

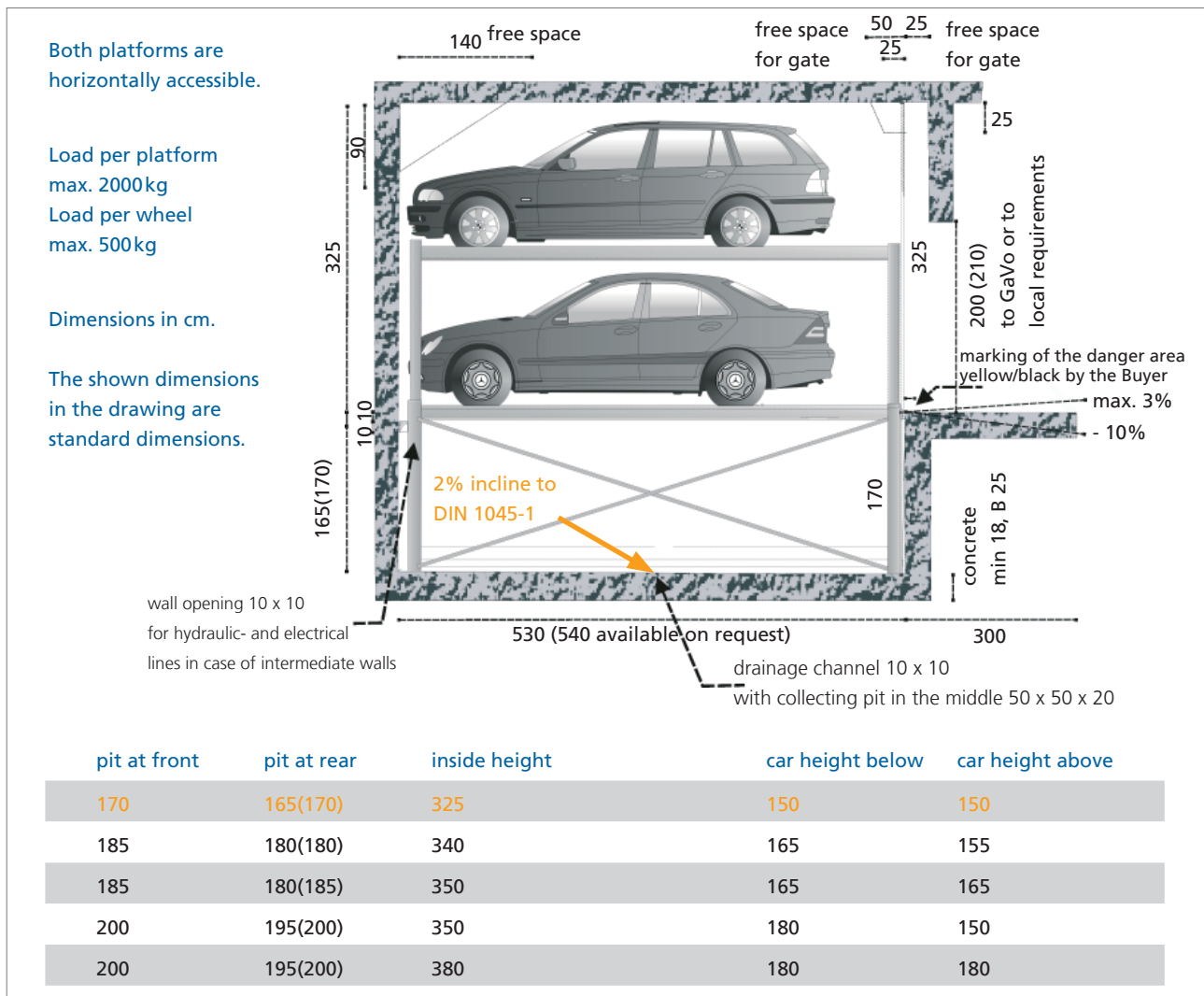


Parking on 2 levels with pit

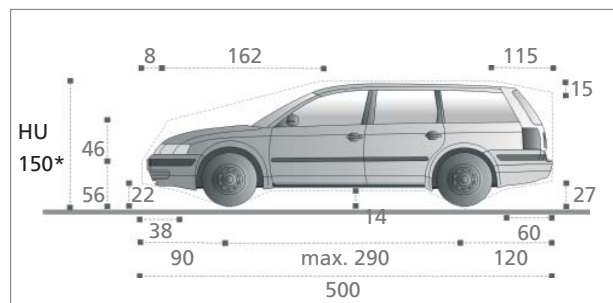
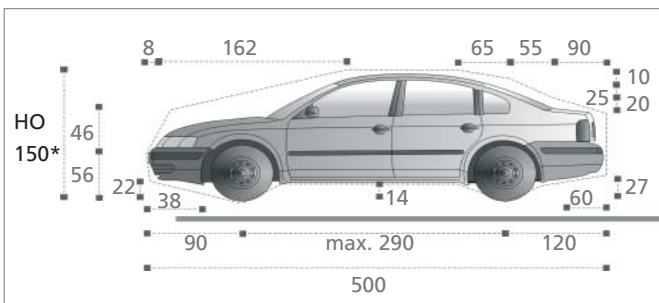
Quadro Indoor S/D

The comfort solution – no columns or any other barrier in the area of the doors

Area of application: residential buildings, hotels, office buildings,
single garages above ground, prefabricated garages



Vehicle data



standard: car width max. 190 cm, load per platform max. 2000kg, load per wheel max. 500kg

Note

