

Dimensions

All space requirements are minimum finished dimensions.

Tolerances for space requirements $+3_{-0}$.
Dimensions in cm.

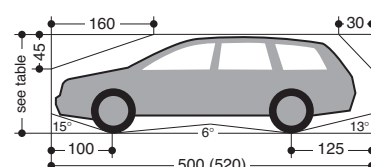
EB (single platform) = 2 vehicles
DB (double platform) = 4 vehicles

Suitable for

Standard passenger cars:
Limousine, station wagon, SUV, van
according to clearance and maximal
surface load.

| | Standard | Special (2) |
|------------|------------|-------------|
| width | 190 cm (4) | 190 cm (4) |
| weight | see page 3 | |
| wheel load | see page 3 | |

Clearance profile



| | | | | |
|---|---|---|---|---|
| 2072i-165 car height lower level 150 | 2072i-170 car height lower level 155 | 2072i-180 (1) car height lower level 165 | 2072i-185 car height lower level 170 | 2072i-195 car height lower level 180 |
| 2072i-205 car height lower level 190 | 2072i-215 car height lower level 200 | 2072i-220 car height lower level 205 | 2072i-230 car height lower level 215 | |



To the extent that the conditions of the construction do not restrict the height, the car height on the upper parking slots is not restricted.

- Standard type
- Special system: maximum load for extra charge.
- To follow the minimum finished dimensions, make sure to consider the tolerances according to VOB, part C (DIN 18330 and 18331) and the DIN 18202.
- Car width for platform width 230 cm. If wider platforms are used it is also possible to park wider cars.
- For dividing walls: cutting through 10 x 10 cm.
- Potential equalization from foundation grounding connection to system (provided by the customer).
- Slope with drainage channel and sump. With direct connection to the sewerage system.
- Three-sided barrier compliant to DIN EN ISO 13857.
- 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 3).
- 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.
- For convenient use of your parking space and due to the fact that the cars keep becoming longer we recommend a pit length of 540 cm.

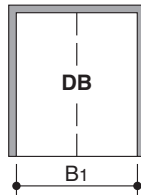
Width dimensions

Single Platform (EB)



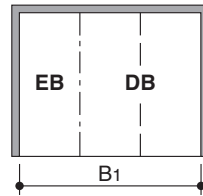
| usable platform width | B1 |
|-----------------------|-----|
| 230 | 260 |
| 240 | 270 |
| 250 | 280 |
| 260 | 290 |
| 270 | 300 |

Double Platform (DB)



| usable platform width | B1 |
|-----------------------|-----|
| 460 | 490 |
| 470 | 500 |
| 480 | 510 |
| 490 | 520 |
| 500 | 530 |
| 510 | 540 |
| 520 | 550 |
| 530 | 560 |
| 540 | 570 |

Single and Double Platform (EB + DB) – Example



| usable platform width | B1 |
|-----------------------|-----|
| 230 + 460 | 750 |
| 240 + 470 | 770 |
| 250 + 480 | 790 |
| 250 + 500 | 810 |
| 270 + 500 | 830 |
| 270 + 510 | 840 |
| 270 + 520 | 850 |
| 270 + 530 | 860 |
| 270 + 540 | 870 |

Carriageway in
accordance with
local regulations

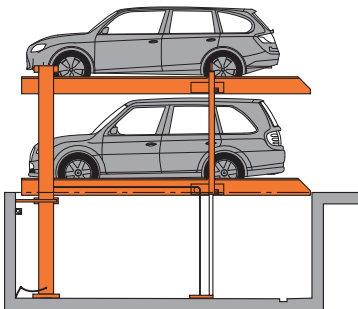


For parking boxes on the edges and boxes with intermediate walls we recommend our maximum platform width of 270 cm for single platforms and 540 for double platforms. Problems may occur if smaller platform widths are used (depending on car type, access and individual driving behaviour and capability).

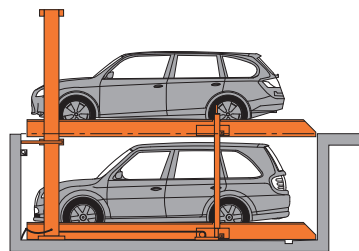
For larger limousines and SUV wider driveways are necessary (in particular on the boxes on the sides due to the missing manoeuvring radius).

