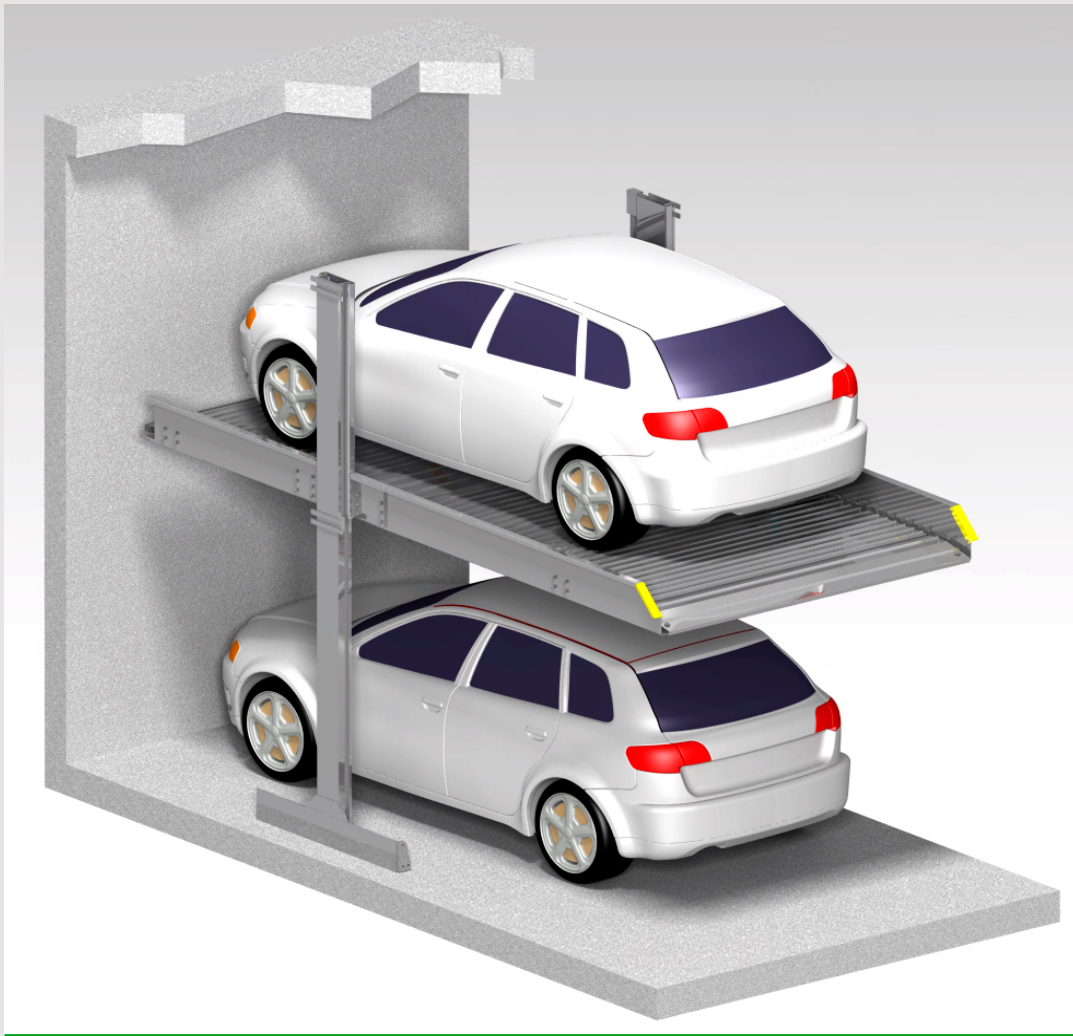


## PRODUCT DATA

Dimensions, technical data  
and specifications



# A1





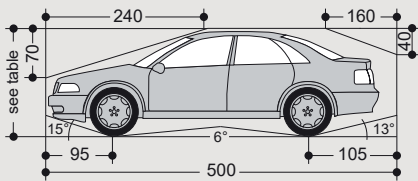
E-mail [sales@levelpark-rs.com](mailto:sales@levelpark-rs.com)  
 Internet [www.levelpark-rs.com](http://www.levelpark-rs.com)

