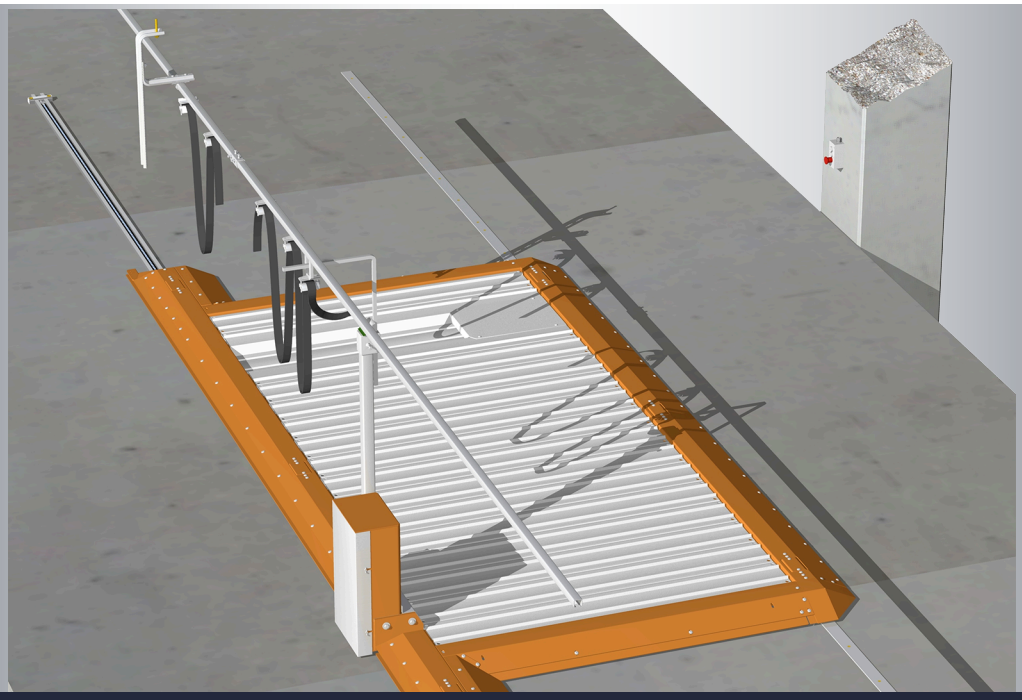
KLAUS MULTIPARKING



# PRODUCT DATA

DIMENSIONS, TECHNICAL INFORMATION AND PERFORMANCE SPECIFICATION

# parkboard PE
# parkboard PH

2000 EB 2300 EB

PARK & SMILE

www.multiparking.com

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## Explanation of symbols

Platforms accessible horizontally.

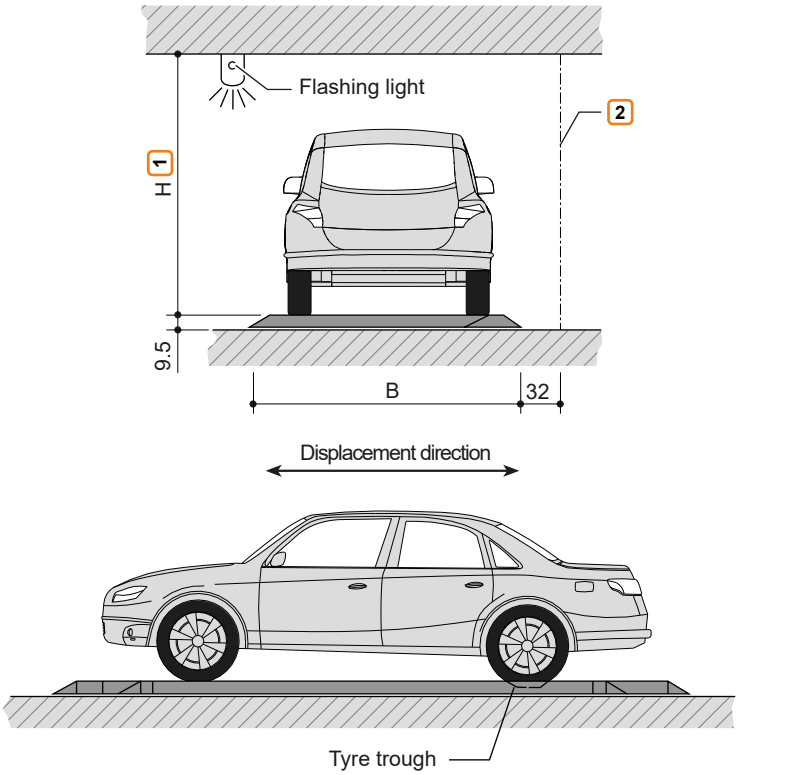
Max. load per parking space in kg.
Upweighting over 2000 kg possible with surcharge (*see "Vehicle data", page 4*).

