

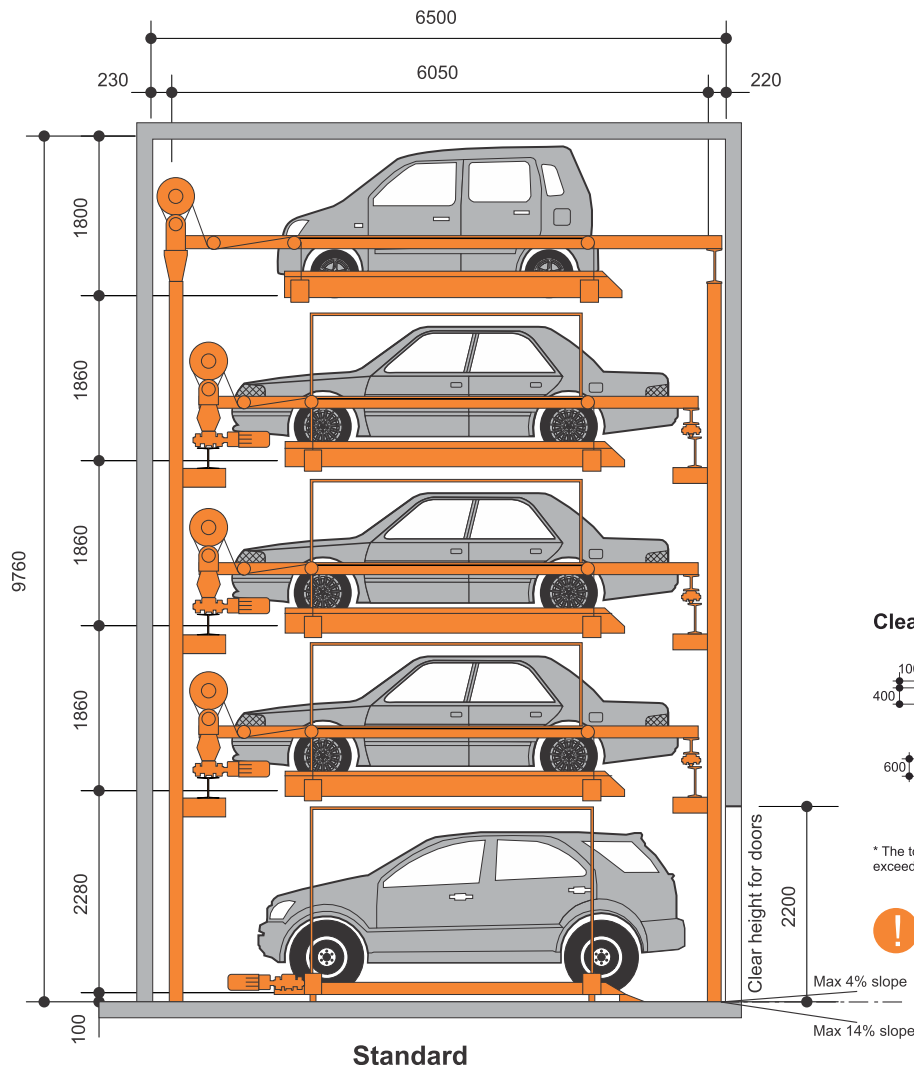


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PRODUCT DATA

KOGP (3 to 5 Level)

Over Ground Puzzle Parking



Dimensions

All space requirements are minimum finished dimensions. Construction tolerances must be taken into consideration. Tolerances for space ³/₈ requirements mm. All dimensions shown are in mm.

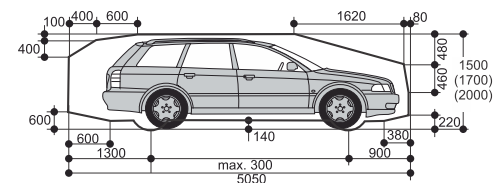
Suitable for

Standard passenger car and station wagon. Height & Length according to contour.

Model Type	Car heights		
	Upper level	Middle level	Ground level
Standard	1700	1550	2000

Width	1900 mm
Weight	max. 2000 kg
Wheel load	max. 500 kg

Clearance profile (standard saloon/estate car)



* The total car height includes roof rail and antenna fixture and must not exceed the mentioned max. height dimension.