### A1(A1R) Stack Parker

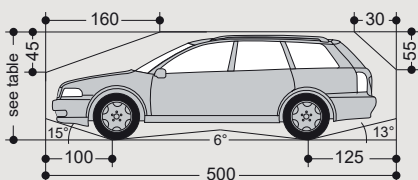
#### Dimensions

All space requirements are minimum finished dimensions. Tolerances for space requirements <sup>1</sup>

#### Standard passenger car (L)



#### Standard station wagon (K)



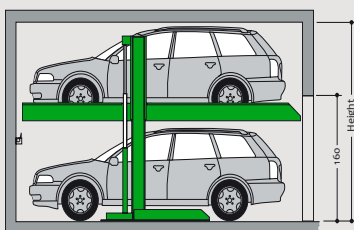
Standard passenger cars are vehicles without any sports options such as spoilers, low-profile tires, etc.

#### Parking possibilities

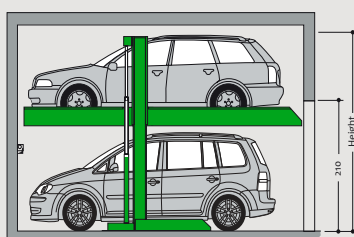
	Standard A1	Reinforced A1R
Width in cm	190 <sup>2</sup>	190 <sup>2</sup>
Weight in kg	max.2000	max.2600
Wheel load in kg	max.500	max.650
Weight in kg snow load <sup>3</sup>	max. 1500	max.2000
Wheel load in kg snow load <sup>3</sup>	max. 375	max. 500

#### Height dimensions

All pit and height variants can be found on page 2



Smallest version



Largest version



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.



Upweighting over 2000 kg possible with surcharge.

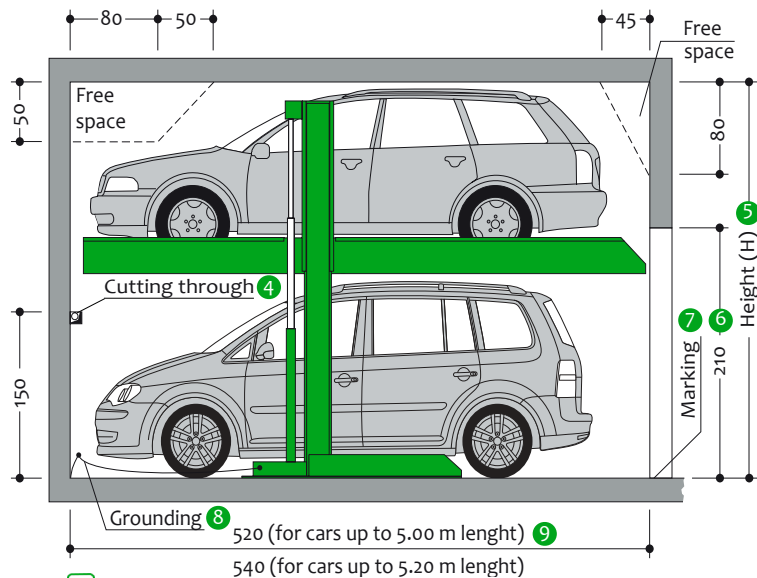


Outdoor installation.

### Specification

- SP (single platform) = 2 vehicles
- Dependent parking
- Horizontal access to all parking levels
- Car heights 150 cm - 200 cm
- Car length 500 cm - 520 cm
- **A1 (Standard) : Load capacity = 2000 kg per parking place, usable platform width up to 270 cm**
- **A1R (Reinforced) : Load capacity = 2600 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

- <sup>1</sup> 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.
- <sup>2</sup> 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)
  - A1R - platform widths of 260 to 270 cm (SP)
- <sup>3</sup> For countries in which snow load need to be taken into account the parking option on the upper parking space is reduced in accordance with table.
- <sup>4</sup> For dividing walls: cutting through 10 x 10 cm.
- <sup>5</sup> If a higher ceiling height is available, higher cars can be parked.
- <sup>6</sup> Must be at least as high as the greatest car height + 5 cm.
- <sup>7</sup> 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).
- <sup>8</sup> Grounding of the system to be connected to the central grounding on-site (to be provided by the customer).
- <sup>9</sup> We recommend a length of 540 cm for comfortable use of your parking space and for accommodating longer vehicles.