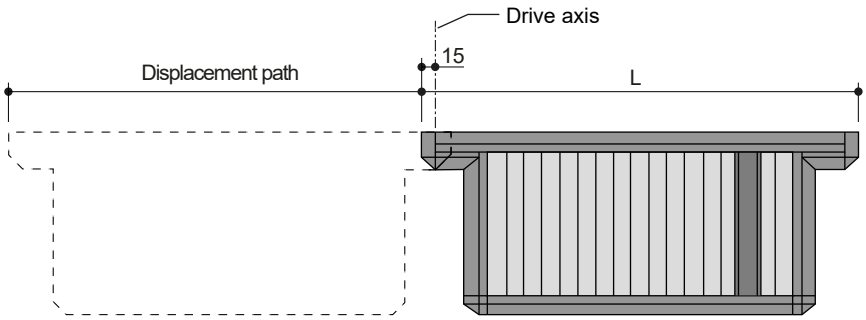
The systems provided are consistent with DIN EN 14010 and the EC Machinery Directive 2006/42/EC.

## Dimensions and tolerances

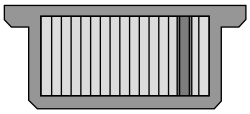
All dimensions and minimum final dimensions.
Tolerance for dimensions +3/0. Dimensions in cm.
In order to adhere to the minimum final dimensions, the tolerances in accordance with the German Construction Tendering and Contract Regulations [VOB], Part C (DIN 18330 and 18331) and DIN 18202 must also be taken into account.

## Version overview

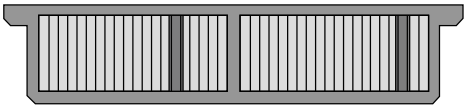



**ParkBoard PE**



**ParkBoard PH**



1 Headroom according to German Parking Garage Ordinance (GaVo)

2 Parking space border or support

**ParkBoard PE/PH 2000 kg**

| Type | L | B | Displacement path |
|---|---|---|---|
| PE-215 | 500 | 215 | 470 |
| PH-215 | 1000 | 215 | 970 |

**ParkBoard PE/PH 2300 kg** 3

| Type | L | B | Displacement path |
|---|---|---|---|
| PE-245 | 500 | 245 | 470 |
| PE-245 | 530 | 245 | 500 |
| PH-245 | 1000 | 245 | 970 |
| PH-245 | 1060 | 245 | 1030 |

3 Special equipment available subject to surcharge.

**General Requirements**

According to the German Garage Design Ordinance (M-GarVO), parking spaces on longitudinally shifting ParkBoards are only permitted if the following conditions are fulfilled:

- There must be a residual driving lane width of at least 275 cm next to the ParkBoards.
- No ParkBoards must be installed in front of powered parking systems.
- If there is two-way traffic in driving lanes, no through-traffic is permitted.
- It must be possible to drive over the ParkBoards from all sides.
- In areas that are accessible on foot, there must be a clearance height of 200 cm (210 cm in some German federal states. This must take into account ventilation systems, girders and other such installed equipment. The ParkBoards are 9.5 cm high.

## Vehicle data

### Version

- ParkBoard PE = 1 vehicle
- ParkBoard PH = 2 vehicles

### Parking options

Series vehicles:
Saloon, estate, SUV, van in accordance with the specifications in the table and maximum parking space load.

