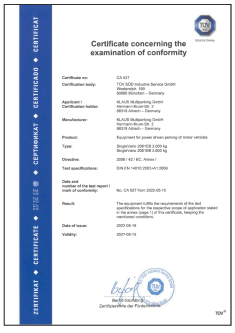
KLAUS MULTIPARKING

# PRODUCT DATA

DIMENSIONS, TECHNICAL INFORMATION AND PERFORMANCE SPECIFICATION

# singlevario 2061

## OUTDOOR


Certificate concerning the examination of conformity

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 3*).

Outdoor installation.

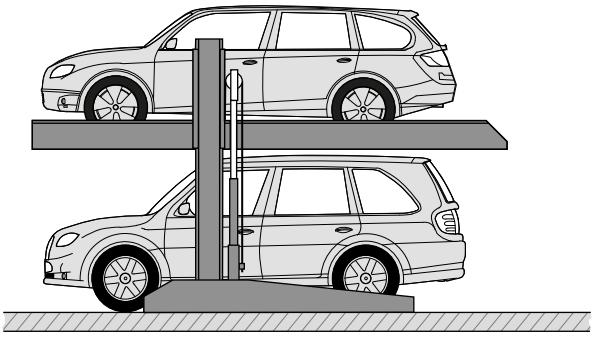
Height can be subsequently adjusted (*see "Overview of system types and ceiling heights", page 4*).
Parking space load can be subsequently upweighted (*see "Vehicle data", page 3*).

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

This system has also undergone a voluntary compliance test conducted by TÜV SÜD.

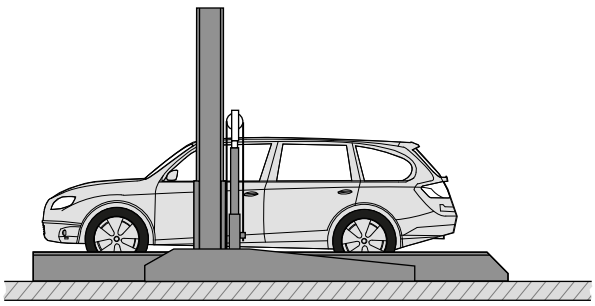
## Parking positions

### Lower parking space



The lower vehicle can park in or leave the parking space.

### Upper parking space

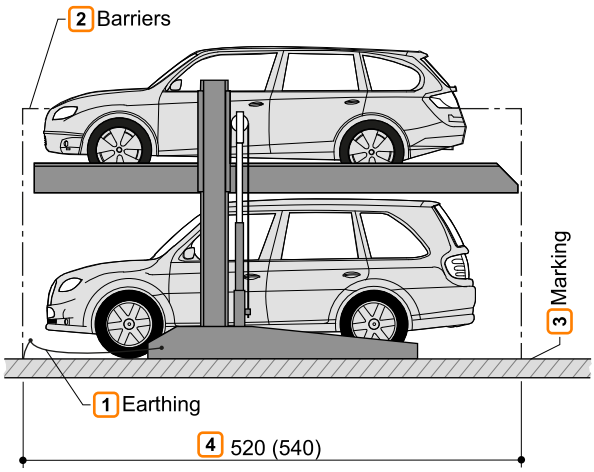


The upper vehicle can park in or leave the parking space.

## 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.

## Overview of building configuration




1 Equipotential bonding from the foundation earth connection to the system (on site).

2 Three-sided barriers in accordance with DIN EN ISO 13857. Depending on location, configuration also available as wind protection.

3 In accordance with DIN EN 14010, the customer must provide 10 cm wide, yellow/black marking in accordance with DIN ISO 3864, in the access area in front of the contact area of the upper platform edge to identify the hazard area. (*see "Loading schedule", page 5*).

4
- 520 cm for vehicles up to 5.0 m long
- 540 cm for vehicles up to 5.2 m long

Shorter versions are possible on request - observe local regulations on parking space lengths.
We recommend a length of 540 cm for comfortable use of your parking space and increasingly longer vehicles.

The lower vehicle must exit before the platform is lowered.

## Vehicle data

### Version

SP (single platform) = 2 vehicles

### Parking options

Series vehicles:
saloon, estate, SUV, van in accordance with clearance gauge and maximum parking space load.