Function

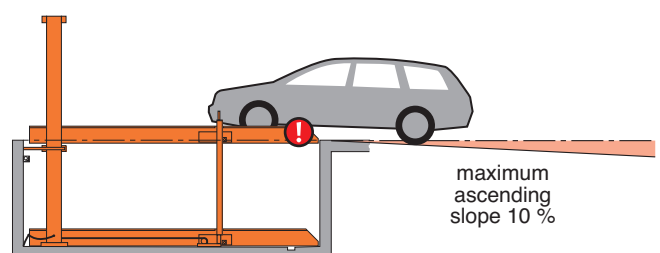
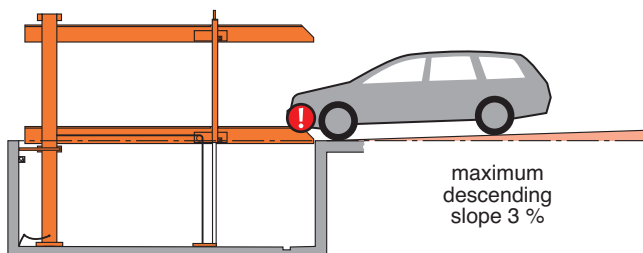
System lifted



System lowered



Approach



The illustrated maximum approach angles must not be exceeded. Incorrect approach angles will cause serious manoeuvring & positioning problems on the parking system for which the local agency of KLAUS Multiparking accepts no responsibility.

Load per parking space

For countries where snow loads are a crucial factor

MultiBase 2072i 2,0 to. (EB + DB)

| parking spaces | weight | wheel load |
|---------------------|---------|------------|
| upper parking space | 1500 kg | 375 kg |
| lower parking space | 2000 kg | 500 kg |

MultiBase 2072i 2,6 to. (EB + DB) – for extra charge

| parking spaces | weight | wheel load |
|---------------------|---------|------------|
| upper parking space | 2000 kg | 500 kg |
| lower parking space | 2600 kg | 650 kg |

MultiBase 2072i 3,0 to. (only EB) – for extra charge

| parking spaces | weight | wheel load |
|---------------------|---------|------------|
| upper parking space | 2500 kg | 625 kg |
| lower parking space | 3000 kg | 750 kg |

For countries where snow loads is no relevant factor

MultiBase 2072i 2,0 to. (EB + DB)

| parking spaces | weight | wheel load |
|---------------------|---------|------------|
| upper parking space | 2000 kg | 500 kg |
| lower parking space | 2000 kg | 500 kg |

MultiBase 2072i 2,6 to. (EB + DB) – for extra charge

| parking spaces | weight | wheel load |
|---------------------|---------|------------|
| upper parking space | 2600 kg | 650 kg |
| lower parking space | 2600 kg | 650 kg |

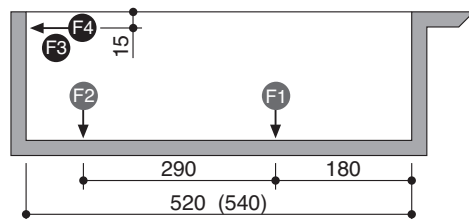
MultiBase 2072i 3,0 to. (only EB) – for extra charge

| parking spaces | weight | wheel load |
|---------------------|---------|------------|
| upper parking space | 3000 kg | 750 kg |
| lower parking space | 3000 kg | 750 kg |

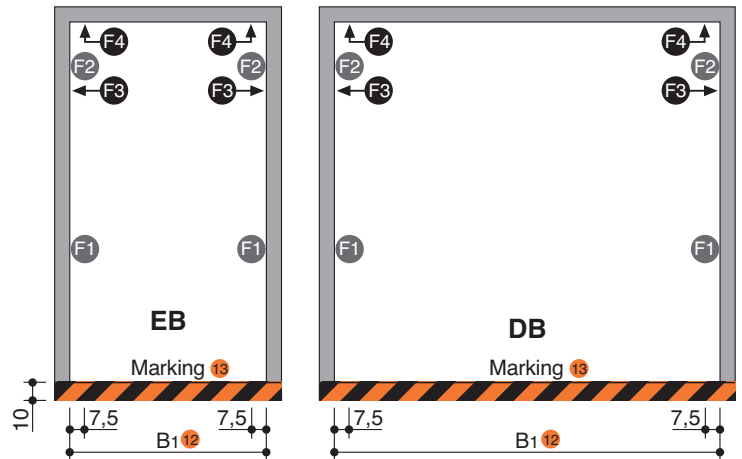


Applies to a snow depth of 20 cm; in case of larger snow depths the snow must be removed.