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**Overview of stack parker variants and building heights**

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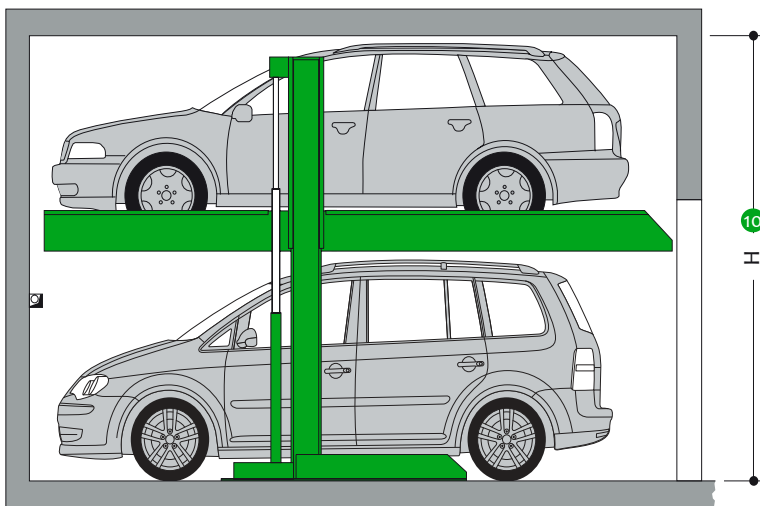
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H: Ceiling height

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

Type	Vehicle height, lower	Vehicle height, upper														H - Ceiling height
		150	155	160	165	170	175	180	185	190	195	200	205	210	215	
A1-160	150	320	325	330	335	340	345	350	355	360	365	370	375	380	385	
A1-170	160	330	335	340	345	350	355	360	365	370	375	380	385	390	395	
A1-180	170	340	345	350	355	360	365	370	375	380	385	390	395	400	405	
A1-190	180	350	355	360	365	370	375	380	385	390	395	400	405	410	415	
A1-200	190	360	365	370	375	380	385	390	395	400	405	410	415	420	425	
A1-210	200	370	375	380	385	390	395	400	405	410	415	420	425	430	435	

**Example configuration**

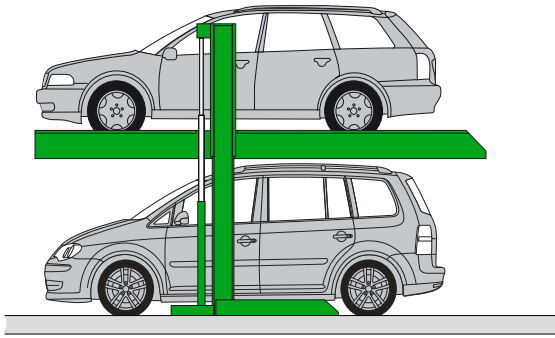


Example: Vehicle height lower 170 cm, vehicle height upper 190 cm  
Type: A1 - 180  
Ceiling height: 380 cm

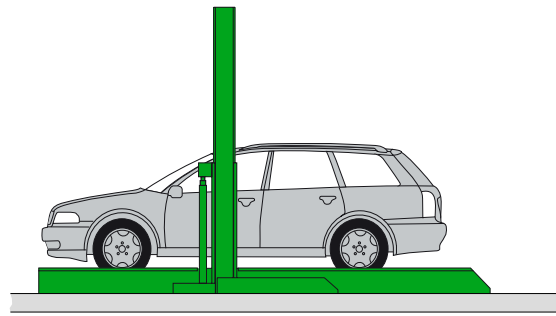
Type	Vehicle height, lower	Vehicle height, upper														H
		150	155	160	165	170	175	180	185	190	195	200	205	210	215	
A1-160	150	320	325	330	335	340	345	350	355	360	365	370	375	380	385	
A1-170	160	330	335	340	345	350	355	360	365	370	375	380	385	390	395	
A1-180	170	340	345	350	355	360	365	370	375	380	385	390	395	400	405	
A1-190	180	350	355	360	365	370	375	380	385	390	395	400	405	410	415	

**Function**

System raised



System lowered

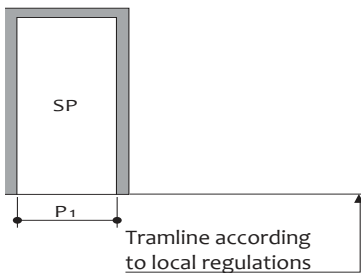


The lower vehicle must exit before the platform is lowered!