Height of the car HO* and HU*: Alternative car height see table above. The total car height including roof rail and antenna fixture must not exceed the mentioned max. height.

Optional vehicle data

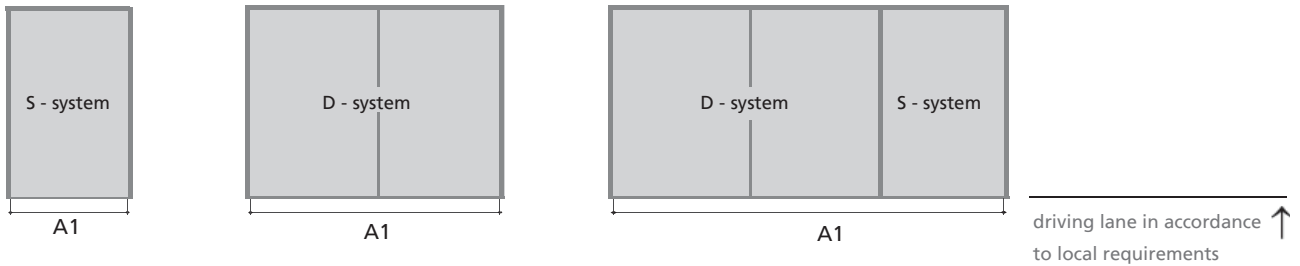
Car length: 510cm, load per platform: max. 2500kg, load per wheel max. 625kg; only with S-systems (single system for 2 cars): width of space: 250/260/270 cm – total system width 280/290/300cm; pit length 540cm

Width dimensions • Garages

All dimensions are minimum dimensions. All dimensions in cm. Tolerances to the German Norm VOB part C (DIN 18330, 18331) and DIN 18202 are to be considered.

