

# KLAUS

## MULTIPARKING

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### PRODUCT DATA

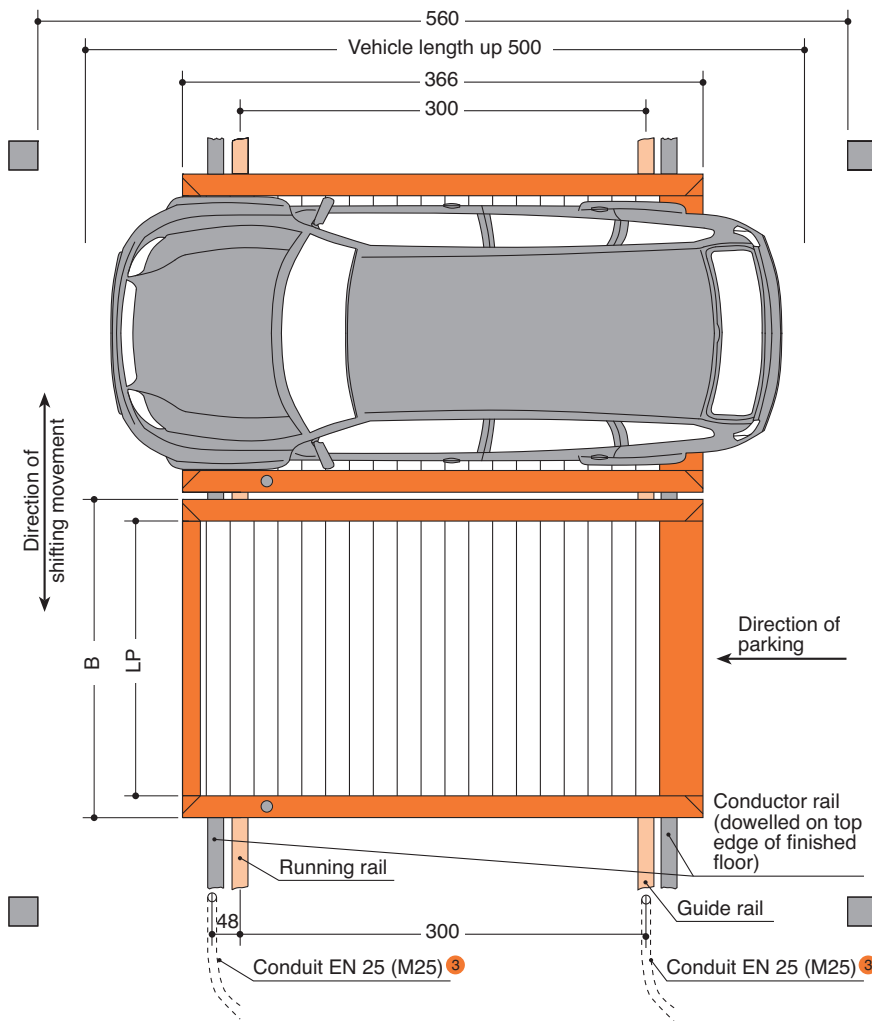


**parkboard** PQ

crosswise shifting

2000 kg <sup>1</sup> / 2600 kg <sup>2</sup>

#### Power supply via busbar on the ground



Design with:

- power supply via busbar
- power supply via contact wire
- power supply via trailing cable

#### Top edge finished floor

Tolerances for the evenness of the carriageway must be strictly complied with in accordance with DIN (= German Industrial Standard) No. 18202, chart 3, line 3.

#### Dimensions

All space requirements are minimum finished dimensions.

Tolerances for space requirements  $+3_0$  <sup>4</sup>.  
Dimensions in cm.