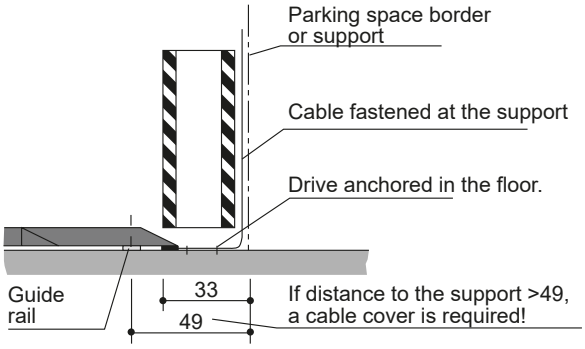
| | Standard | Special equipment [1] |
|---|---|---|
| **Width** | max. 190 | max. 190 |
| **Length** | max. 500 | max. 500 |
| **Height** | 10 cm less than the headroom | |
| **Weight** | max. 2000 kg | max. 2300 kg |
| **Wheel load** | max. 500 kg | max. 575 kg |

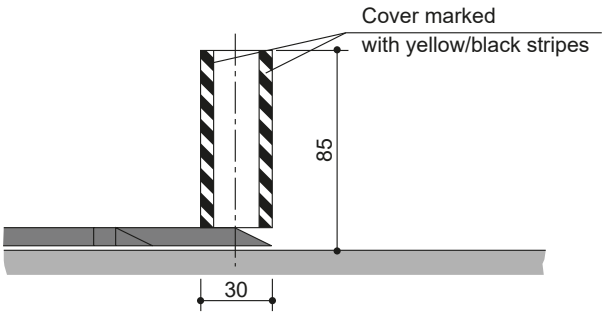
[1] Upweight available subject to surcharge.

## Drive versions

### Above floor drive (drive S)

The drive is placed at the parking space border or support and does not require a recess in the floor.



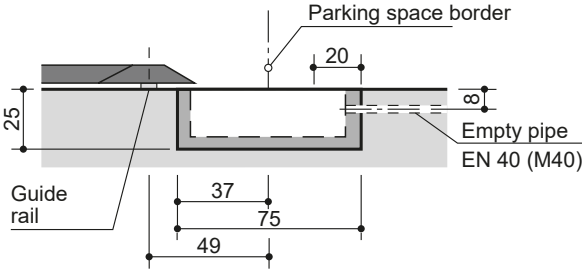



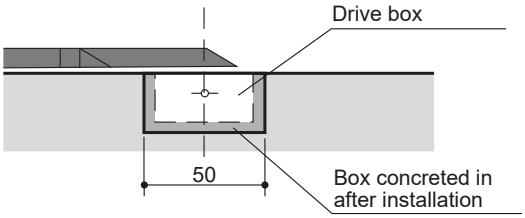

### Below floor drive (drive U)

The drive is installed in a recess in the floor, if it is to be installed independently of any supports.

Requirement:

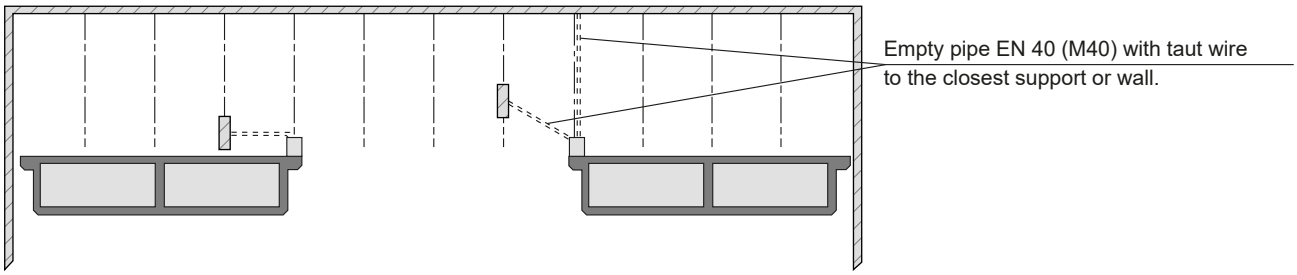
- The drive axis is in line with the axis of a parking space




The drive housing does not provided complete protection against penetrating flowing water. It must be ensured that no flowing water can get into the area of the drive.
Route the EN 40 empty pipe with taut wire to the closest support or wall.
For the arrangement of the longitudinal pallets, see example.