Note: Dimensions do not include the dimensions of the hydraulic unit. Dimensions of the hydraulic unit and the switch cabinet shown in page 4 below, are to be considered in the planning.

partition walls



S-system for 2 cars

| | | | |
|----------|-----|-----|-----|
| width A1 | 260 | 270 | 280 |
| width* | 230 | 240 | 250 |

* gives clear platform width

D-system for 4 cars

| | | | | | |
|----------|-----|-----|-----|-----|-----|
| width A1 | 490 | 500 | 510 | 520 | 530 |
| width* | 460 | 470 | 480 | 490 | 500 |

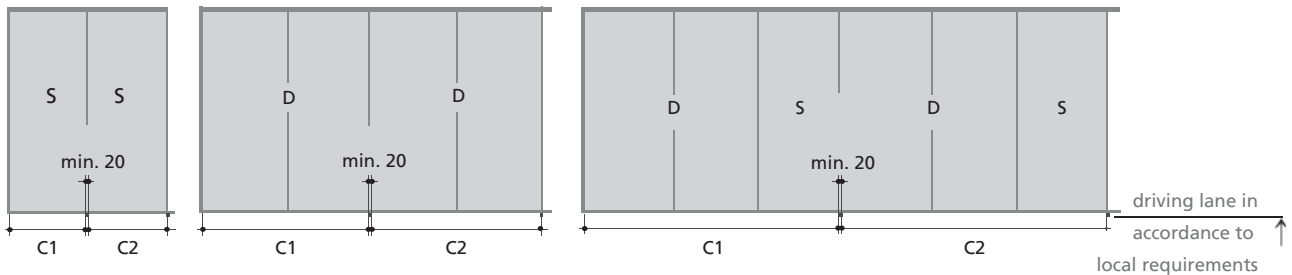
* gives clear platform width

D- and S-system for 6 cars

| | | | |
|----------|---------|---------|---------|
| width A1 | 750 | 780 | 810 |
| width* | 460/230 | 480/240 | 500/250 |

* gives clear platform width

building pillars in front of the pit



S-system for 2 cars

| | | | |
|----------|-----|-----|-----|
| width C1 | 250 | 260 | 270 |
| width C2 | 240 | 250 | 260 |
| width* | 230 | 240 | 250 |

* gives clear platform width

D-system for 4 cars

| | | | | | |
|----------|-----|-----|-----|-----|-----|
| width C1 | 480 | 490 | 500 | 510 | 520 |
| width C2 | 470 | 480 | 490 | 500 | 510 |
| width* | 460 | 470 | 480 | 490 | 500 |

* gives clear platform width

D- and S-system for 6 cars

| | | | |
|----------|---------|---------|---------|
| width C1 | 740 | 770 | 800 |
| width C2 | 730 | 760 | 790 |
| width* | 460/230 | 480/240 | 500/250 |

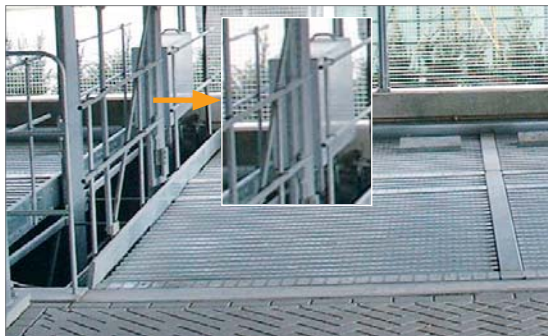
* gives clear platform width

Features in the scope of delivery



Key switch

Key switch incl. emergency stop, dead man's control type with brief operating instructions and wiring to hydraulic unit.



Hydraulic unit

Hydraulic unit "Silencio" with tubing and wiring to the installation. The oil submerged motor "Silencio" is extremely quiet and smooth running. The motor-pump assembly is sound absorbent.

Location

- between or behind two systems in the pit on a 2m high support, see picture above
- if there is no space between or behind the systems – wall-mounted
- single systems: power supply placed directly on the lower platform, in the front left side

Dimensions incl. switch cabinet

1 – 2 systems: 65cm x 25cm x 60cm

3 – 5 systems: 115cm x 25cm x 60cm

The hydraulic unit can be used for up to 5 Car Parking Systems.