Load plan



| Type | F1 | F2 | F3 | F4 |
|--------------------|---|-----|-----------|-----------|
| 2072i 2,0 to. (EB) | $\begin{matrix} +28 \\ -1,7 \end{matrix}$ | +12 | ± 1 | $\pm 1,6$ |
| 2072i 2,6 to. (EB) | $\begin{matrix} +36 \\ -2,2 \end{matrix}$ | +15 | $\pm 1,4$ | $\pm 2,1$ |
| 2072i 3,0 to. (EB) | $\begin{matrix} +42 \\ -2,4 \end{matrix}$ | +17 | $\pm 1,6$ | $\pm 2,4$ |
| 2072i 2,0 to. (DB) | $\begin{matrix} +51 \\ -6,7 \end{matrix}$ | +20 | $\pm 1,7$ | ± 3 |
| 2072i 2,6 to. (DB) | $\begin{matrix} +67 \\ -8,6 \end{matrix}$ | +26 | $\pm 2,2$ | $\pm 3,8$ |



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

Floor and walls below the drive-in level are to be made of concrete (quality minimum C20/25)!

The dimensions for the points of support are rounded values. If the exact position is required, please contact KLAUS Multiparking.

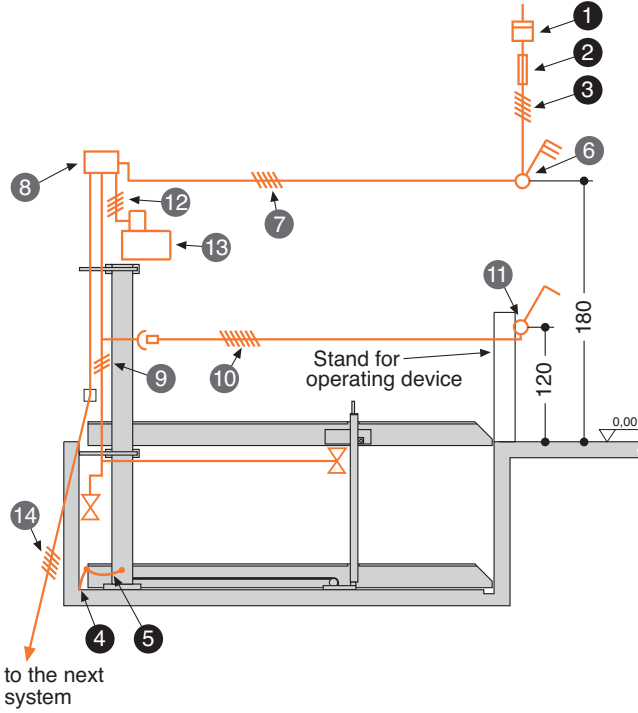
¹² Dimension B1 see page 2

¹³ Marking compliant to ISO 3864 (colors used in this illustration are not ISO 3864 compliant)

¹⁴ All forces in kN

Electrical installation

Installation diagram



Electrical data (to be performed by the customer)

| No. | Menge | Description | Position | Frequency |
|-----|---------------|--|--|--|
| 1 | 1 | Electricity meter | in the supply line | |
| 2 | 1 | Main fuse: 3 x fuse 16 A (slow) or circuit breaker 3 x 16 A (trigger characteristic K or C) 3 x fuse 20 A (slow) or circuit breaker 3 x 20 A (trigger characteristic K or C) | in the supply line in the supply line | 1 per 3,0 kW unit 1 per 5,2 kW unit |
| 3 | 1 | Supply line 5 x 2,5 mm ² (3 PH + N + PE) with marked wire and protective conductor | to main switch | 1 per unit |
| 4 | every 10 m | Foundation earth connector | corner pit floor | |
| 5 | 1 | Equipotential bonding in accordance with DIN EN 60204 from foundation earth connector to the system | | 1 per system |

Electrical data (included in delivery of KLAUS Multiparking)

| No. | Description |
|-----|--|
| 6 | Lockable main switch |
| 7 | Supply line 5 x 2,5 mm ² (3 PH + N + PE) with marked wire and protective conductor |
| 8 | Junction box unit |
| 9 | Wiring harness multiparking system |
| 10 | Connection cable (operating device) |
| 11 | Operating device |
| 12 | Control line 4 x 2,5 mm ² with marked wire and protective conductor |
| 13 | Hydraulic unit 3,0 kW/5,2 kW, three-phase current, 400 V / 50 Hz ¹⁵ |
| 14 | Connection cable to the next system |

¹⁵ Unit with 5,2 kW only for 2072i DB 2.6 to

Technical data

Field of application

By default, the system can only be used for a fixed number of users.