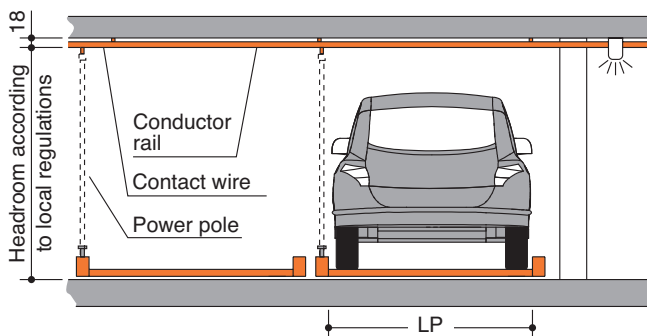
#### Suitable for

Standard passenger cars:  
Limousine, station wagon, SUV, van,  
according to specifications in the table  
and maximal surface load.

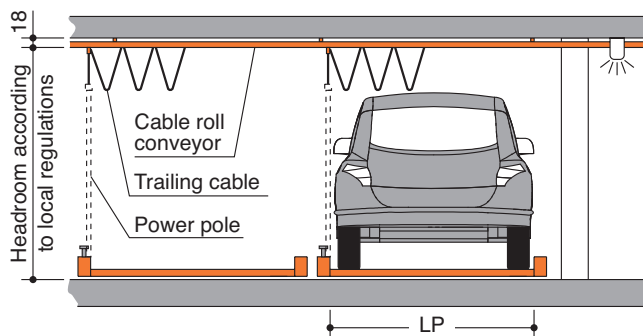
Type	LP	B	Car width
PQ-210	182	210	max. 180
PQ-220	192	220	max. 190
PQ-236	208	236	max. 206
PQ-248	220	248	max. 218
PQ-258	230	258	max. 228
PQ-268	240	268	max. 238
PQ-278	250	278	max. 248
PQ-288	260	288	max. 258

	Standard	Special <sup>2</sup>
length	max. 500 cm	max. 500 cm
weight	max. 2000 kg	max. 2600 kg
wheel load	max. 500 kg	max. 650 kg

#### Power supply via contact wire on the ceiling



#### Power supply via trailing cable on the ceiling



**!** A safety clearance of 30 cm must be maintained between the front or rear bumpers of vehicles on ParkBoards and any fixed parts of the surroundings or other vehicles in accordance with DIN EN 14010. At a max. vehicle length of 500 cm, this means a length dimension of 560 cm between the columns. The length dimension of 560 cm can only then be shortened if the max. vehicle or parking place length is reduced or light barriers are used.

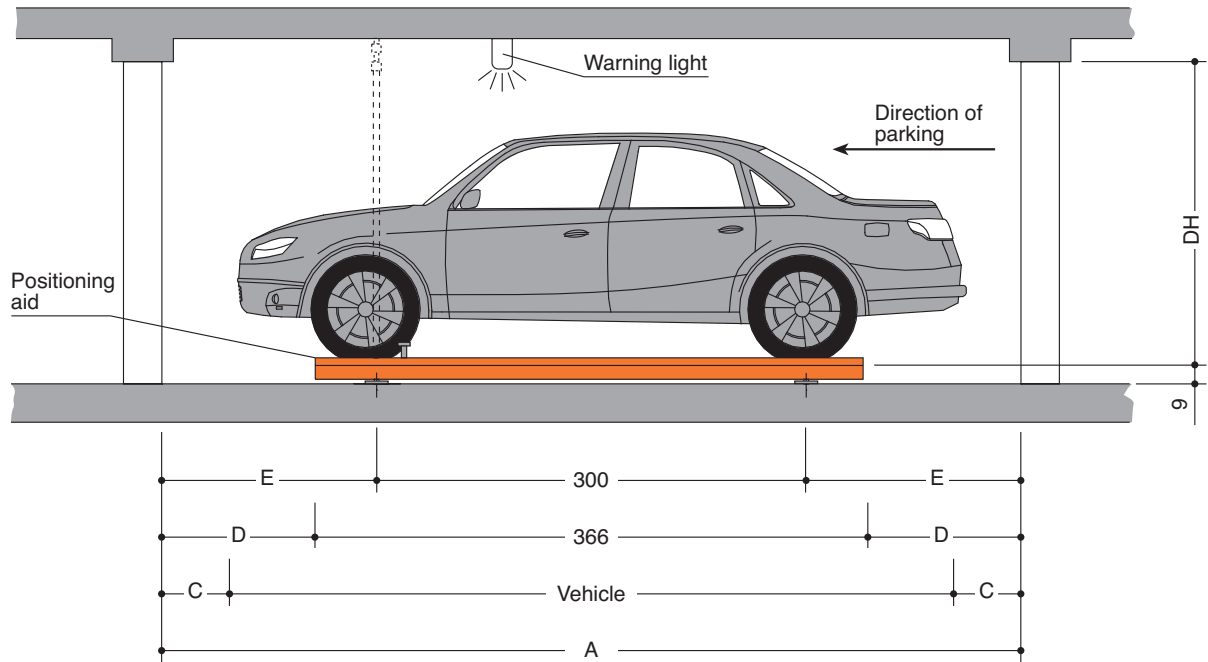
The operating console must be mounted in such a way that the operator can see the entire system during operation and the motion sequences can be observed and monitored.

