Maximum sound pressure level in living rooms and bedrooms 25 dB (A). User noises are not subject to the requirements (see Table 4, DIN 4109).

The following measures are required to maintain this value:
- Soundproofing package according to offer/order
- Sound insulation of the building in min. R'w = 62 dB (performance on site)

HINT: The user's noises are essentially noises that can be individually influenced by the user of our parking systems.
These include for example driving on the platform, slamming vehicle doors, engine noise and brake.

To be performed by the customer

Balustrade / Barriers

Possibly required barriers according to DIN 294 for securing the parking pits in traffic lanes directly in front of, beside or behind the facilities. This also applies during the construction phase. Railings on the systems, if required, are included optional!

Numbering of parking spaces

Continuous numbering of parking spaces.

Building services

Lighting, ventilation, fire extinguishing and fire alarm systems.

Drainage

In the front of the pit, we recommend to plan a water collecting gutter and to connect it to a ground drain or a pit (50 x 50 x 20 cm) In the canal, a lateral slope is possible, but not in the remaining area of the pit (the gradient in the longitudinal direction is due to the dimensions). In the interest of environmental protection, a painting of the bottom of the pit should be made. Oil or gas separators are recommended for connection to the sewer system.

Marking

In accordance with DIN EN 14 010, a warning mark must be affixed to the access zone to identify this danger zone in accordance with ISO 3864. The design shall be in accordance with EN 92/58/EEC for installations with a pit (platforms inside the pit) 10 cm from the edge of the pit.

Wall openings

Possibly required wall openings according to sectional drawings on page 1.

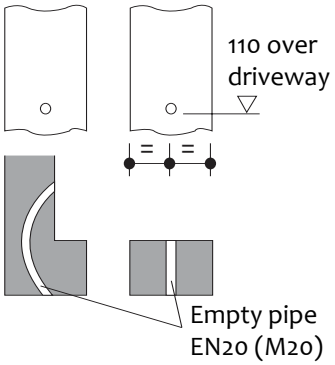
Electrical supply to the control box/Foundation earth connector

The supply line to the main switch and the control line to the unit must be made by the customer during installation. The functionality can be checked by our technicians on site together with the electrician. If this is not possible during assembly for reasons attributable to the customer, an electrician must be commissioned by the customer.
The steel construction is to be provided on site with foundation earthing connection (grounding distance max 10 m) and potential equalization according to DIN EN 60204.

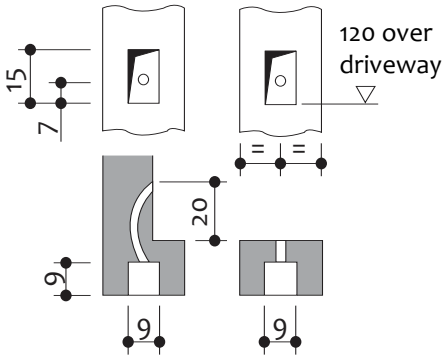
Control panel

Empty conduits and cut-outs for the control element (with hinged doors, a prior consultation with producer of parking system is necessary).

Control panel on plaster



Control panel under plaster



The following costs must be supported by the customer, if they are not included in the offer:

- Complete wiring of the individual components according to the wiring diagram
- Cost of final technical approval by an authorized expert
- Main switch
- Control line from the main switch to the control cabinet
- Railing
- Floor marking

Description single platform (SP) and double platform (DP)

General description

- The parking system provides independent parking spaces of 3 cars (SP), 2x3 cars (DP) on top of each other
- Dimensions according to the underlying pit, width and height dimensions
- The pitches are driven horizontally and have a gradient of ±1° for proper drainage of the platforms
- By special arrangement of the lifting and supporting structure, the opening of the doors is not restricted
- Passenger car positioning on each parking space by means of a positioning aid mounted on the right-hand side (to be set in accordance with the operating instructions)
- Operation via a control element with automatic reset by means of a key that closes the same way
- Fixing the control element usually in front of the support or on the way revealing the outside
- Operating instructions at every operating point
- For garages with an entrance door, special dimensions must be respected

The parking system consists of:

- 2 Pillars with foundation rails (fixed to the floor)
- 2 Sliding pieces (with sliding guides attached to the pillars)
- 3 Platforms
- 1 mechanical synchronization system (for the synchronous operation of the hydraulic cylinders during lifting and lowering)
- 2 Hydraulic cylinders
- 2 rigid supports (connection of the platforms)
- 1 automatic hydraulic breakage protection (prevents involuntary lowering when driving on)
- Dowels, screws, fasteners, bolts etc.

Platform consisting of:

- Platform profiles
- Adjustable positioning aids
- Beveled bumpers
- Lateral beams
- Bearing center [DP only]
- Brackets
- Screws, nuts, spacer tubes, etc.

Hydraulics consisting of:

- Hydraulic cylinder
- Magnetic valve
- Line break security
- Hydraulic lines
- Fittings
- High pressure hoses
- Mounting material

Electrics consisting of:

- Control element (EMERGENCY STOP, lock, 1 key with the same key per parking space)
- Sub-distribution
- Control cabinet

Hydraulic unit consisting of:

- Hydraulic unit (low noise, mounted on bracket)
- Hydraulic oil tank
- Oil filling
- Internal gear pump
- Pump support
- Coupling
- Three-phase motor (3.0 kW/5.2 kW/400 V, 50 Hz)
- Pressure gauge
- Pressure relief valve
- Hydraulic hoses (to dampen noise transmission on hydraulic pipes)

We reserve the right to change these specifications without notice!

Producer reserves the right in the course of technical progress to use newer or different technologies systems, processes, procedures or standards than those originally offered, if the customer does not incur any disadvantage.