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

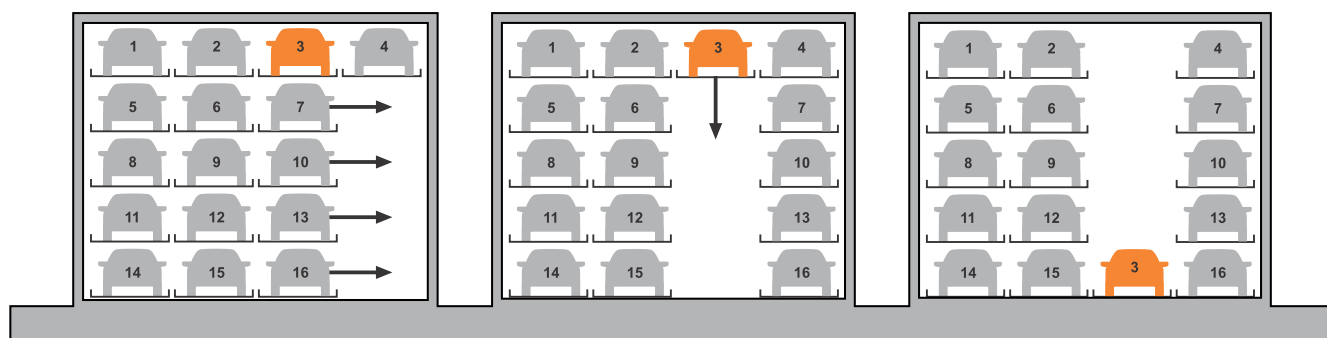
Important notes:

- Changes in height will change the car heights on the upper floor or the corresponding clearances on the ceiling.
- Potential equalization from foundation grounding connection to system.
- Overall machine dimension and platform width can be customized as per site conditions.
- For Spacial car heights other than mentioned above, contact KLAUS sales person.
- For standard version no doors are necessary. Safety doors can be installed with additional cost.
- Cross section dimensions are in mm.
- In front of each grid a 100mm wide, yellow-black marking according to the ISO 3864 has to be provided by the purchaser

Technical details and ordering nomenclature for standard KOGP

	2 GRID	3 GRID	4 GRID	5 GRID	6 GRID
3 LEVEL	KOGP 3L2G	KOGP 3L3G	KOGP 3L4G	KOGP 3L5G	KOGP 3L6G
	Car Spaces - 4 Nos.	Car Spaces - 7 Nos.	Car Spaces - 10 Nos.	Car Spaces - 13 Nos.	Car Spaces - 16 Nos.
4 LEVEL	KOGP 4L2G	KOGP 4L3G	KOGP 4L4G	KOGP 4L5G	KOGP 4L6G
	Car Spaces - 5 Nos.	Car Spaces - 9 Nos.	Car Spaces - 13 Nos.	Car Spaces - 17 Nos.	Car Spaces - 21 Nos.
5 LEVEL	KOGP 5L2G	KOGP 5L3G	KOGP 5L4G	KOGP 5L5G	KOGP 5L6G
	Car Spaces - 6 Nos.	Car Spaces - 11 Nos.	Car Spaces - 16 Nos.	Car Spaces - 21 Nos.	Car Spaces - 26 Nos.

e.g. for retrieving vehicle off platform No.3 (5L4G)



The 1st, 2nd, 3rd & 4th level car in grid no. 3 are shifted to the right.

The platform No. 3 from the level 5 is brought down to the level 1 (ground/entry level)

The vehicle on platform no. 3 can now be driven off the platform.

Width dimensions: (e.g. 5L4G)

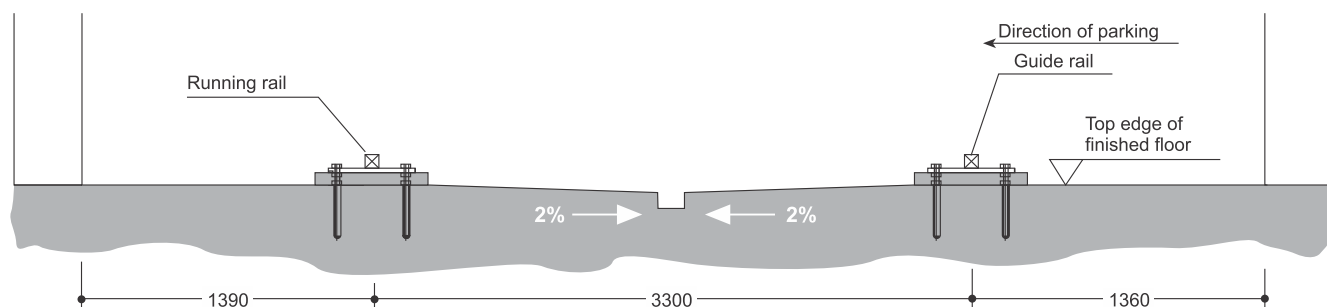
1	2	3	4
Empty space	5	6	7
Empty space	8	9	10
Empty space	11	12	13
Entry/exit Empty space	Entry/exit 14	Entry/exit 15	Entry/exit 16

RB1
RB
RB
RB1

Usable Platform Width	RB	RB1
2000	2450	2850
2100	2550	2950
2200	2650	3050
2300	2750	3150
2400	2850	3250
2500	2950	3350

In each grid an entrance/exit is necessary.

