KLAUS
MULTIPARKING

PRODUCT DATA

DIMENSIONS, TECHNICAL INFORMATION AND PERFORMANCE SPECIFICATION

parkboard PQ

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Explanation of symbols

Platforms accessible horizontally.

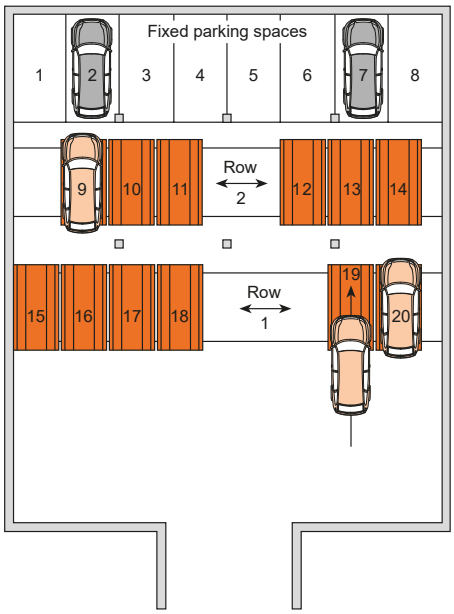
Max. load per parking space in kg.
Upweighting over 2000 kg possible with surcharge (*see "Vehicle data", page 4*).

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

Function diagram

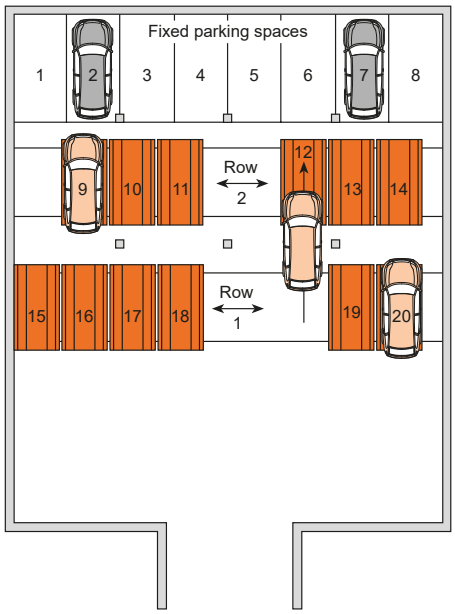
Dependent on the system size, parking space selection is at the control panel or via pushbuttons. Then the driving lane to the selected parking space opens automatically. Flashing lights come on during the shifting process. The control system is set up so that a selected mechanical parking space can always be approached such that the driver's door can always be opened into the freed-up driving lane (see parking processes 1 and 2).

Parking process 1



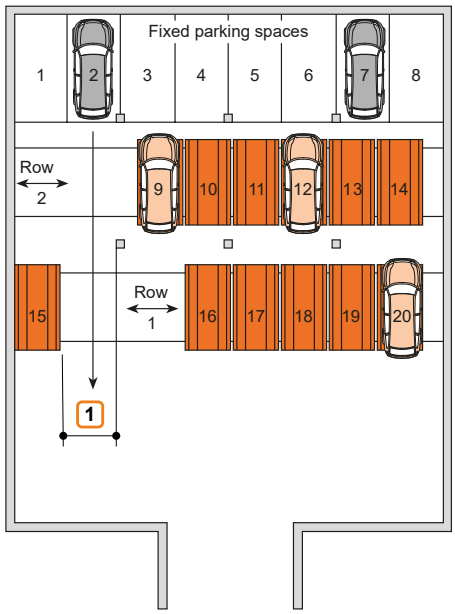
Parking, space 19, row 1
The driver selects space 19.
Row 1 moves so that the ParkBoard can be easily driven onto and the driver can exit the vehicle.

Parking process 2



Parking, space 12, row 2
The driver selects space 12.
Row 1 and row 2 move so that the ParkBoard can be easily driven onto.

Parking process 3



Parking in fixed parking space 2.
The driver selects space 2.
Row 1 and 2 open the passage to space 2 so that it is easy to drive in or out of the space.