Scope of supply

S/D-system with 2 platforms, 4 telescope columns with hydraulic cylinders, lifting carriage

Width of parking space

Width of parking space 230cm and pit depth 170/165cm as standard

Safety devices

- synchronizing device for safe operation even with unequal load distribution on the platform
- entering wedge for easy drive-in and parking
- locking device prevents lowering by pipe breakage
- fixation of the car parking systems and hydraulic unit with HD-anchors, wiring and impact dowels
- railings to avoid risk of falling onto the platform, insofar as necessary

Note: Safety guards against shearing and squeezing have priority and must be provided by the Buyer.

Protection against corrosion

Corrosion protection version „Classic“ of driving plates by continuous line-galvanizing to DIN EN 10142/10143.

Corrosion protection version „Classic Plus“ of driving plates by line-galvanizing to DIN EN 10142/10143 (depending on the market specific needs zinc coated and powder coated sheet metal included in the scope of supply).



Driving plates

Driving plates as trapezoidal sheet plates as standard, options see "Extra Equipment".

Extra Equipment and Options



- button lifting
- button lowering
- emergency stop
- key switch with key
- interlock

Berlin control system/Fire brigade

Interlocked key switch, removal of the key only in the upper basic position.



Driving plates

Alu-bulb-plate in the walking area even more user friendly when walking and driving.



Catwalks

Positioning on the left side of the parking space even more comfortable, when walking to the driver door. 1,5mm zinc sheet, surface area coined. The catwalks are screwed with the drive plates, available with corrosion protection „Classic“ or „Classic Plus“.

Dimensions: approx. 350cm x 31/41 cm (L x W)

Width of parking space

Width of parking space 240cm and 250cm is recommended for even more vehicle comfort

Vehicle weight

Optional vehicle weight: 2500kg

Additional sound insulation

- structure-borne noise package to comply with DIN 4109 and adherence to sound insulation-measure R_w '57
- sound insulation hood to minimize airborne sound

Hydraulic

- HVLP-oil for high fluctuations in temperature

Installation of garage gates

- ramp when door facing is not available to install the door slide rail, pit length must be 535cm, at the minimum

Protection against corrosion

- Corrosion protection version „Premium“ of driving plates by individual piece-galvanizing to DIN ISO 1461
- Corrosion protection version „Premium Plus“ of driving plates by individual piece-galvanizing to DIN ISO 1461 and coating of the top surfaces

Tips

- We recommend a maintenance contract.
- Attendance and cleaning according to recommendations or in regular intervals.

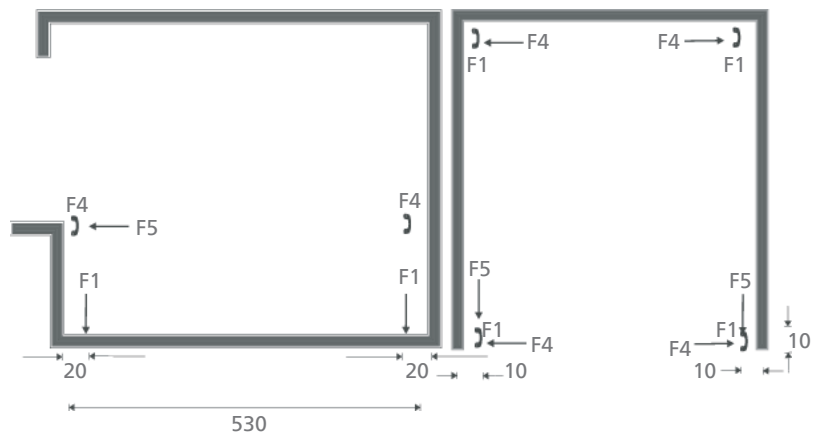
Interfaces to be performed by the Buyer

Foundation

Foundation works exactly to size, clean and dry is to be completed by the start of the installation. Bonded anchors for high foundation requirements shall be provided if necessary, available also as option.

