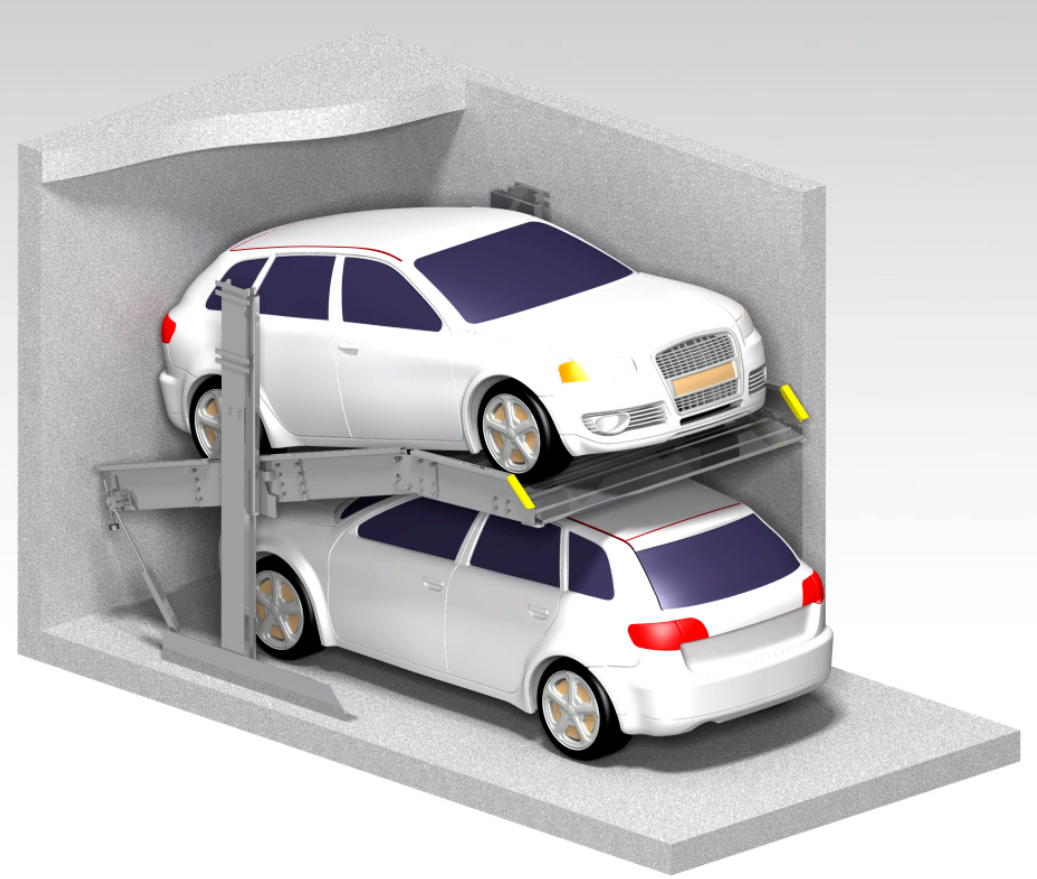
Level Park
PARKING SYSTEMS
SERBIA

PRODUCT DATA

Dimensions, technical data and specifications



N1

www.levelpark-rs.com

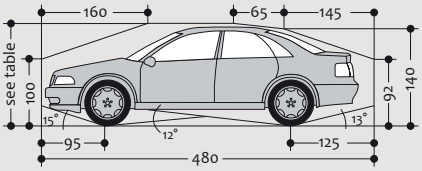
E-mail sales@levelpark-rs.com
Internet www.levelpark-rs.com

N1
Stack Parker

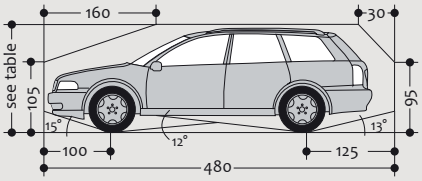
Dimensions

All space requirements are minimum finished dimensions. Tolerances for space requirements +3 0 (1)

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

Width in cm	190 (2)
Weight in kg	max.2500
Wheel load in kg	max.625

Height dimensions

All pit and height variants can be found on page 2

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

Platforms accessible horizontally.