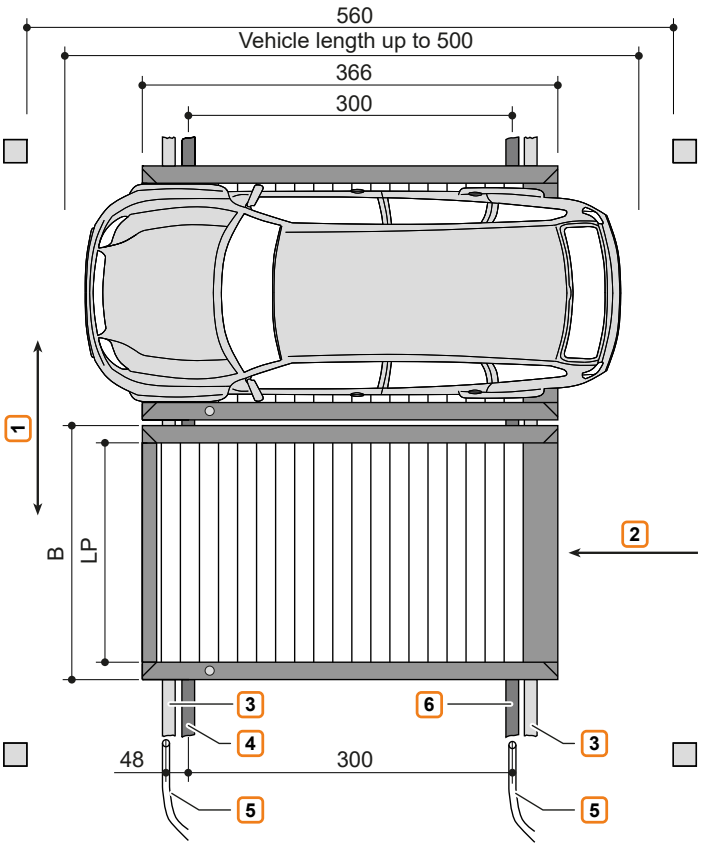
[1] Comply with passage widths specified in local parking law regulations (GaVo in Germany).

Dimensions and tolerances

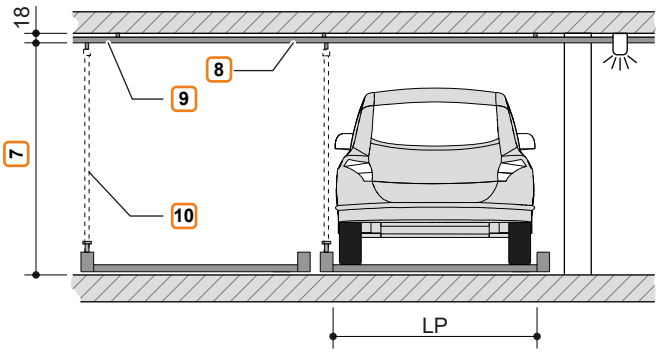
All dimensions specified in drawings and tables are given in cm.
All dimensions and minimum final dimensions.
Tolerance for dimensions +3/0 cm.
In order to adhere to the minimum final dimensions, the tolerances in accordance with the German Construction Tendering and Contract Regulations [VOB], Part C (DIN 18330 and 18331) must also be taken into account.
The tolerances for evenness of the roadway (floor) must be adhered to in accordance with DIN 18202, Table 3, row 3.

Version overview

Power supply via power rail on the ground



Power supply via conductor line on the ceiling



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

1 Displacement direction
2 Parking direction
3 Power rail (anchored to upper edge finished floor)
4 Sliding rail
5 Empty pipe EN 25 (M25)
6 Guide rail
7 Headroom according to German Parking Garage Ordinance (GaVo)
8 Power rail
9 Conductor line
10 Power mast

In accordance with DIN EN 14 010, a safety distance of 30 cm must be maintained between front or rear bumpers of vehicles on ParkBoards to fixed parts of the surroundings or other vehicles. For a vehicle length of 500 cm this corresponds to a length of 560 cm between supports. The 560 cm length dimension can then only be reduced if the maximum vehicle or parking space length is reduced or light barriers are used.
The control panel must be attached so that the entire parking system can be viewed during operation and the movement sequences can be monitored.