**Width dimensions for garage without door**

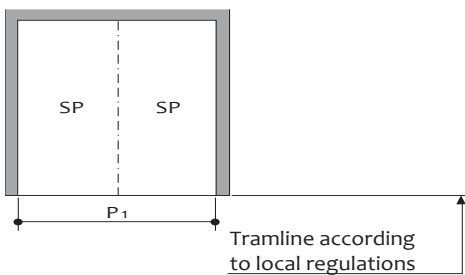
**Dividing walls**

Single platform (SP)



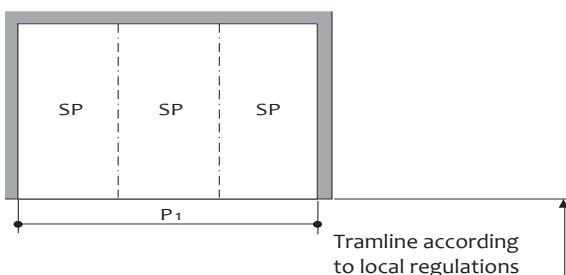
Usable platform width	P1
230	260
240	270
250	280
260	290
270	300

Double platform (DP)



Usable platform width	P1
230	520
240	540
250	560
260	580
270	600

Single and double platform (SP + DP) – Example



Usable platform width	P1
230	780
240	810
250	840
260	870
270	900



**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. For maximum comfort, we generally recommend our maximum platform width of 270 cm for a single platform (SP).

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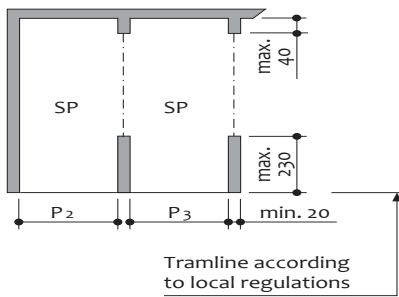
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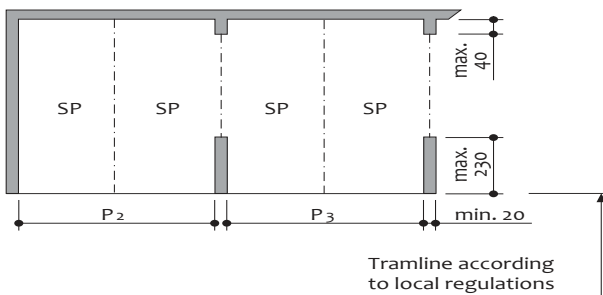
**Width dimensions for garage without door**

**Columns in pit**

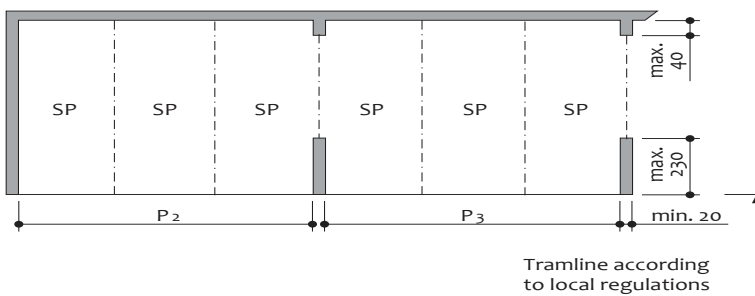
**Single platform (SP)**



**Double platform (DP)**



**Single and double platform (SP + DP) – Example**



Usable platform width	P2	P3
230	255	245
240	265	255
250	275	265
260	285	275
270	295	285

Usable platform width	P2	P3
230	515	510
240	535	530
250	555	550
260	575	570
270	595	590

Usable platform width	P2	P3
230	275	770
240	805	800
250	835	830
260	865	860
270	895	890

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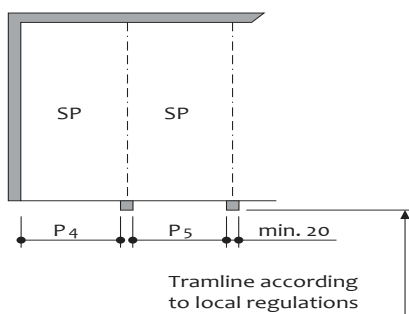


**HINT:** End parking spaces are generally more difficult to park. Narrower platform widths can cause problems during use (depending on the type of car, access and individual driving behaviour). We recommend our wider platforms for end parking spaces. For maximum comfort, we generally recommend our maximum platform width of 270 cm for a single platform (SP).