 End parking spaces are generally more difficult to drive into. Therefore we recommended for end parking spaces our wider platforms. Parking on standard width platforms with larger vehicles may make getting into and out of the vehicle difficult. This depends on type of vehicle, approach and above all on the individual driver's skill.



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.

Check points

The evenness of a surface to be checked independently of its position and slope between two check points on the surface.

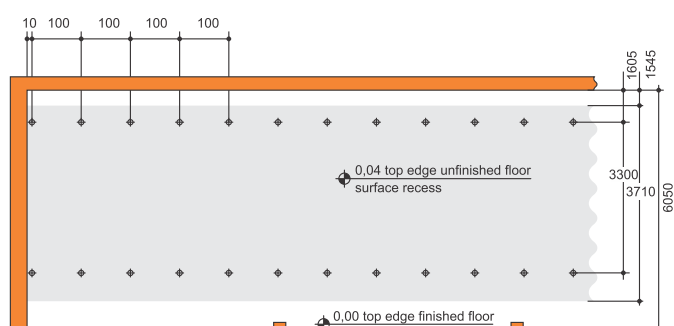
For uniform examination of the evenness of the ground surface the following points are defined as measuring and check points:

a) for surface recess
b) for finished floor

♦ Measuring points at 100 cm points for checking the unevenness acc. to DIN 18202, table 3, line 2, or acc. diagram

() dimensions in brackets
for increased length

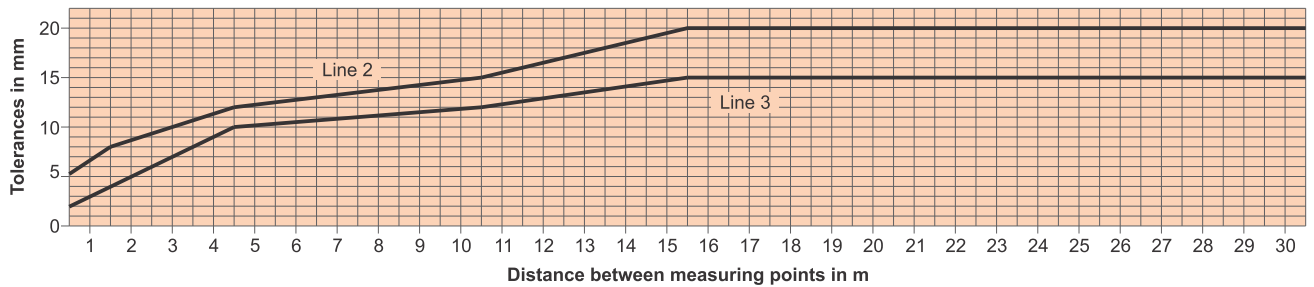
a) Layout for surface recess width 4 m



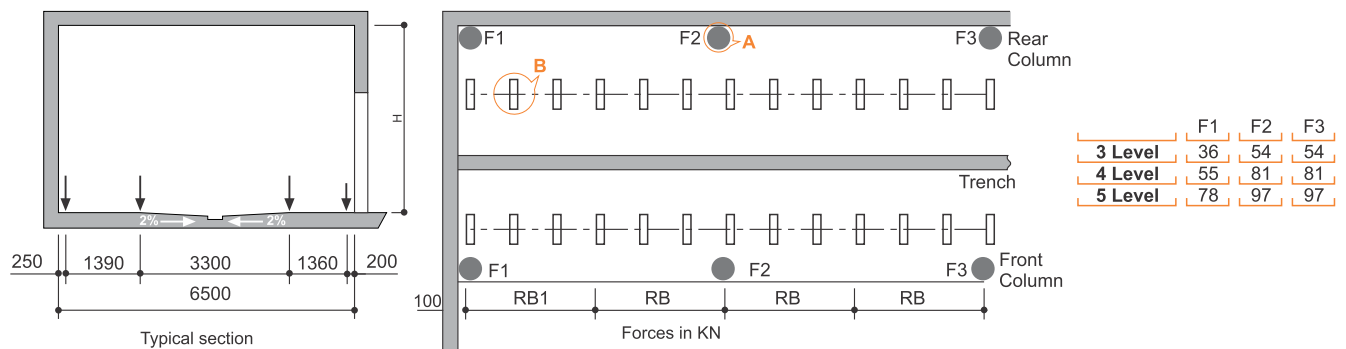
Evenness and Tolerances (abstract from DIN 18 202, Table 3)

The distance between the lower edge of the parking platform and the garage ground must therefore not exceed 2 cm. To adhere to the safety regulations and recommendations and to get necessary even ground, the tolerance of evenness must not be exceeded. Therefore, exact leveling of the ground by the client is essential.