Vehicle data

Version

- Power supply via power rail
- Power supply via conductor line

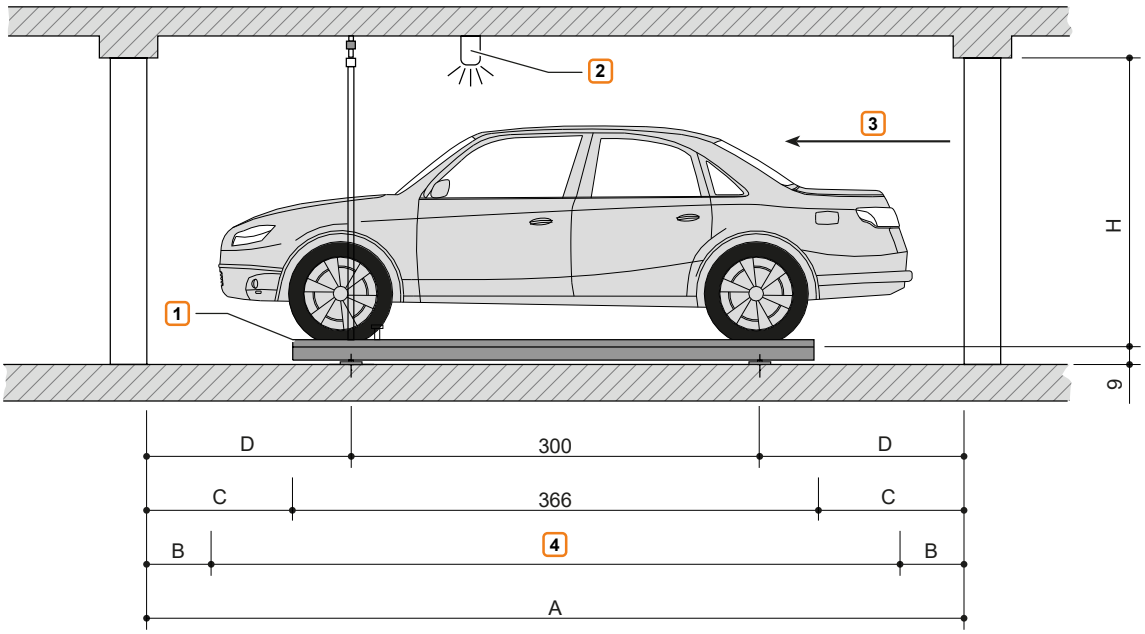
Parking options

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

	Standard	Special equipment [1]
Weight	2000 kg	2600 kg
Wheel load	500 kg	650 kg

[1] Upweight available subject to surcharge.

Dimensions table



[1] Positioning aid
[2] Flashing light
[3] Parking direction
[4] Vehicle length

A	Vehicle length [4]	B	C	D	Remark about the parking space	H
560	500	30	97	130	Parking space and ParkBoard are compliant with the German Parking Garage Ordinance (GaVo) and DIN EN 14010	GaVo-compliant
530	500	15	82	115	Parking space and ParkBoard are compliant with the German Parking Garage Ordinance (GaVo) and DIN EN 14010 because light barriers are used	GaVo-compliant
< 530	< 500	15	< 82	< 115	Light barrier necessary. The parking space does not comply with GaVo. Attention: Vehicle length limitation!	GaVo-compliant

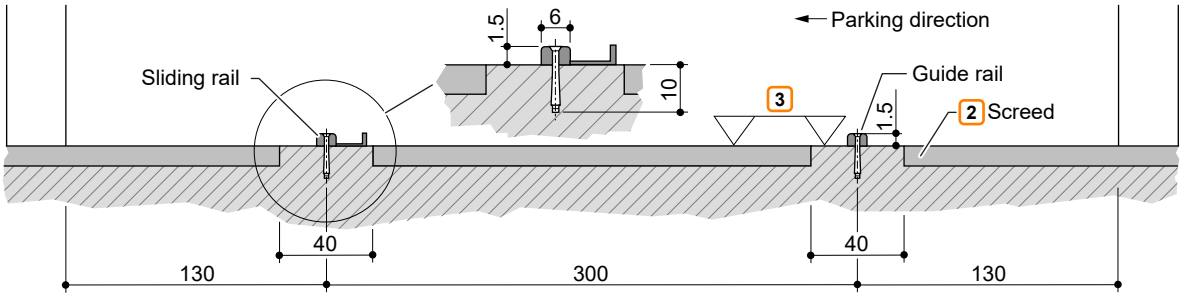
Recess / rail system

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

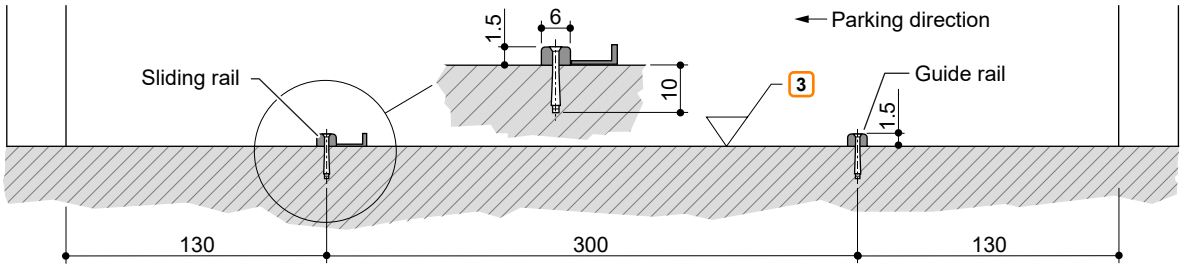
Rail load due to a moving traffic load:

- With parking space load 2000 kg: 6.5 kN per wheel
- With parking space load 2600 kg: 8.0 kN per wheel

Laying on strip foundation [1]



Laying on finished floor [1]



[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.