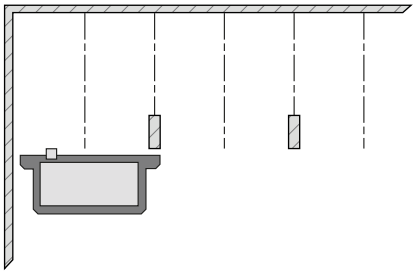
### 2 x ParkBoard PH




### Travelling drive (drive D)

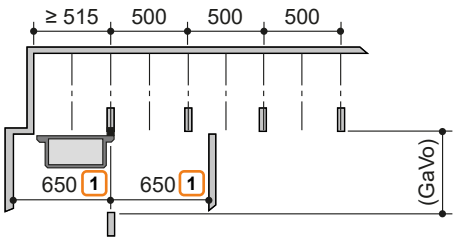
The drive is mounted on the ParkBoard. Power supply is via a trailing cable or a conductor line.

The ParkBoard cannot be driven over in the drive area.

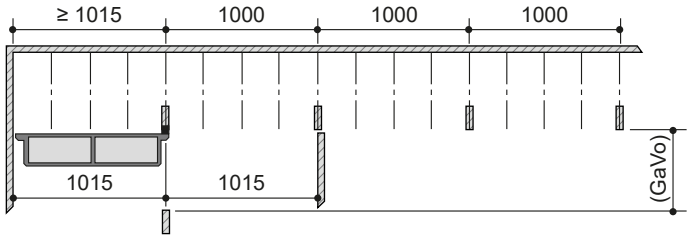


## Examples: Longitudinal pallets with above floor drive (drive S)

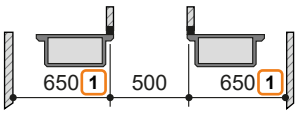
### 1 x ParkBoard PE-215



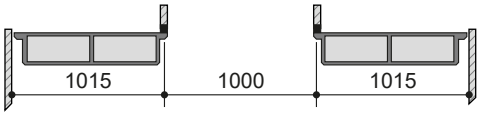

### 1 x ParkBoard PH-215



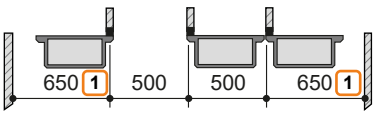

### 2 x ParkBoard PE-215



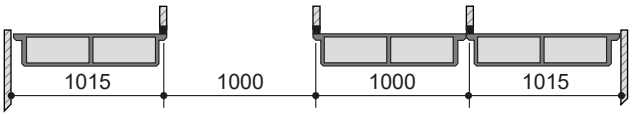

### 2 x ParkBoard PH-215




### 3 x ParkBoard PE-215




### 3 x ParkBoard PH-215



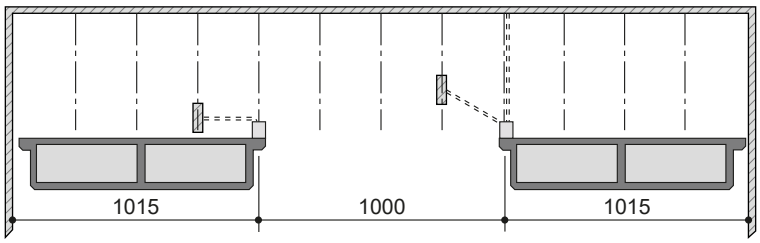

### Combination

Up to five pallets as a group can arranged over a length of 40 m, in the event that their displacement paths overlap. In such cases the operating elements must not be more than 10 m from a possible contact point of two pallets.