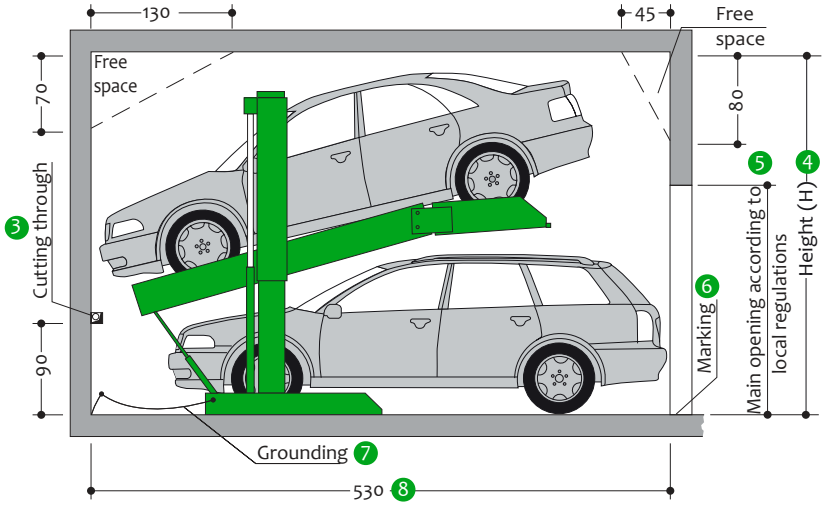
Max. load per parking space in kg.

Outdoor installation.

Specification

- SP (single platform) = 2 vehicles
- Dependent parking
- Horizontal access to all parking levels
- Car heights 150 cm - 160 cm
- Car length 480 cm
- **N1 : Load capacity = 2500 kg per parking place, Usable platform width up to 270 cm**

Garage without door



The lower vehicle must exit before the platform is lowered!

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:
- A1 - platform widths of 250 to 270 cm (SP)

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

(4) If a higher ceiling height is available, higher cars can be parked.

(5) Must be at least as high as the greatest car height + 5 cm.

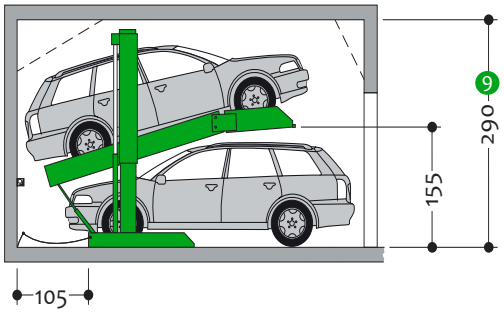
(6) In compliance with DIN EN 14010, 10 cm wide yellow-black markings compliant to ISO 3864 must be applied by the customer to the edge of the pit in the entry area to mark the danger zone (see "Load plan", page 7).

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

(8) We recommend a length of 540 cm for comfortable use of your parking space and for accommodating longer vehicles.

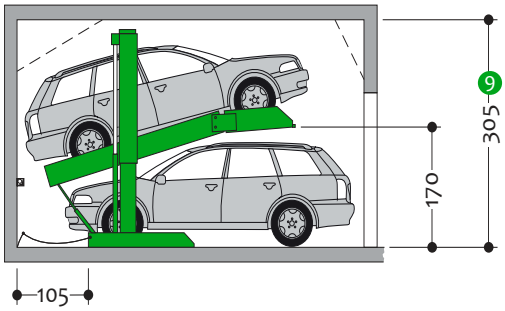
Version 1: above backward; below forward

N1-155



Height	Car height above (L+K)	Car height above (L+K)
290	150	150

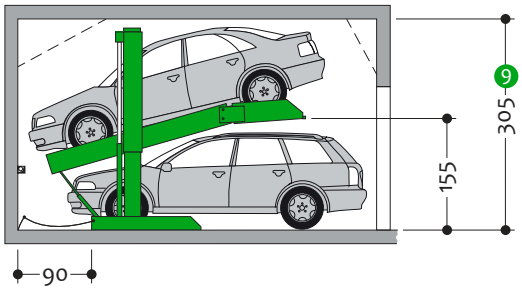
N1-170



Height	Car height above (L+K)	Car height above (L+K)
305	150	160

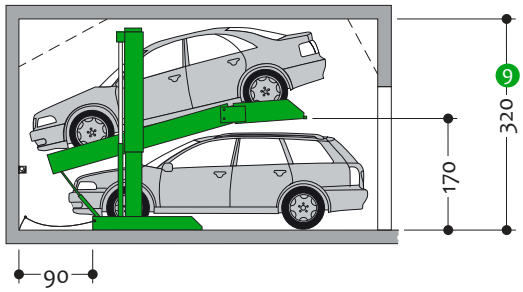
Version 2: above and below forward

N1-155



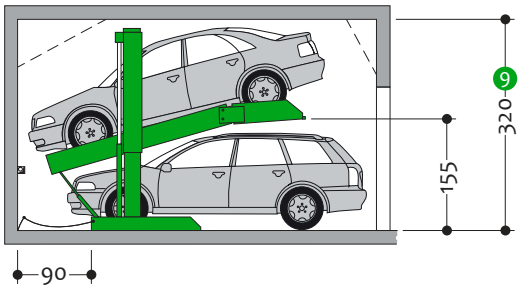
Height	Car height above (L)	Car height above (L+K)
305	150	150