**For countries in which snow loads *do not* need to be taken into account:**

| | SP | |
|---|---|---|
| **Weight** 3 | 2000 kg | 2600 kg |
| **Wheel load** | 500 kg | 650 kg |

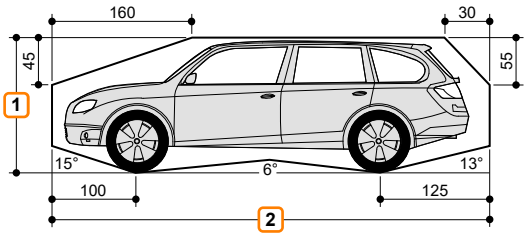
**For countries in which snow loads need to be taken into account, the parking option on the upper parking space is reduced in accordance with the table below:**

| | SP | |
|---|---|---|
| **Weight** 3 | 1500 kg | 2000 kg |
| **Wheel load** | 375 kg | 500 kg |

1 Vehicle height (*see "Overview of system types and ceiling heights", page 4*)
2 Vehicle length (*see "Overview of building configuration", page 3*)
3 Space load can be subsequently upweighted to 2600 kg.

The snow loads apply for a snow height of 20 cm. If greater snow heights occur, the snow load must be cleared accordingly.

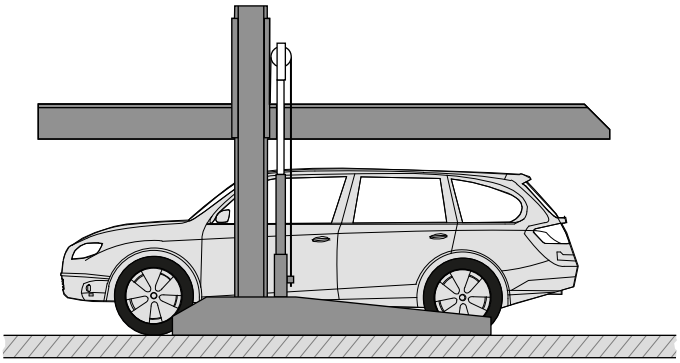
### Clearance gauge




Vehicle width 190 cm with platform width 230 cm.
Correspondingly wider vehicles can be parked with wider platforms.

## Overview of system types and ceiling heights

If structural circumstances do not limit the height, the vehicle height on the upper parking spaces is not restricted.



| Type | Vehicle height, lower |
|---|---|
| 2061-160 | 150 |
| 2061-170 | 160 |
| 2061-180 | 170 |
| 2061-190 | 180 |
| 2061-200 | 190 |
| 2061-210 | 200 |

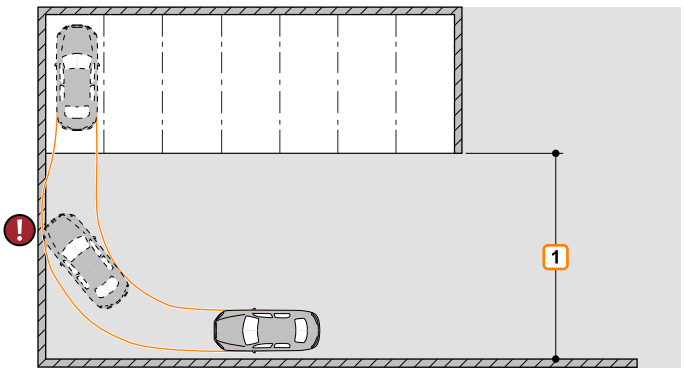
## Width dimensions

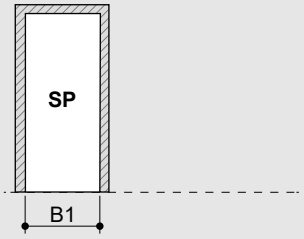
We recommend platform widths of minimum 250 cm and driving lane widths of 650 cm in order that vehicles can comfortably access the Multiparking system and enter and leave without difficulty.

Narrower platforms may impede parking according to the following criteria.

- Driving lane width
- Entrance conditions
- Vehicle dimensions

[1] Observe minimum driving lane width in accordance with local regulations.

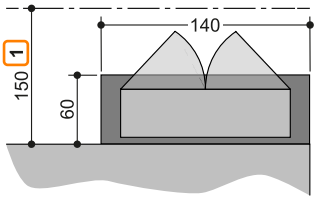



| | Clear platform width | B1 | Dividing walls |
|---|---|---|---|
| SP | 230 | 260 |  |
| | 240 | 270 | |
| | 250 | 280 | |
| | 260 | 290 | |
| | 270 | 300 | |