1 KLAUS Multiparking recommendation

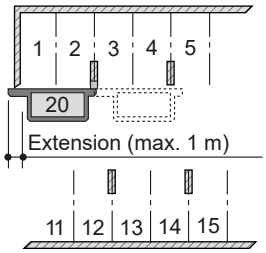
## Example: Longitudinal pallets with underfloor drive (drive U)

**2 x ParkBoard PH-215**

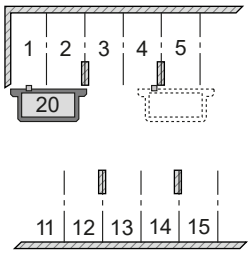



## Offset parking spaces

Single-side ParkBoard extensions for drive S and drive U.

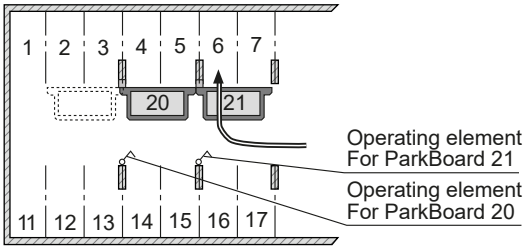



No single-side ParkBoard extension is necessary when using drive D. Drive D enables a longer movement path.



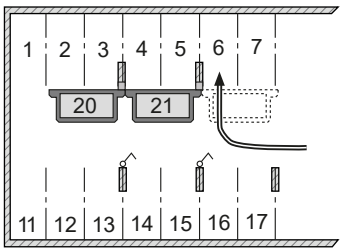

## Notes

**Driving into standard parking spaces (e.g. no. 6)**




When ParkBoard 21 is empty

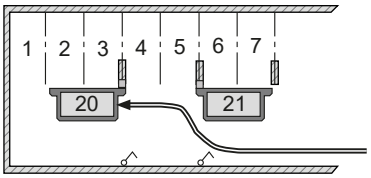
- Driving over the plate is possible




When ParkBoard 21 is occupied

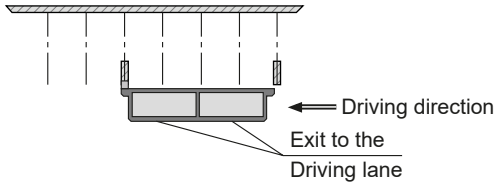
- Press the corresponding pushbutton of operating element no. 21.
- No. 20 and no. 21 automatically move together and parking space 6 (and 7) become free.

## Driving onto ParkBoard parking spaces



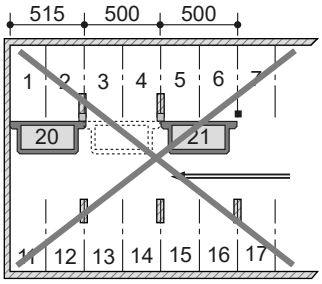

Example with ParkBoard PE

- To drive onto no. 20, ParkBoards 20 and 21 are moved so that a corresponding driving lane is created.



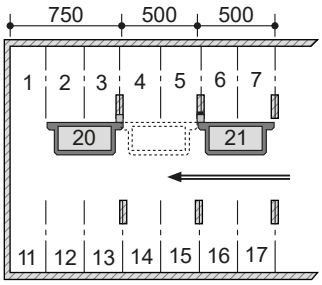

Example with ParkBoard PH

## ParkBoard PE at the driving lane end



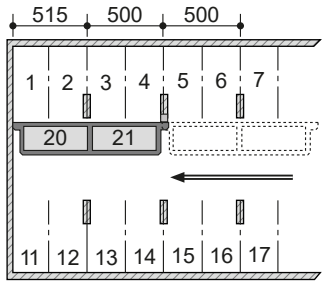

Not suitable!

- Spaces no. 1, 2, 11, 12 are not suitable for driving into because the driving and turning area is very limited.