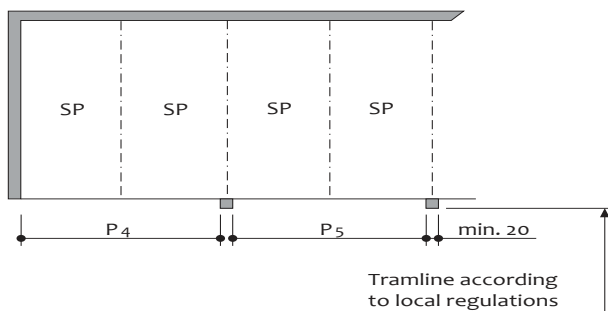
**Width dimensions for garage without door**

**Columns outside pit**

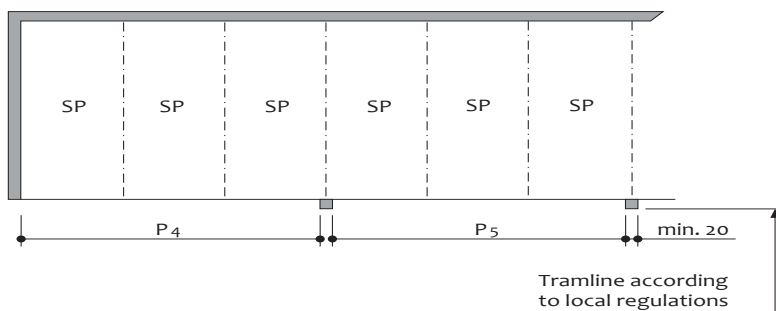
**Single platform (SP)**



**Double platform (DP)**



**Single and double platform (SP + DP) – Example**



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

Usable platform width	P4	P5
230	510	500
240	530	520
250	550	540
260	570	560
270	590	580

Usable platform width	P4	P5
230	770	760
240	800	790
250	830	820
260	860	850
270	890	880

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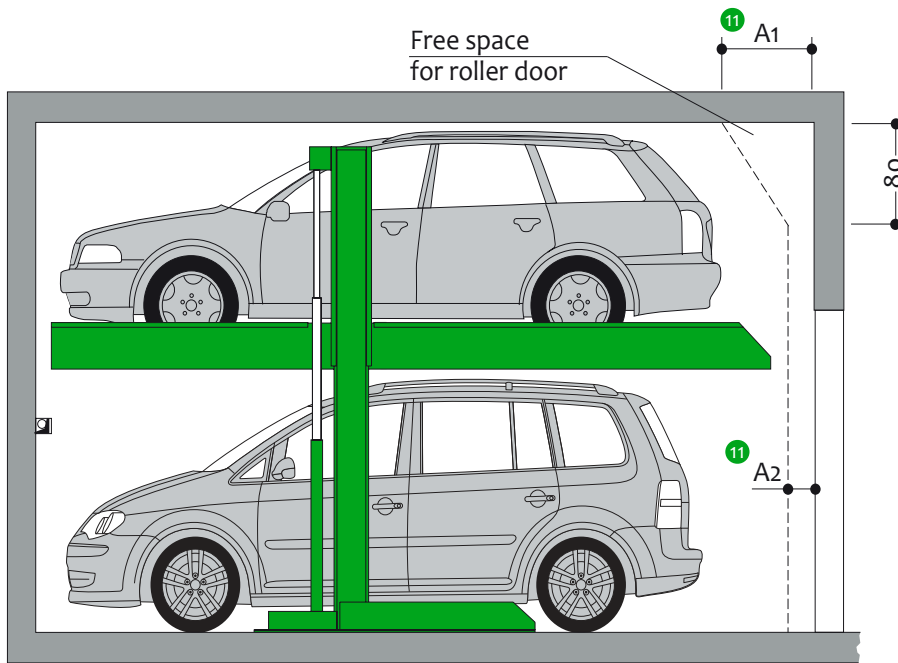
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**HINT:** End parking spaces are generally more difficult to park. Narrower platform widths can cause problems during use (depending on the type of car, access and individual driving behaviour). We recommend our wider platforms for end parking spaces. For maximum comfort, we generally recommend our maximum platform width of 270 cm for a single platform (SP).