- <sup>1</sup> Standard type
- <sup>2</sup> Special system: maximum load for extra charge.
- <sup>3</sup> Conduit with taut wire to control box (is entered in the layout plan by KLAUS Multiparking).

- <sup>4</sup> 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.

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## Dimensions



A	Vehicle	C	D	E	Please note the following on parking space	DH
560	500	30	97	130	Parking space and ParkBoard conform to German regulations and DIN EN 14010	acc. to local requirements
530	500	15	82	115	Where the unit is equipped with light barriers, parking space and pallet also conform to the above	acc. to local requirements
< 530	< 500	15	< 82	< 115	Light barrier is essential. Parking space does not conform to German regulations. <b>Note that length of vehicle is restricted!</b>	acc. to local requirements

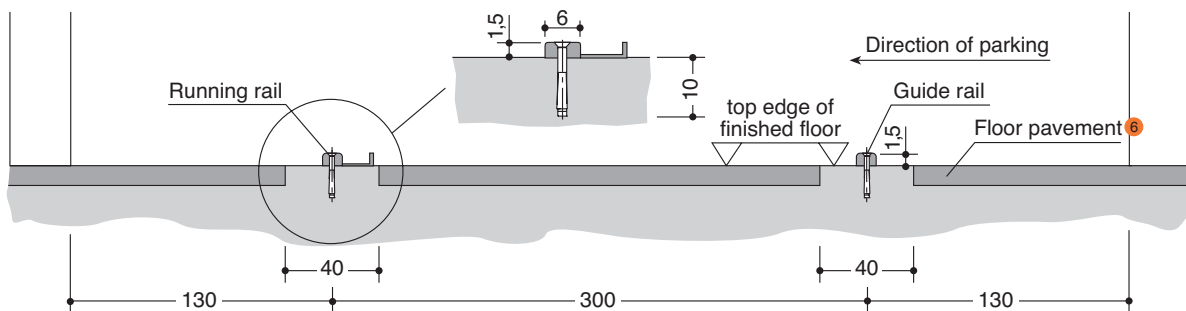
## Recess/Rail system

Dependent upon the structural conditions of the garage, several different options are available for installation of the rails.

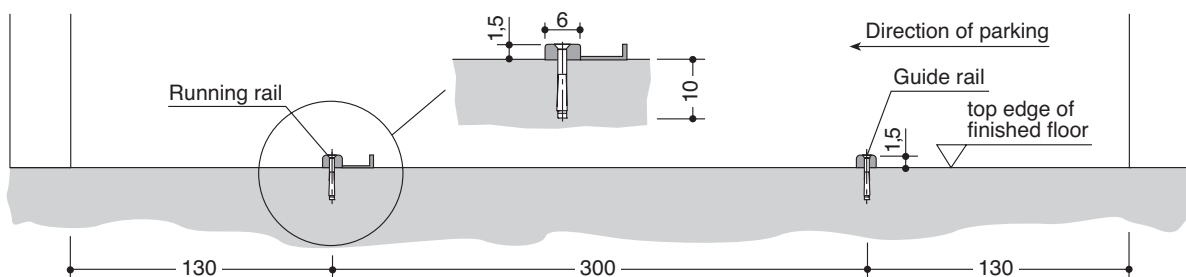
Rail load by moving traffic load:

- For surface load 2000 kg: 6,5 kN per wheel
- For surface load 2600 kg: 8 kN per wheel

### Laying on strip foundation <sup>5</sup>



### Laying on finished floor <sup>5</sup>



<sup>5</sup> Tolerances for the evenness of the carriageway must be strictly complied with in accordance with DIN (= German Industrial Standard) No. 18202, chart 3, line 3. No expansion joints are permitted within the area of the rail system.

<sup>6</sup> We do not recommend mastic asphalt.

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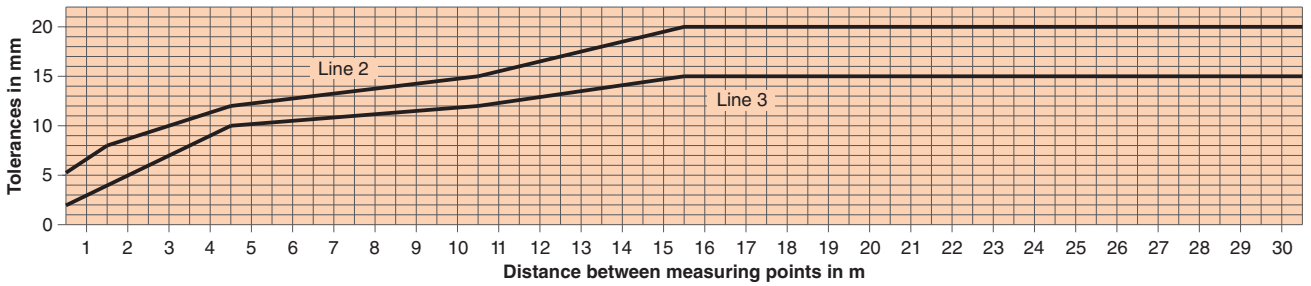
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## Evenness and Tolerances (abstract from DIN 18 202, table 3)

The distance between the lower flange of the ParkBoards and the garage ground must therefore not exceed 2 cm. To adhere to the safety regulations and DIN EN 14 010 recommendations and to get the necessary even ground, the tolerances of evenness to DIN 18202, table 3, line 3, must not be exceeded. Therefore exact levelling of the ground by the client is essential.

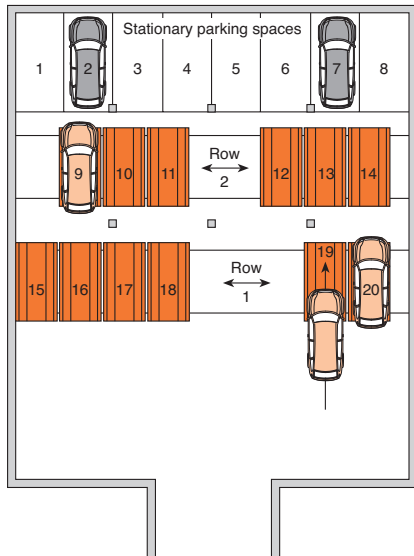
Column	1	2	3	4	5	6
Line	Reference	Vertical measurement as limits in mm with measuring points distances in m to <sup>7</sup>				
		0,1	1	4	10	15
2	Unfinished to surface of covers, subconcrete and subsoils for higher demands, e.g. as foundation for cast plaster floor, industrial soils, paving tiles and slab stone paving, compound floor paving. Finished surfaces for minor purposes, e.g. warehouses, cellar.	5	8	12	15	20
3	Finished grounds, e.g. floor pavement serving as foundation for coverings. Coverings, tile coverings, PVC flooring and glued coverings.	2	4	10	12	15