Solution for ParkBoard PE

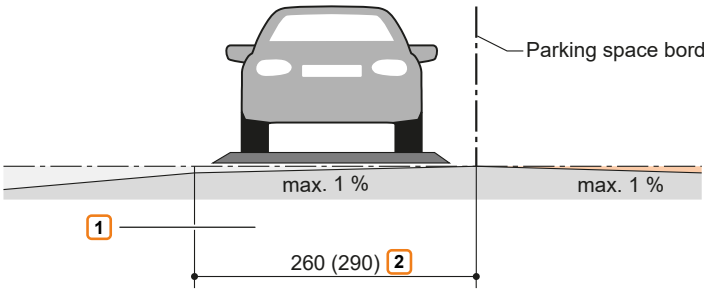
- Offset supports or drive.
- Driving and turning area for spaces 1, 2, 11, 12 is improved!




Solution for ParkBoard PH

- Use of a ParkBoard PH.
- Driving and turning area for spaces 1, 2, 11, 12 is improved!

## Slope




[1] The same level is necessary in this area!

[2] Dimensions in brackets for PE-245/PH-245.

The tolerances for evenness of the roadway must be adhered to in accordance with DIN 18202, Table 3, row 3! There must be no building joints or expansion joints in the area around the rail system.

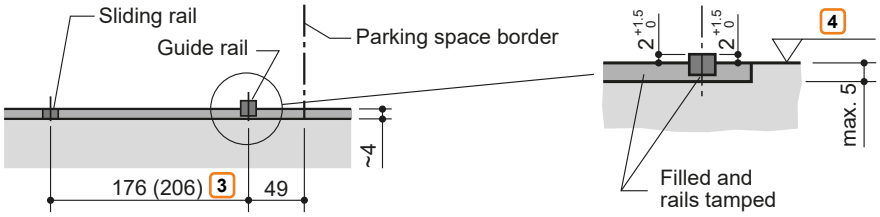
## Recess / rail system

Various options are available for rail installation depending on the structural conditions.

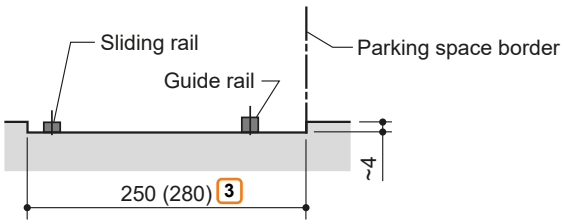
Rail load due to a moving traffic load:

- With parking space load 2000 kg: 3.5 kN per wheel
- With parking space load 2300 kg: 4.0 kN per wheel

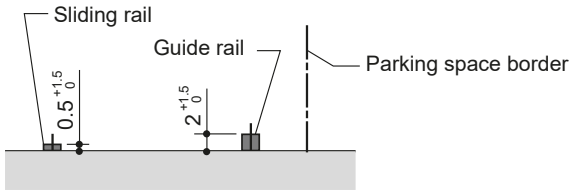
### Before screed [1] [2]




### In recess [1] [2]




### On finished floor [1] [2]




[1] The tolerances for evenness of the roadway (floor) must be adhered to in accordance with DIN 18202, Table 3, row 3.
There must be no building joints or expansion joints in the area around the rail system.

[2] We do not recommend using poured asphalt.