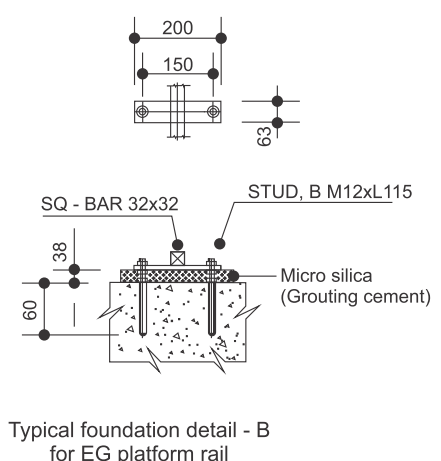
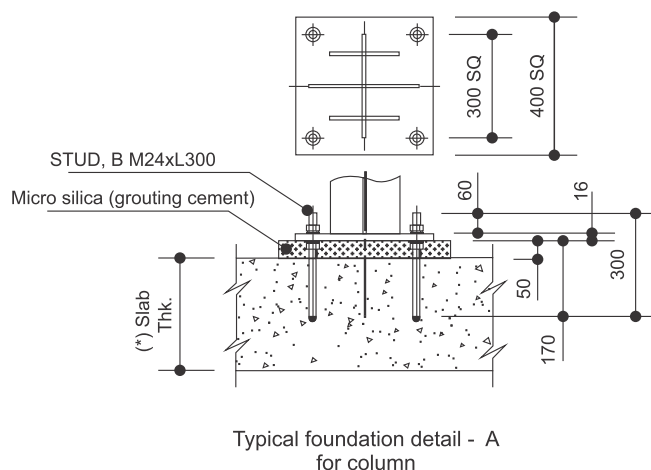
Column	1	2	3	4	5	6
Line	Reference	0,1	1	4	10	15
2	Unfinished to surface of covers, subconcrete and subsoils for higher demands, e.g. as foundation for cast plaster floor, industrial soils, paving tiles and slabstone paving, compound floor paving. Finished surfaces for minor purposes, e.g. warehouses, cellar.	5	8	12	15	20
3	Finished grounds, e.g. floor pavement serving as foundation for coverings. Covering, tile coverings, PVC flooring and glued coverings.	2	4	10	12	15



Load plan

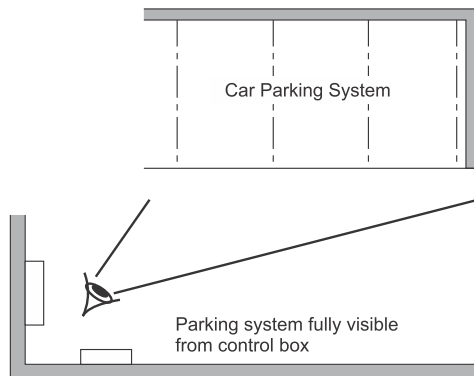


- The system is doweled to floor.
- The drilling depth in the floor is approx. 200 mm, floor and walls are to be made of concrete (grade of concrete C20/25)
- Depending on site ground conditions, suitable foundation/ footing to be provided by the customer.
- Wind and Seismic forces to be considered separately at the time of design of pedestal, as applicable
- For moments, refer separate table of Support Reaction (Kindly contact KLAUS)
- If walkways arranged directly to the side or behind the system, railing have to be provided by the customer according to local requirements, height min. 2000 mm, This is applicable during installation phase too.



(*) Consult your structural engineer, to design suitable slab thickness according to moments and support reactions

Electrical data



Control panel

To be provided at location which will have easy accessibility for installation & maintenance. Preferred and recommended nearest to the system. Size of control panel vary according to the system specifications, hence need to be confirmed with KLAUS at the time of ordering.

Electrical wiring

Main supply 3PH 415VAC ($\pm 10\%$), 50Hz ($\pm 2\%$), with neutral and earth (3PH+N+E) electrical supply through a 4 pole MCCB of suitable rating to be provided by client. Cabling from MCCB to control panel is in client scope. Contact KLAUS for exact connected load of specific system

Operator panel

In general located on the front of the right hand side structural member/ column at an approx height of 1250 mm (Bottom Operator Panel) from ground level.