If different users use the system – only on the upper parking spaces – (e.g. short-time parkers in office buildings or hotels) the Multiparking system needs to be adjusted. If required, would you please contact us.

Units

Low-noise power units mounted to rubber-bonded-to metal mountings are installed. Nevertheless we recommend that parking system's garage be built separately from the dwelling. If it is not possible to install the hydraulic power units with the solenoid valves in adjacent buildings or spaces, the power unit and the solenoid valves must be housed in a cabinet (at an extra charge).

Building application documents

According to LBO and GaVo (garage regulations) the Multiparking systems are subject to approval. We will provide the required building application documents.

Gap covers

Any existing gaps between the systems or the platforms and the walls of the pit must be reduced to approx. 10 cm by installing sheet-metal covers (at an extra charge).

Environmental conditions

Environmental conditions for the area of multiparking systems: Temperature range -20 to $+40^{\circ}\text{C}$. Relative humidity 50% at a maximum outside temperature of $+40^{\circ}\text{C}$.

If lifting or lowering times are specified, they refer to an environmental temperature of $+10^{\circ}\text{C}$ and with the system set up directly next to the hydraulic unit. At lower temperatures or with longer hydraulic lines, these times increase.

Operating device

The home and off position of the system must always be in the lowered position. Special controls with key interlock are required that ensure that the key can only be removed when the system has been lowered to its lowest position. Depending on the conditions of the construction project, a stand may be necessary for the control elements (at an extra charge).

Sound insulation

According to DIN 4109 (Sound insulation in buildings), para. 4, annotation 4, KLAUS Multiparkings are part of the building services (garage systems).

Normal sound insulation:

DIN 4109, para. 4, Sound insulation against noises from building services.

Table 4 in para. 4.1 contains the permissible sound level values emitted from building services for personal living and working areas. According to line 2 the maximum sound level in personal living and working areas must not exceed 30 dB (A).

Noises created by users are not subject to the requirements (see table 4, DIN 4109).

The following measures are to be taken to comply with this value:

- Sound protection package according to offer/order (KLAUS Multiparking GmbH)
- Minimum sound insulation of building $R'_w = 57\text{ dB}$ (to be provided by customer)

Increased sound insulation (special agreement):

Draft DIN 4109-10, Information on planning and execution, proposals for increased sound insulation.

Agreement: Maximum sound level in personal living and working areas 25 dB (A). Noises created by users are not subject to the requirements (see table 4, DIN 4109).

The following measures are to be taken to comply with this value:

- Sound protection package according to offer/order (KLAUS Multiparking GmbH)
- Minimum sound insulation of building $R'_w = 62\text{ dB}$ (to be provided by customer)

Note: User noises are noises created by individual users in our Multiparking systems. These can be noises from accessing the platforms, slamming of vehicle doors, motor and brake noises.

Available documents

- wall recess plans
- maintenance offer/contract
- declaration of conformity
- test sheet on airborne and slid-borne sound

Care

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

Corrosion protection

See separate sheet regarding corrosion protection.

CE Certification

The systems on offer comply with DIN EN 14010 and EC Machine Directive 2006/42/EC. Furthermore, this system underwent voluntary conformity testing by TÜV SÜD.

ZERTIFIKAT ◆ CERTIFICATE ◆ CERTIFICADO ◆ CERTIFICAT ◆ 認証証書 ◆



Industrie Service

Certificate concerning the examination of conformity

| | |
|------------------------------------|--|
| Certificate no: | KP 454 |
| Certification body: | TÜV SÜD Industrie Service GmbH Zertifizierungsstelle für Produkte der Fördertechnik Gottlieb-Daimler-Str. 7 70794 Filderstadt - Germany |
| Applicant / Certification holder: | KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Altrach - Germany |
| Date of application: | 2015-06-12 |
| Manufacturer: | KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Altrach - Germany |
| Product: | Equipment for power driven parking of motor vehicles |
| Type: | MultiBase 2072i / 2078i EB 2.000 kg, 2.600 kg, 3.000 kg MultiBase 2072i / 2078i DB 2.000 kg, 2.600 kg |
| Test laboratory: | TÜV SÜD Industrie Service GmbH Prüflaboratorium für Produkte der Fördertechnik Prüfbereich Maschinen der Fördertechnik Gottlieb-Daimler-Str. 7 70794 Filderstadt - Germany |
| Date and number of the test report | 2016-08-09 KP 454 |
| mark of conformity: | KP 454 |
| Test specifications: | - 2006 / 42 / EC, Annex I - DIN EN 14010 |
| Validity: | This Certificate is valid until 2021-08-08 |
| Result: | The equipment fulfills the requirements of the test specifications for the respective scope of application stated in the annex (page 1) of this certificate, keeping the mentioned conditions. |
| Date of issue: | 2016-08-09 |