[3] Dimensions in brackets for PE-245/PH-245

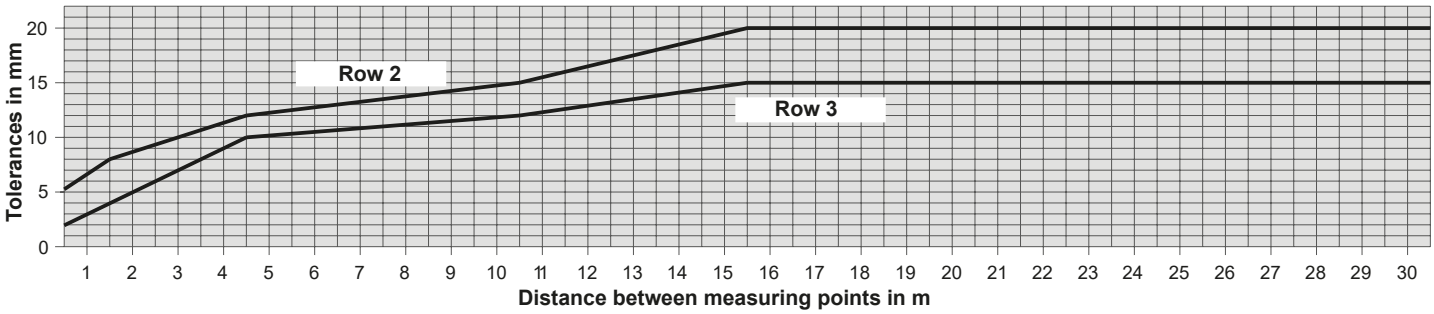
[4] Upper edge finished floor

It is essential that the guide rail protrudes above the upper edge of the finished floor on both sides of the rail including the level for the drive!
The rails are directly anchored on upper edge of the finished floor.
Drilled hole depth ~9 cm.

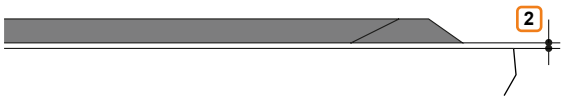
**Evenness tolerance – extract from DIN 18202, Table 3**

The safety clearance between the outer lower edges of the ParkBoard and the floor must not exceed 2 cm. To comply with the requirement in DIN EN 14010 and to reach the requisite floor evenness, the evenness of the finished floor in accordance with DIN 18202, Table 3, row 3 must not be exceeded. The customer does not, therefore, need to level the floor.

| Row | Reference | Inside micrometer as limit values in mm with measuring point distances in m to [1] | | | | |
|---|---|---|---|---|---|---|
| | | 0.1 | 1 | 4 | 10 | 15 |
| 2 | Unfinished upper surfaces of ceilings, concrete substrates and subfloors with more stringent requirements, e.g. for the accommodation of floating screeds, industrial floors, tiled and slab coverings, and composite screeds. Finished surfaces for subordinate purposes, e.g. in storage spaces, cellars. | 5 | 8 | 12 | 15 | 20 |
| 3 | Finished floors, e.g. screeds as floor screeds for the laying of floor coverings. Floor coverings, tile coverings, levelled and glued coverings. | 2 | 4 | 10 | 12 | 15 |




[1] Intermediate values can be found in the diagram and should be rounded up to the nearest mm.




[2] No more than 2 cm peripherally on the outer edges of the ParkBoards

## Electrical installation

### Power supply/control

A power supply cable 5 x 2.5 mm² (3 PH+N+PE) must be routed to the switch cabinet by the customer. A larger cross-section may be necessary dependent on the system size.
The position of the switch cabinet and the control panel are specified by KLAUS Multiparking in the drawings.

### Operation

Operation using an operating element with automatic resetting (two push-buttons for left/right movement).

## Technical information

### Usage area

The system is suitable for a fixed group of users as standard.
Where users change (e.g. short-term parking in office buildings or hotels), structural modifications to the Multiparking system are required. Please request a consultation if required.

### Corrosion protection

In accordance with the ‘Corrosion protection information’ supplement.

### Ambient conditions

Ambient conditions for the areas around KLAUS Multiparking parking systems:
Temperature range -10 to +40° C. Relative humidity 50 % for a maximum outside temperature of +40° C.

### Building application documents

Multiparking systems generally require approval. Please observe local regulations and stipulations.

### Care

To prevent corrosion damage, please observe our special cleaning and care instructions and ensure that your garage is well ventilated.

### Noise generation

Rollers mounted on ball bearings ensure a low noise level.

### Moving in a block

ParkBoards may be moved in a block if the control panel is no more than 10 metres from the edges of the platform to be moved and is installed at least 1.60 metres above the garage floor.

## Performance specification

### Description

Multiparking system for parking of 1 or 2 vehicles per ParkBoard.
Dimensions in accordance with the underlying height and width dimensions.
Longitudinally shifting ParkBoards are installed inside the driving lanes of underground car parks. Additional parking spaces can be obtained in the driving lane that is normally only used for manoeuvring and parking by use of these ParkBoards.
When unloaded, the ParkBoards can be driven over so that parking spaces behind them can be accessed or they are displaced if they are occupied with vehicles.
Operation is via a dead-man's manual control, with the operating elements usually mounted on opposing supports, so that the ParkBoards and parking spaces assigned to each other for control can be seen.
Easily visible operating instructions are attached at each control point.