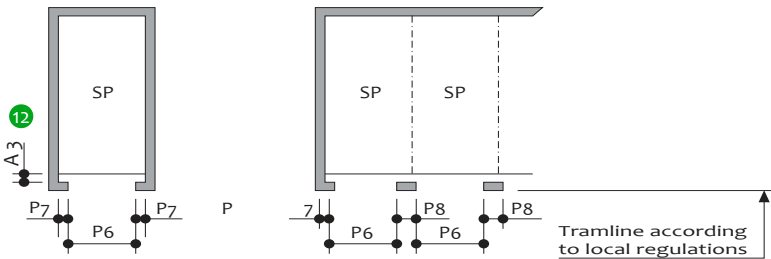
**Garage with door in front of the parking system**



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

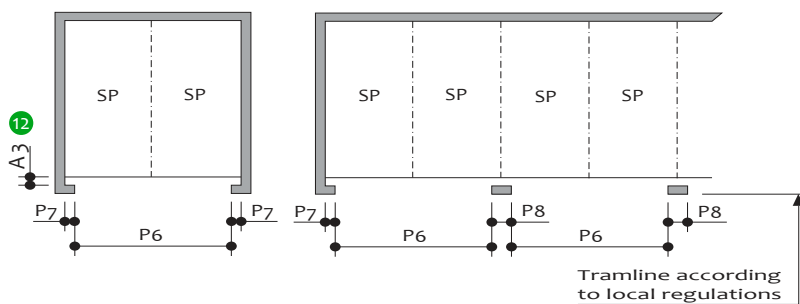
**Widths for garage with door in front of car parking system**

Single platform (SP)



Usable platform width	Door entrance width P6	P7	P8
230	230	15	30
240	240	15	30
250	250	15	30
260	260	15	30
270	270	15	30

Double platform (DP)



Usable platform width	Door entrance width P6	P7	P8
230	490	15	30
240	510	15	30
250	530	15	30
260	550	15	30
270	570	15	30

12 All-round door dimensions require coordination between door supplier and producer of parking system.



**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. For maximum comfort, we generally recommend our maximum platform width of 270 cm for a single platform (SP).

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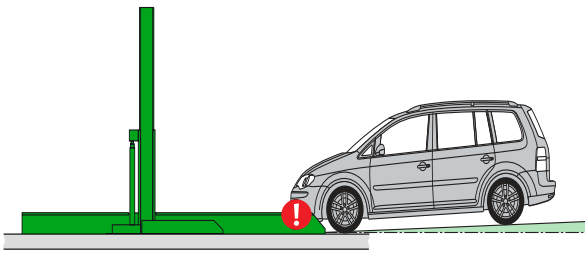
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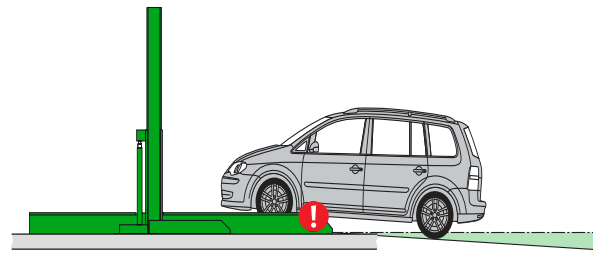
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### Access incline