Foundation plan

| | single system | double system |
|----|---------------|---------------|
| F1 | 15 kN | 27.5 kN |
| F4 | +/- 1 kN | +/- 1 kN |
| F5 | 10 kN | 10 kN |



The pit must be executed in compliance with the designated forces. The forces and loads are transferred to the foundation by bearing plates with an area of 150cm². The bearing plates are fixed with metal expansion anchors. The drill hole depth is approx. 14 cm. All walls in the pit below the entrance level must be of concrete.

Electrical data

- supply line to main switch 5 x 4mm² or according to local requirements, fuse protection 3 x 25 amp, slow
- lockable main switch, near to hydraulic unit but outside of the pit, completed at the beginning of installation, height approx. 180cm above entrance level (color requirements to EN 60204-1, 10.7.4, color red)
- capacity of the hydraulic unit: 400 volt, 50hz, three-phase motor 6,0 kW
- electrical potential equalisation (foundation grounding steel-construction to VDE 0100 T410)

General costumers duties

- level surface (L x W) 50cm x 20cm to attach the control panel, close to the system, outside the operational platform area
- safeguarding according to DIN EN 294
- lighting according to DIN 67528, illumination of parking lots and buildings for parking
- at the edge of the pit a 10cm wide, yellow-black marking according to ISO 3864
- wall opening 10cm x 10cm for hydraulic- and electrical lines in case of intermediate walls
- compliance with installation requirements as per quotation

lockable main switch



safeguarding according to DIN EN 294

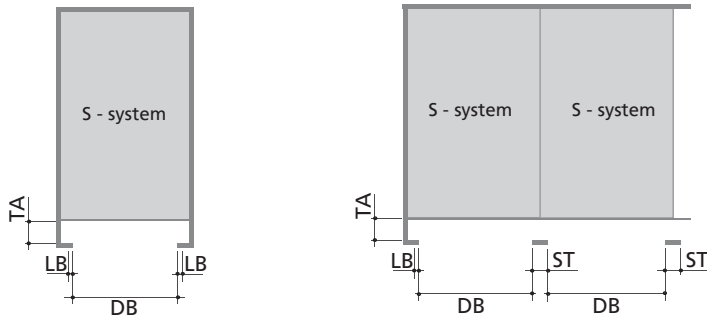


marking pit edge



Width dimensions • Garages with doors

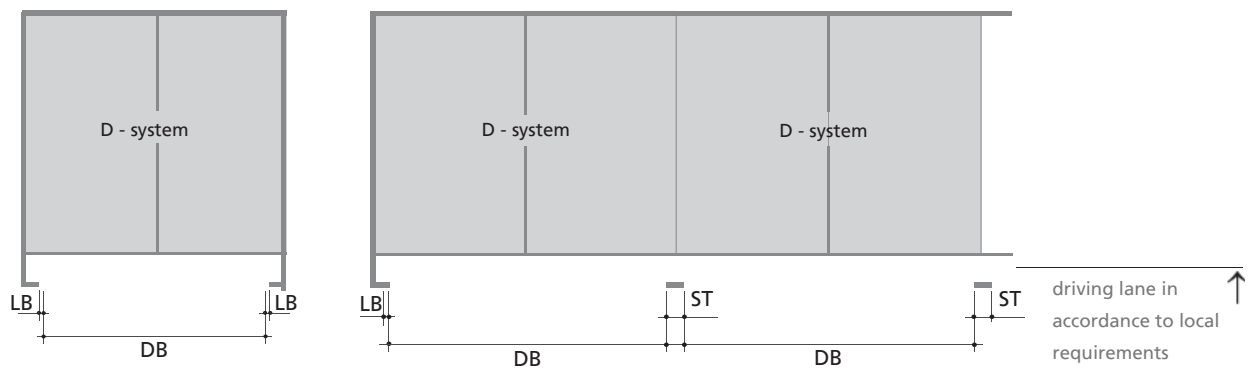
single system for 2 cars



TA = seat-engaging surface for doors
The dimensions must be agreed with the door manufacturer on site.