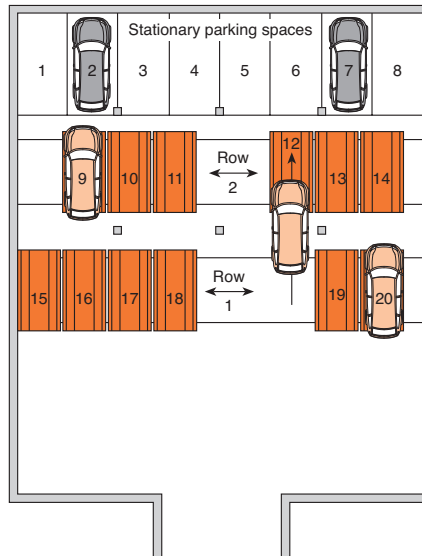
<sup>7</sup> Intermediate values are to be taken out the diagram and must be rounded-off to mm.

## Function

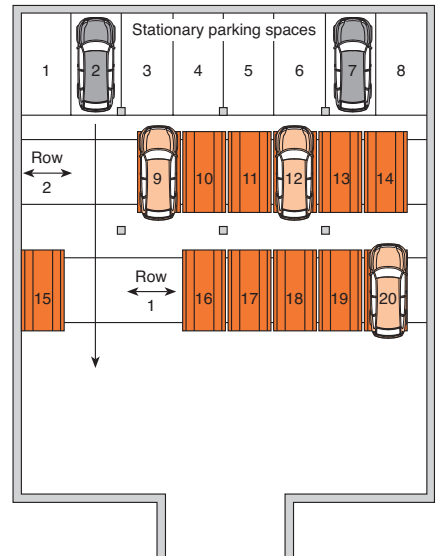
Dependent upon the size of the parking system, the desired parking space is selected either via operating panel or push buttons. The carriageway will then automatically be opened towards the selected parking space. During the shifting process flashing warning lights will come up. The control system is set in such a way that a selected mechanical parking space may always be driven onto so that the driver's door may readily be opened into the carriageway made available (see parking process No. 1 and 2).



**Parking process no. 1**  
For entering parking space No. 19, row 1, driver selects parking space No. 19. Row 1 shifts in such a way that the ParkBoard can comfortably be parked on and the driver may get out of the vehicle.



**Parking process no. 2**  
In order to park on parking space No. 12, row 2, driver selects space No. 12 on operating panel. Rows 1 and 2 will shift in such a way that the ParkBoard may comfortably be parked on.



**Parking process no. 3**  
For parking on stationary parking space No. 2, driver selects parking space No. 2. Rows 1 and 2 will then open carriageway to space 2 so that moving into and out of the garage can readily be effected.

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## Electrical installation

### Electrical supply / Control system

The customer must provide a supply line 5 x 2.5 mm<sup>2</sup> (3 PH+N+PE) to the main cabinet.

The location of the main cabinet and control panel are specified in the layout plans provided by Klaus Multiparking.

Provide conduits EN 25 (M25) with taut wire to the contact line at the floor (only for PQ with busbar on ground).

After selecting the individual parking spaces on the control panel they are provided automatically.

For smaller systems with up to 4 ParkBoards in a row selection is made via one control unit per ParkBoard in jog mode (hold-to-run).

Warning: Only possible with contact wire or trailing cable from above.

Warning signals are installed within the shifting area of the ParkBoards. They start flashing as soon as the system starts.

### Drive / Safety

Safety bars on the side are installed as safeguard to avoid crushing injuries when shifting the ParkBoards.

An 0.15 kW motor is used as drive.

## Technical data

### Range of application

By default, the system can only be used for a fixed number of users. If different users use the system (e.g. short-time parkers in office buildings or hotels) the Multiparking system needs to be adjusted. If required, would you please contact us.

### Available documents

- maintenance offer/contract
- declaration of conformity

### Corrosion protection

See separate sheet regarding corrosion protection.