N1-170



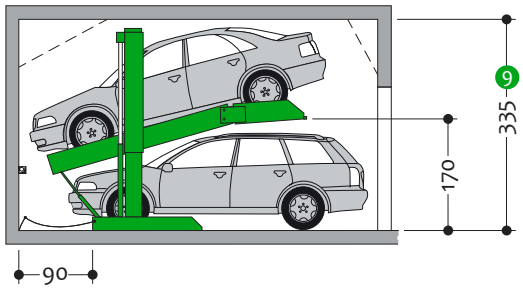
Height	Car height above (L)	Car height above (L+K)
320	150	160

N1-155



Height	Car height above (L+K)	Car height above (L+K)
320	150	150

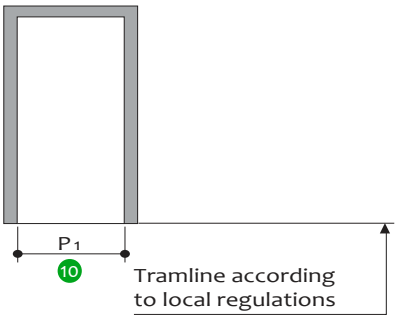
N1-170



Height	Car height above (L+K)	Car height above (L+K)
335	150	160

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

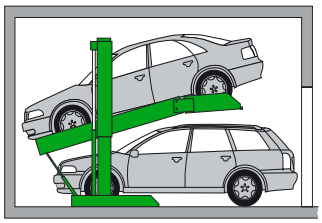
Width dimensions



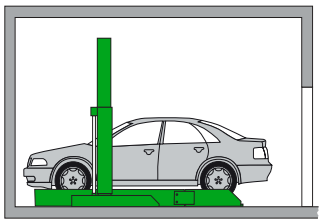
Usable platform width	P1
210	240
220	250
230	260
240	270
250	280

Function

System raised

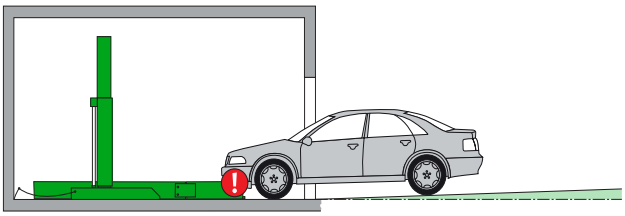


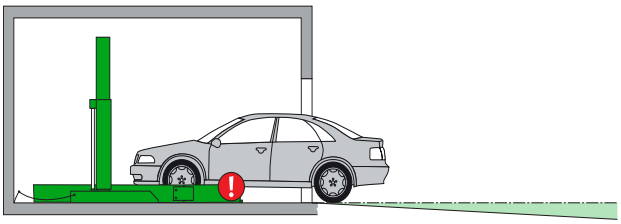
System lowered



The lower vehicle must exit before the platform is lowered!

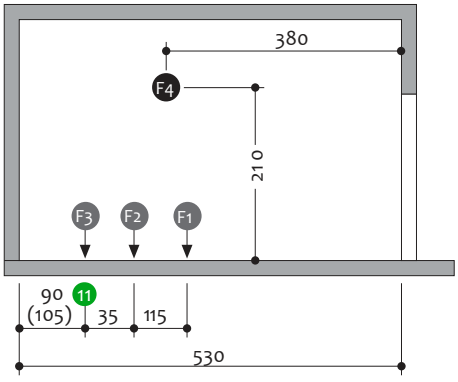
Access incline

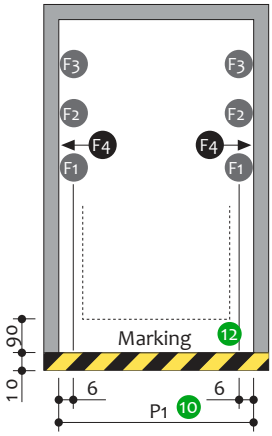




The illustrated maximum approach angles must not be exceeded.
Incorrect approach angles will cause serious maneuvering and positioning problems on the parking system for which the producer accepts no responsibility.