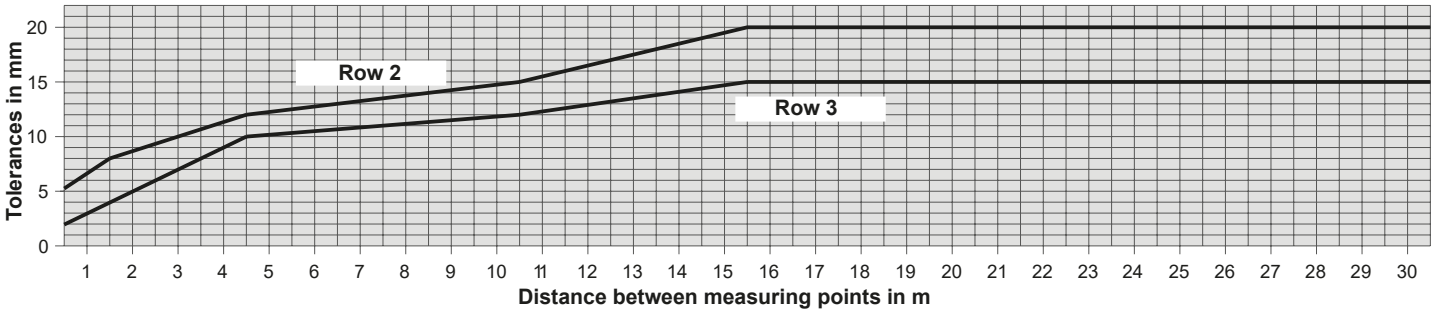
[2] We do not recommend using poured asphalt.

[3] Upper edge finished floor

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.

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.
The position of the switch cabinet and the control panel are specified by KLAUS Multiparking in the drawings.
For a system with floor power rail, empty pipes EN 25 (M25) with taut wire are needed on both sides (only for PQ with floor power rail).
After selection of the individual parking spaces on the control panel, making available of the spaces takes place automatically.
Flashing warning lights installed in the ParkBoard displacement area come on during system operation.

Drive/safety

The laterally arranged safety strips exclude the risk of crushing during ParkBoard displacement.
An electric motor of about 0.15 kW is used as a drive.

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.

Pallet design

The movement speed of the ParkBoards, in accordance with DIN EN 14 010 – is not more than 0.2 m/s (12 m/min).

Backup operation/power failure

If the drive is unlocked, the ParkBoards can be shifted manually.

Noise generation

Rollers mounted on ball bearings ensure a low noise level.

Performance specification

Description

Multiparking system for parking of one vehicle per ParkBoard.
Dimensions in accordance with the underlying height and width dimensions.
Transversely shifting ParkBoards are normally made available in front of a row of fixed parking spaces.
They can be transversely displaced so that it is always possible to access the parking spaces behind them.
Likewise, when parking the ParkBoards, they must also be displaced in a transverse direction. In doing so, sufficient movement space for opening the driver's door is always created so that entering and exiting the vehicle is always easy.
Automatic type ParkBoards can be arranged in several rows, one behind the other.
Vehicle positioning on the ParkBoard using a positioning aid.

ParkBoard size

- *see "Version overview", page 3* and *see "Dimensions table", page 4*
- The height in the driving area is 9 cm measured from the finished floor.
- The height of the side beams is approximately 17 cm.

Multiparking system comprising:

- Side beams
- Platform profiles (cover sheets)
- Low-noise running and guide rollers mounted on bearings
- Ramp
- Positioning aid
- Miscellaneous small parts, etc.

Drive comprising:

Rack-and-pinion drive system with electric motor.

Rail system comprising:

- Two rails attached to the floor
- The rails extend 15 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:

General
- Switch cabinet
- Control panel
- Positioning sensors
- Flashing lights
- Power supply via power rails attached to the floor

Alternative
- Power supply via power rail installed below the ceiling with conductor line (for a surcharge)

Control system comprising:

General
- Flashing warning lights come on when displacing the ParkBoard
- Mechanically operating safety contact strips are mounted on the sides on the ParkBoards. If actuated, they immediately interrupt the displacement process.
- The electrical wiring from the switch cabinet is provided by the supplier.

Automatic operation type
- The ParkBoard is operated via a centrally arranged control panel
- After selection of the desired parking space, the ParkBoards are shifted automatically

Services to be provided by the customer

Parking space numbering

Numbering of the fixed parking spaces and the transversely 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.

Floor structure – rails

Floor structure in accordance with the details on the product data sheet (*see "Recess / rail system", page 5*).
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.
M25 empty pipe with taut wire from switch cabinet to the rails (only for PQ with power rail on the floor).

The power rails are connected at both ends.

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 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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