The following ParkBoard versions are available:
- ParkBoard PE for 1 vehicle
- ParkBoard PH for 2 vehicles arranged one behind the other

### Multiparking system comprising:

- Slanted steel frames with running and guide rollers mounted on low-noise bearings
- Crossbeams
- Platform profiles (cover sheets)
- Positioning aid
- Miscellaneous small parts, etc.
- ParkBoard height about 9.5 cm above the finished floor

### Above floor drive

- Base plate with gear motor attached to the floor
- Limit switches and housing
- The housing also acts as a safety device. Force transmission is via a tensioned chain located in an open U-profile. The chain is routed around two chain wheels and driven by the motor.

### Underfloor drive

This drive unit is installed in a customer-provided floor recess.

It comprises:
- 1 gear motor
- Chain wheels
- Limit switches
- Fully mounted in a sturdy underfloor housing with cover
- Force transmission takes place in the same way as for the above floor drive

### Travelling drive

- Drive unit attached to the parking pallet
- The power supply is provided by a trailing cable (in exceptional cases, a conductor line)
- Power transmission is via a chain that is inserted in a special rail (double rail)

### Rail system comprising:

- Two rails attached to the floor
- The rails extend 5 - 20 mm above the finished floor
- The rail arranged at the front of the entrance acts as a guide rail and thus ensures safe displacement of the ParkBoard

### Electrical parts comprising:

- Switch cabinet
- Operating element with 2 pushbuttons (right/left)
- EMERGENCY STOP
- Flashing lights
- Miscellaneous cable with accessories

### Control system comprising:

- Operation of the ParkBoard using pushbuttons with a corresponding direction indication on the dead-man's manual control
- Upon reaching the maximum distance of the displacement path, limit switches switch the ParkBoards off
- Warning lights flash during the shifting process
- The electrical wiring is implemented from the switch cabinet

## Services to be provided by the customer

### Parking space numbering

Numbering of the fixed parking spaces and the longitudinally shifting ParkBoards.

### Building services systems

Any lighting, ventilation, fire-extinguishing and fire-alarm systems that may be required, plus clarification and compliance with corresponding official documentation.

### Marking

If required, additional yellow and black marking of the platform edges in accordance with ISO 3864.

### Floor structure – rails

Floor structure in accordance with the details on the product data sheet (*see "Recess / rail system", page 8*).
Recesses, tolerances for evenness of the roadway must be adhered to in accordance with DIN 18202, Table 3, row 3.
Lining for the rail system by means of cement screed over the entire length. Laying the screed.

Empty pipe M40 with taut wire to the underfloor drive.

### Supply cable to the switch cabinet – foundation earth

Connection

- Three-phase 230/400 V/50 Hz with neutral and protective earth conductors (other power supply network configurations, voltages, and frequencies may be possible upon request).

Pre-fusing

- 3 x 10 A fuse (slow-blow) or 3 x 10 A circuit breaker (trip characteristic K or C).
- For five or more ParkBoards:
  3 x 16 A fuse (slow-blow) or 3 x 16 A circuit breaker (trip characteristic K or C).

Supply cable

- 5 x 2.5 mm² to the switch cabinet - a larger cable cross-section may be required dependent on the laying method, cable length, or system size.
  DIN VDE 0100 or the country-specific standards must be complied with.

The customer must provide the supply cable to the switch cabinet during installation. Functional capability can be checked by our engineers on site, in conjunction with the electronics engineer. If this is not possible during assembly for reasons attributable to the customer, the customer must commission an electronics engineer.

## Subject to technical changes

In the course of technical progress, KLAUS Multiparking shall be entitled to use newer or different technologies, systems, processes or standards to provide the services than initially offered, provided that this does not disadvantage the customer in any way.

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