Achim Janocha



Certification Body

TÜV®

| | |
|-------------|---------------------------------|
| Page 1 | Section |
| Dimensions | Car data |
| Page 2 | Width dim. |
| Function | Approach |
| Page 3 | Load per park. space |
| Load plan | |
| Page 4 | Electrical installation |
| Page 5 | Technical data |
| Page 6 | To be performed by the customer |
| Description | |

To be performed by the customer

Safety fences

Constraints according to DIN EN ISO 13857 must be put in place on three sides (all except the entrance side), unless buildings border the pit.

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 front 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). For reasons of environmental protection we recommend to paint the pit floor, and to provide oil and petrol separators in the connections to the public sewage network.

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.

Marking

According to DIN EN 14010, a warning that identifies this danger area must be placed in the entrance area that conforms to ISO 3864. This must be done according to EN 92/58/EWG for systems with a pit (platforms within the pit) 10 cm from the edge of the pit.

Wall cuttings

Any necessary wall cuttings according to page 1.

Electrical supply to the main switch / Foundation earth connector

Suitable electrical supply to the main switch 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.

In accordance with DIN EN 60204 (Safety of Machinery. Electrical Equipment), grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m).

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

- Mounting of contactor and terminal box to the wall valve, complete wiring of all elements in accordance with the circuit diagram
- Costs for final technical approval by an authorized body
- Main switch
- Control line from main switch to hydraulic unit

Description Single platform (EB) and Double platform (DB)

General description

Multiparking system providing independent parking spaces for 2 cars (EB), 2 x 2 cars (DB), one on top of the other each.

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

The parking bays are accessed horizontally (installation deviation $\pm 1\%$ for correct drainage of platforms).

Due to the special lifting and bearing construction lifting of the doors is not restricted.

Vehicles are positioned on each parking space using wheel stops on the right side (adjust according to operating instructions).

Operation via operating device with hold-to-run-device using master keys.

Operating instructions are attached to each operator's stand.

Multiparking system consisting of:

- 2 steel pillars (mounted on the floor)
- 2 sliding platforms (mounted to the steel pillars with sliding bearings)
- 2 platforms
- 1 electro-hydraulic synchronization control system (to ensure synchronous operation of the hydraulic cylinders while lowering and lifting the platform)
- 2 hydraulic cylinders
- 2 rigid supports (connect the platforms)
- 2 chains and pocket wheels
- 2 automatic hydraulic safety valves (prevents accidental lowering of the platform while accessing the platform)
- Dowels, screws, connecting elements, bolts, etc.
- The platforms and parking spaces are end-to-end accessible for parking!

Platforms consisting of:

- Platform base sections
- Adjustable wheel stops
- Canted access plates
- Side members
- Central side member [only DB]
- Cross members [DB long and short cross members]
- Safety railings – along the upper and lower platform (if required)
- Screws, nuts, washers, distance tubes, etc.v

Hydraulic system consisting of:

- Hydraulic cylinder
- Solenoid valves
- Safety valves
- Hydraulic conduits
- Screwed joints
- High-pressure hoses
- Installation material

Electric system consisting of:

- Operating device (Emergency Stop, lock, 1 master key per parking space)
- Control unit with wiring harness and sensors

Hydraulic unit consisting 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
- Clutch
- 3-phase-AC-motor
- Junction box unit with contactor, motor protection switch and control fuse
- Test manometer
- Pressure relief valve
- Hydraulic hoses (which reduce noise transmission onto the hydraulic pipe)

We reserve the right to change this specification without further notice

KLAUS Multiparking reserves the right in the course of technical progress to use newer or other technologies, systems, processes, procedures or standards in the fulfillment of their obligations other than those originally offered provided the customer derives no disadvantage from their so doing.