Maximum descending slope  
4%



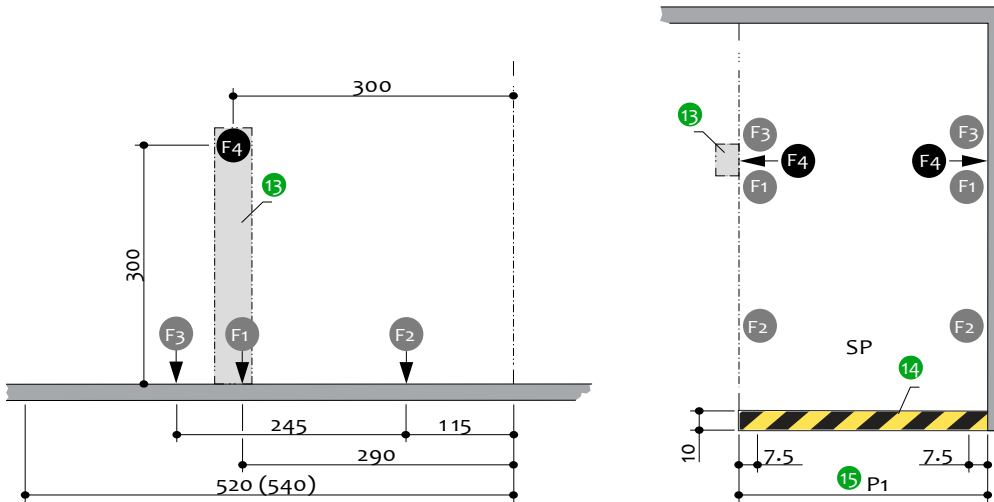
Maximum ascending slope  
14%



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.

### Load plan

Forces in kN



Platform load	F1	F2	F3	F4	F5	16
SP 2000 kg	+30	+0,5	+7,7	±0,8	±1	
SP 2600 kg	+36	+0,7	+9,8	±1	±1	

- 13 The system must be supported on both sides. An additional stand may be installed if there are no walls at the sides. A floor area of 50 x 30 cm required for these stands.
- 14 Marking according to ISO 3864 (colouring of the image does not correspond to ISO 3864)
- 15 Width dimension B1 (see “Width dimensions of garage with/without door”, pages 3 and 4)
- 16 All forces in kN



**HINT:** Units are dowelled to the floor. Drilling depth: approx. 15 cm.

**The floor plate and walls must be from concrete (quality min. C20/25)!**

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. For maximum comfort, we generally recommend our maximum platform width of 270 cm for a single platform (SP).

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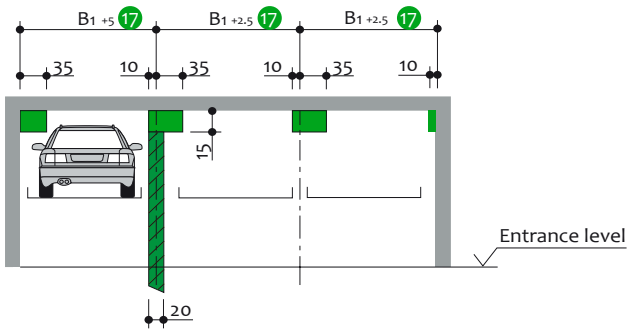
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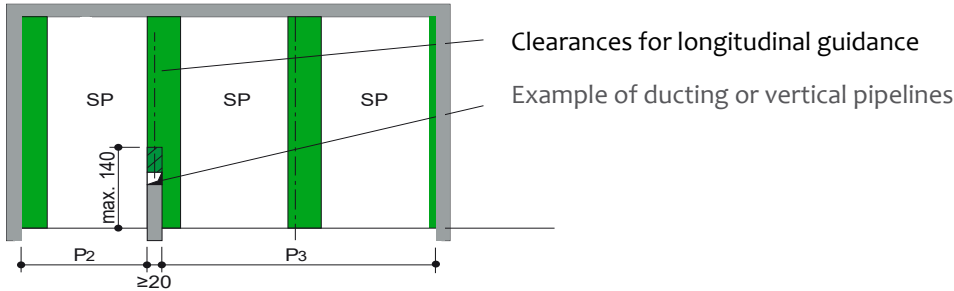
### Installation data



Free space for vertical pipelines, ventilation ducts

Clearances for longitudinal guidance

Dimensions P1, P2 and P3 see pages 3,4 and 5.