Load plan





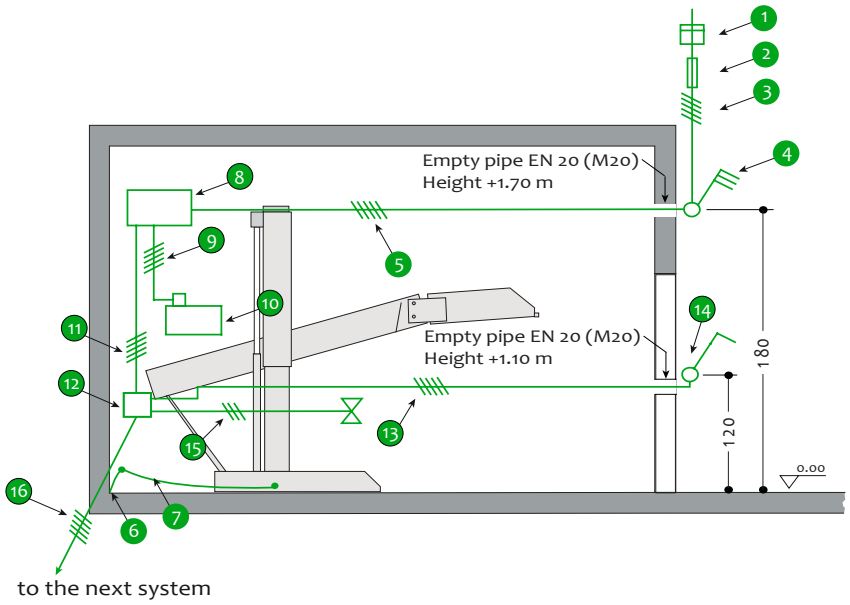
10 Dimension P1 (see page 3)
11 Version 1 i 2 (see page 2)
12 Marking according to ISO 3864 (colouring of the image does not correspond to ISO 3864)
13 All forces in kN

Platform load	F1	F2	F3	F4
SP 2500 kg	-6	+22	-6	±1

13

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

Electrical installation



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 16 A (slow-blow) or Circuit breaker 3x16 A (trip characteristic K or C)	in the supply line	1 per 3,0 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 unit
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	1	Potential equalization from foundation grounding connection system according to DIN EN 60204		1 per system
7	every 10 m	Foundation earth connector	corner pit floor	

Electrical data
included in delivery of producer of parking system

No.	Description
8	Main cabinet
9	Spply cable 5 x 2,5 mm² 400VAC, with marked wire and protective conductor
10	Hydraulic unit 3,0 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 5 x 1,5 mm² 24VDC, with marked wire and protective conductor
14	Key switch, 2 way momentary with emergency stop
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.

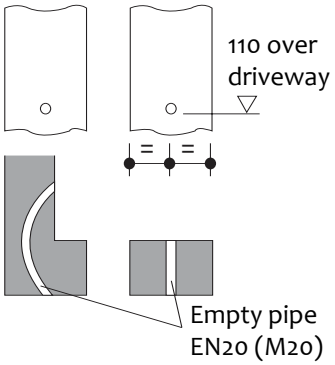
Electrical supply to the control box/Foundation earth connector

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.

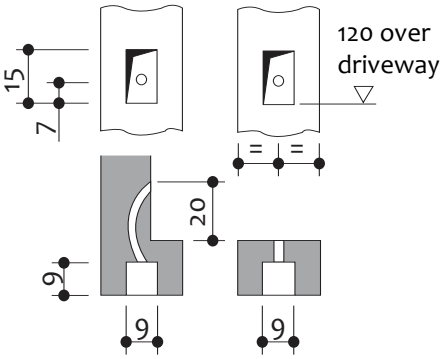
Control panel

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)

General description

- Dependent parking systems allow dependent parking of two vehicles, one above the other. The lower vehicle is parked directly on the floor. The lower vehicle must exit the parking system before the platform can be lowered
- The platform height can be flexibly adjusted (also after installation)
- Dimensions according to the underlying pit, width and height dimensions
- The upper vehicle is driven onto and parked on an inclined platform with a slope of approx. 5%
- 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)
- 1 Platform
- 1 mechanical synchronization system (for the synchronous operation of the hydraulic cylinders during lifting and lowering)
- 1 Hydraulic cylinder
- Platforms/parking spaces are always available
- Dowels, screws, fasteners, bolts etc.

Platform consisting of:

- Platform profiles
- Adjustable positioning aids
- Beveled bumpers
- Access ramp
- Lateral beams
- 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 prior notice

Manufacturer 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.