Technical data

Field of application

Generally parking system is suitable for the same car length for which the wheel-stop is adjusted at the time of installation. In case different car is to be parked, wheel-stop adjustment confirmation from KLAUS Multiparking shall be required.

Environmental conditions

Environmental conditions for the area of Multiparking systems. Temperature range $+5^{\circ}\text{C}$ to $+40^{\circ}\text{C}$. Relative humidity 50% at a maximum outside temperature of $+40^{\circ}\text{C}$.

Care

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

To be performed by the customer

Safety fences

If walkways are arranged directly to the side or behind the systems railings have to be provided by client according to the local requirements. Height min. 2000 mm. This is applicable during the installation phase as well.

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 middle area of the car parking system, we recommend a drainage channel, which is connected 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 floor itself (longitudinal incline is available). In the interest of environmental protection we recommend painting the pit floor. Oil and petrol separators must be provided according to the statutory provisions when connecting to the public sewage system.

Wall cuttings

Any necessary wall cuttings.

Shed

For open installation, shed/canopy to be provided from all sides (Top, front, back, left, right side except at entrance/exit level - 2200mm height)

Strip footings

If due to structural conditions strip footings must be effected, the customer shall provide an accessible platform reaching the top of the said strip footings to enable and facilities the mounting work.

Electrical supply to the control box/Foundation earth connector

Suitable electrical supply to the control box 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 his own expense and risk.

Safety of machinery, electrical equipments, grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m).

Door suspension

The lintel height H2 (see page 2) is absolutely necessary. With differing heights, additional fixings are required at extra cost.

Door shields

Door shields may be necessary. If desired, they can be ordered from KLAUS Multiparking for an additional cost.

Illumination

Illumination has to be considered according to the local requirements by client.

Description

General description

KLAUS Multiparking System provides independent parking spaces for cars, one on top of the other and side by side.

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

The parking bays are accessed horizontally.

Along the complete width of the Parking System, an approach lane (during lane in accordance with local regulations) must be available. Parking spaces are arranged on three to five different levels, one level on top of the other.

The platforms at top level (OG) are moved vertically. The platforms at middle levels (OG) are moved vertically as well as horizontally. The platforms at approach level (EG) are moved only horizontally.

At middle level (OG) and approach level (EG) there is always one parking space less. This vacant space used for shifting of middle and ground floor platform (parking spaces) sideways, thus enabling an top floor (OG) / middle floor (OG) parking space to be lowered to approach level.

The Parking system KOGP allows parking of passenger cars and station wagons.

For safety reasons, it is recommended to install safety doors at the entrance.

A steel framework mounted inside the pit consists of

- Supports
- Steel pillars with sliding platform supports
- Cross and longitudinal members
- Running rails for the transversely movable / middle (OG), ground floor (EG) platform

Platforms consist of

- Side members
- Cross members
- Platform base sections
- 1 wheel-stop (on the left per parking space)
- Screws, small parts, etc.

Lifting device for upper floor (OG) and ground floor (EG) platforms

- Geared motor with brake
- Chain wheel
- Chains
- Wire ropes
- Wire rope pulleys
- Limit switches
- The platforms are suspended on four points

Drive unit of transversely movable platforms on the ground floor (EG)

- Gear motor with chain wheel
- Chains
- Running and guide rollers (low-noise)
- Power supply via cable

Control system

- Central operator panel (operating device) used to select the desired parking space.
- With series installation, the doors are opened manually.
- Electric wiring is made from the electric cabinet by the manufacturer.

Laterally movable doors

Size

Sliding door, dimensions: approx. 2500 mm x 2000 mm (width x height).

Frame

- Frame construction with vertical centre stay made from extruded aluminium sections.

Safety doors

Doors and door suspensions are not included in the standard version but can be delivered at additional cost as special equipment.

Door actuation

- Manually, i.e. the door is opened and closed by hand

For safety reasons the movement of the platforms as always mode behind locked doors.

Door rails

- The running gear of each door consists of 2 twin-pair rolling gadgets, adjustable in height
- The running rails of the doors are fixed to brackets or the concrete lintel, or on a building-specific door suspension using ceiling fittings
- The guide consists of 2 plastic rollers mounted to a base late, which is doweled to the floor

We reserve the right to change these specifications without prior notice.

KLAUS Multiparking reserves the right in the course of the technical progress to use newer or other technologies, system, processes, procedures or standards in the fulfillment of their obligations other than those originally offered.