## Detail of building configuration - hydraulic unit foundation

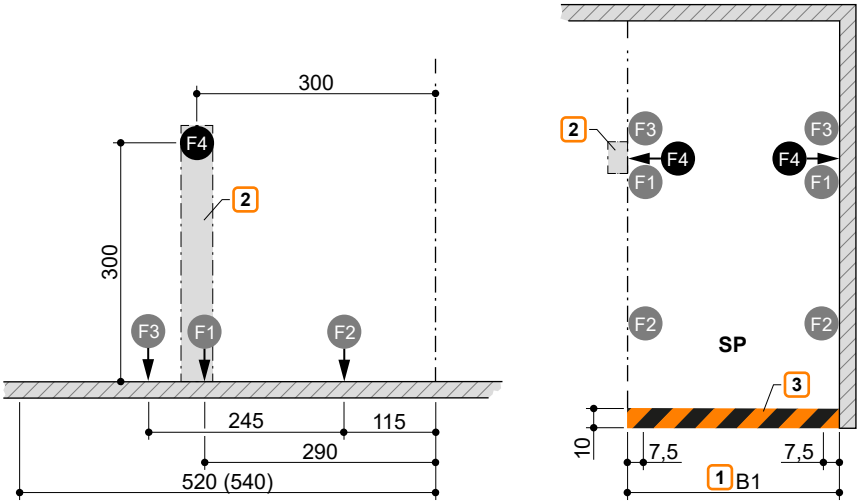
If the hydraulic unit cannot be installed in adjacent buildings or areas, the unit and the electrical components must be accommodated in a cabinet (surcharge applies).
The cabinet should be positioned in the rear area of the system. This requires a concrete foundation (140 x 60 cm) (concrete quality min. C20/C25).
The cabinet is anchored in the floor. The drilled hole depth is about 10 cm.




[1] Clearance

## Loading schedule

The systems are dowelled into the ground. The drill hole depth in the floor plate is approx. 15 cm, in the walls approx. 12 cm.
The floor plate and walls must be from concrete (quality min. C20/25).
The dimensions for the bearing points have been rounded. If the precise figures are required, please consult KLAUS Multiparking.




| Parking space load | F1 | F2 | F3 | F4 |
|---|---|---|---|---|
| 2000 kg | + 30.0 kN | + 0.5 kN | + 7.7 kN | ± 1.0 kN |
| 2600 kg | + 36.0 kN | + 0.7 kN | + 9.8 kN | ± 1.0 kN |

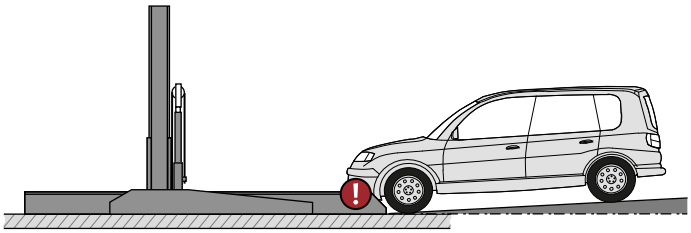
1 Width dimension B1 (*see "Width dimensions", page 4*)

2 The system must be supported on both sides. An additional stand may be installed if there are no walls at the sides. A floor area of 40 x 55 cm is required for these stands (concrete quality min. C20/25, drill hole depth approx. 15 cm).

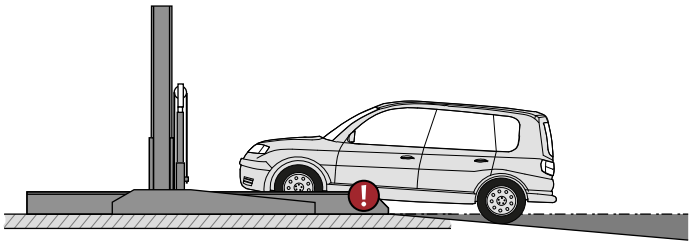
3 Marking in accordance with DIN ISO 3864 (illustration colour not consistent with DIN ISO 3864)

## Access incline

The maximum access inclines specified in the symbol sketch must not be exceeded.
Improper configuration can lead to extreme difficulty accessing the system, for which KLAUS Multiparking cannot be held liable.



max. 4% slope



max. 14% gradient

## CE conformity

The systems provided are consistent with DIN EN 14010 and the EC Machinery Directive 2006/42/EC. This system has also undergone a voluntary compliance test conducted by TÜV SÜD.

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

Industrie Service

# Certificate concerning the examination of conformity

| | |
|---|---|
| **Certificate no:** | CA 527 |
| **Certification body:** | TÜV SÜD Industrie Service GmbH<br>Westendstr. 199<br>80686 München – Germany |
| **Applicant / Certification holder:** | KLAUS Multiparking GmbH<br>Hermann-Krum-Str. 2<br>88319 Aitrach – Germany |
| **Manufacturer:** | KLAUS Multiparking GmbH<br>Hermann-Krum-Str. 2<br>88319 Aitrach – Germany |
| **Product:** | Equipment for power driven parking of motor vehicles |
| **Type:** | SingleVario 2061EB 2.000 kg<br>SingleVario 2061EB 2.600 kg |
| **Directive:** | 2006 / 42 / EC, Annex I |
| **Test specifications:** | DIN EN 14010:2003+A1:2009 |
| **Date and number of the test report / mark of conformity:** | No. CA 527 from 2022-05-10 |
| **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:** | 2022-05-16 |
| **Validity:** | 2027-05-15 |