| width of parking space | door entrance width DB | reveal LB | pillar ST |
|------------------------|------------------------|-----------------|-----------|
| 230 | 237 ⁵ | 12 ⁵ | 25 |
| 240 | 250 | 12 ⁵ | 25 |
| 250 | 250 | 15 | 30 |

double system for 4 cars



| width of parking space | door entrance width DB | reveal LB | pillar ST |
|------------------------|------------------------|-----------------|-----------|
| 460 | 460 | 15 | 30 |
| 470 | 475 | 12 ⁵ | 25 |
| 480 | 475 | 17 ⁵ | 35 |
| 490 | 500 | 12 ⁵ | 25 |
| 500 | 500 | 15 | 30 |

Electrical data

Installation diagram

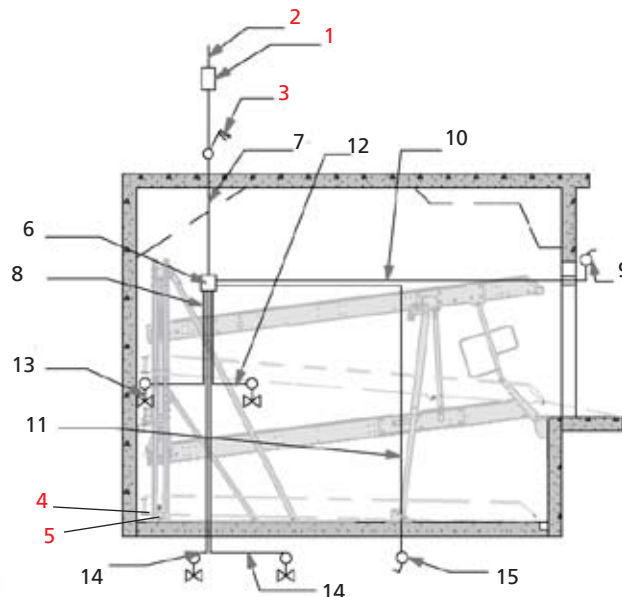


Figure: Car Parking System with inclined accessible. Specifications are also apply to systems with horizontal accessible platforms.

| Item | Performance | Quantity | Designation | Positioning | Frequency |
|------|-------------|----------|---|---|------------------|
| 1 | on site | 1 | fuse or automatic circuit 3 x 25 amp slow to DIN VDE 0100 part 430 | in the feed cable | 1 per hydr. unit |
| 2 | on site | 1 | supply line 5 G 4,0mm ² or according to local requirements | feed cable to main switch | 1 per hydr. unit |
| 3 | on site | 1 | lockable main switch | near to hydraulic unit | 1 per hydr. unit |
| 4 | on site | each 10m | foundation earth connector | corner pit floor/ rear wall | |
| 5 | on site | 1 | potential equalisation to DIN EN 60204 | from foundation earth connector to the system | 1 per hydr. unit |
| 6 | Nussbaum | 1 | hydraulic unit with three-phase motor 400volt, 50hz 6kW | | |
| 7 | Nussbaum | 1 | supply line 5 G 4,0mm ² with marked wires and protective conductor | from main switch to hydraulic unit | 1 per hydr. unit |
| 8 | Nussbaum | 1 | control line 2x1 | | |
| 9 | Nussbaum | 1 | control element with emergency stop | | |
| 10 | Nussbaum | 1 | control line 4G1 | | |
| 11 | Nussbaum | 1 | control line 4G1 | | |
| 12 | Nussbaum | 1 | control line 2x1 | | |
| 13 | Nussbaum | 1 | hydraulic valve lifting and lowering | | |
| 14 | Nussbaum | 1 | hydraulic valve lifting and lowering by installation in ranks | | |
| 15 | Nussbaum | 1 | control element for each further system | | |

The items 6 – 15 are included in the scope of supply, unless otherwise specified in the offer/order.