### Environmental conditions

Environmental conditions for the area of multiparking systems: Temperature range –10 to +40° C. Relative humidity 50% at a maximum outside temperature of +40° C.

### 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.

### Care

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

### CE Certification

The systems offered correspond to DIN EN 14010 and the EC Machinery Directive 2006/42/EG.

### Pallet design

The shifting speed of the ParkBoards is 0.2 m/s (12 m/min), according to DIN EN 14 010.

### Emergency operation / Power failure

By locking the motor brake the pallets can be shifted manually.

### Noise emission

Ball bearing of the rollers provide a low sound level.

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## To be performed by the customer

### Numbering of parking spaces

Consecutive numbering of stationary parking spaces and crosswise shifting ParkBoards.

### Building services

Any required lighting, ventilation, fire extinguishing and fire alarm systems as well as clarification and compliance with the relevant regulatory requirements.

### Floor / Rails

Flooring structure in accordance with our instructions, please see page 2 and 3 (recesses, rail systems).

Recesses, tolerances for the evenness of the driving lane must adhere to DIN 18202, sheet 3, line 3.

Stuffing of rail system with cement floor for the whole length.

Bringing in of floor pavement.

Cable duct M25 with taut wire from electric cabinet to rails (only for PQ with busbar on ground).

### Electrical supply to the control box

Power supply: three phase 230/400 V/50 Hz with neutral and ground wire (other voltage network, voltage or frequency are possible after the technical checking by us).

Main fuse:

3 x fuse 16 A (slow) or circuit breaker 3 x 16 A (trigger characteristic K or C).

Supply line 5 x 2.5 mm<sup>2</sup> to the main cabinet, depending on line layout, line length or system size a larger cross sections may be required. DIN VDE 0100 and other relevant local standards must be observed.

The supply line to the main cabinet 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.

## Description

### General description

Multiparking system for parking one vehicle on one ParkBoard.

Dimensions are in accordance with the respective underlying height and width dimensions.

Transversely movable ParkBoards are normally installed in front of a row of stationary parking spaces.

They can be shifted sideways in a way that the parking spaces located behind them can always be easily accessed.

For parking on the ParkBoards the ParkBoards must also be moved sideways. This creates sufficient space for opening driver's door, facilitating convenient getting in and out of the vehicle.

ParkBoards Type *Automatic* can be arranged in several rows, one behind the other.

ParkBoards Type *Manual* can be arranged in a one row arrangement up to 4 ParkBoards

Positioning of the car on the ParkBoard using a positioning aid.

### Dimensions of the ParkBoards

- See page 1 to 3
- Height in the driving area is approx. 9 cm above finished floor
- Height of the side members is approx. 17 cm

### ParkBoard consisting of:

- Side members
- Platform base sections (cover plates)
- Low-noise running and guide rollers running on ball bearings
- Access plate
- Positioning aid
- Various small parts, etc.

### Drive consisting of:

Rack-and-pinion drive with electric motor.

### Rail system consisting of:

- Two rails mounted to the floor
- The rails protrude approx. 15 mm above finished floor
- The rail located on the entrance side is used as guide rail and ensures safe moving of the ParkBoards

### Electrical equipment consisting of:

General:

- Control box
- Operating device
- Limit switches for positioning
- Flashing warning lights
- Power supply via busbars on the ground

Optional:

- Power supply via conductor rail with contact wire under the ceiling (at additional charge)

or:

- Power supply via trailing cable with cable roll conveyor under the ceiling

### Control system

General:

- While shifting the ParkBoards, a warning signal flashes
- Safety bars on the side are installed as safeguard to avoid crushing injuries when shifting the ParkBoards
- Electric wiring is made from the electric cabinet by the manufacturer

Operation ParkBoard Type *Automatic*:

- The parking pallets are operated via centrally located control panel
- Once the desired parking space has been selected, the ParkBoards are shifted automatically

Operation ParkBoards Type *Manual*:

- The ParkBoards are operated via push-buttons (hold-to-run device)

## 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.