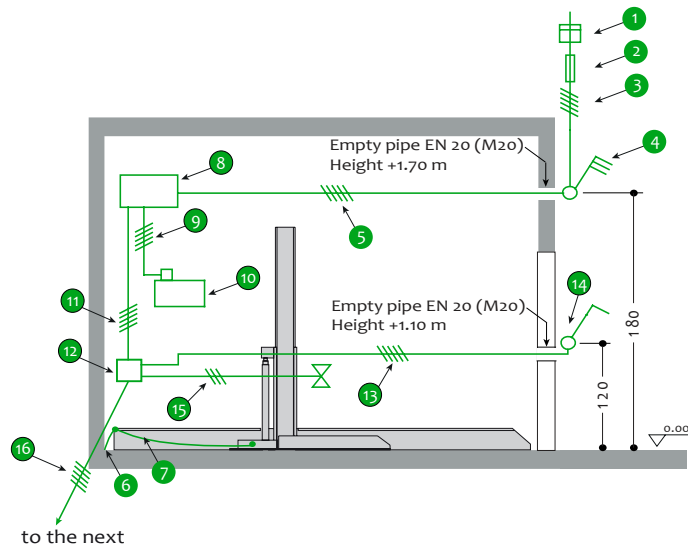
**HINT:** Free spaces apply only to forward parked cars with driver exit on the left side!

### 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 2.5mm <sup>2</sup> (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 2.5mm <sup>2</sup> (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	Spplly cable 5 x 2,5 mm <sup>2</sup> 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 mm <sup>2</sup> 24VDC, with marked wire and protective conductor
12	Distribution unit
13	Control line 5 x 1,5 mm <sup>2</sup> 24VDC, with marked wire and protective conductor
14	Key switch, 2 way momentary with emergency stop
15	Control line 3 x 0,75 mm <sup>2</sup> 24VDC, with marked wire and protective conductor
16	Connection cable to the next system 5 x 1,5 mm <sup>2</sup> with marked wire and protective conductor

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**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.

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**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**

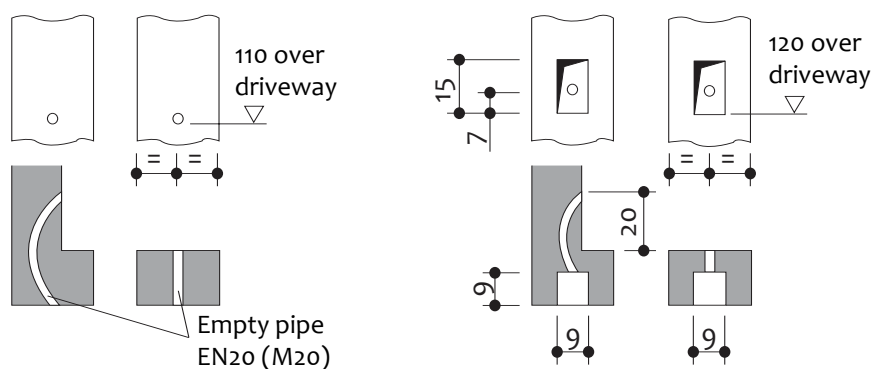
The supply line to the main switch and the control line to the unit must be made by the customer during installation. The functionality can be checked by our technicians on site together with the electrician. If this is not possible during assembly for reasons attributable to the customer, an electrician 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

**Page 1**  
Sections, dimensions, car data

**Page 2**  
Height dimensions

**Page 3**  
Function, Width dimensions divid.walls

**Page 4**  
Width dimensions, columns in pit

**Page 5**  
Width dimensions, columns outside pit

**Page 6**  
Front door termination, Width dimensions

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Approach Load plan

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Installation data / electrical installation

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On-site services

**Page 11**  
Description SP + DP

**Description single platform (SP)****Page 1**  
Sections,  
dimensions,  
car data**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)
- Increasing the load capacity to 2600 kg is possible later
- Dimensions according to the underlying pit, width and height dimensions
- Parking spaces are accessed horizontally (installation tolerance  $\pm 1\%$ )
- 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

**Page 2**  
Height  
dimensions**Page 3**  
Function,  
Width  
dimensions  
divid.walls**Page 4**  
Width  
dimensions,  
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in pit**Page 5**  
Width  
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Front door  
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Description  
SP + DP**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.