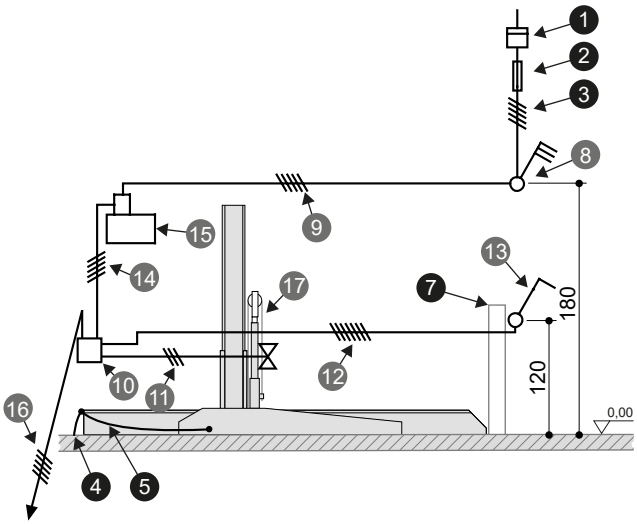
TÜV SÜD Industrie Service GmbH Certification Body

Bernd Gründling
Zertifizierstelle der Fördertechnik

TÜV®

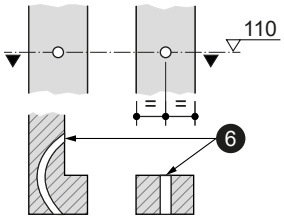
## Electrical installation

### Electrical installation diagram




### On-site facilities for operating element

**Surface-mounted operating element**




### Electrical specifications (services to be provided by the customer)

| Nr. | Quantity | Designation | Position | Frequency |
|---|---|---|---|---|
| 1 | 1 | Power meter | in the supply cable | |
| 2 | 1 | Pre-fuse: | | |
| | | 2x safety fuse 16 A (slow-blow) or<br>Circuit breaker 2 x 16 A (trip characteristic K or C) | in the supply cable | 1x per 1.5 kW unit |
| | 1 | 3x safety fuse 16 A (slow-blow) or<br>Circuit breaker 3x 16 A (trip characteristic K or C) | in the supply cable | 1x per 3.0 kW unit |
| 3 | 1 | Supply cable 3 x 2.5 mm² (2 PH+N+PE) with marked wires and protective earth [1] | to master switch | 1x per 1.5 kW unit |
| | 1 | Supply cable 5 x 2.5 mm² (3 PH+N+PE) with marked wires and protective earth [1] | to master switch | 1x per 3.0 kW unit |
| 4 | every 10 m | Foundation earth connection | Corner of the floor plate | |
| 5 | 1 | Equipotential bonding in accordance with DIN EN 60204<br>from foundation earth connection to system | | 1x per system |
| 6 | 1 | Empty pipe EN 25 (M25) | | |
| 7 | 1 | Operating stands | | 1x per system |

### Electrical specifications (KLAUS Multiparking scope of supply)

| Nr. | Designation |
|---|---|
| 8 | Lockable master switch |
| 9 | Supply cable 3 x 2.5 mm² (2 PH+N+PE) with marked wires and protective earth for 1.5 kW unit<br>Supply cable 5 x 2.5 mm² (3 PH+N+PE) with marked wires and protective earth for 3.0 kW unit |
| 10 | Unit junction box |
| 11 | Control cable 3 x 0.75 mm² (PH+N+PE) |
| 12 | Control cable 7 x 1.5 mm² with marked wires and protective earth |
| 13 | Operating element |
| 14 | Control cable 5 x 1.5 mm² with marked wires and protective earth |
| 15 | Hydraulic unit 1.5 kW, three-phase current 230 V / 50 Hz [1]<br>Hydraulic unit 3.0 kW, three-phase current 230/400 V / 50 Hz [1] |
| 16 | Control cable 5 x 1.5 mm² with marked wires and protective earth to next system |
| 17 | Chain monitoring |

[1] With hydraulic unit in cabinet: Cable conduit to be provided to hydraulic unit foundation by the customer.

# Technical information

## Usage area

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

## Units

Low-noise, bearing-mounted hydraulic units are installed on rubber-metal blocks. Consequently, we recommend separating the garage body from the residential building. If the hydraulic unit cannot be installed in adjacent buildings or areas, the unit and the electrical components must be accommodated in a cabinet (surcharge applies) (*see "Detail of building configuration - hydraulic unit foundation", page 4*).

## Ambient conditions

Ambient conditions for the areas around Multiparking systems:
Temperature range -20 to +40° C. Relative humidity 50 % for a maximum outside temperature of +40° C.
If ascent/descent times are specified, these relate to an ambient temperature of +10° C and with the system positioned immediately adjacent to the hydraulic unit. These times are increased at lower temperatures or with longer hydraulic lines.

## 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.

## Corrosion protection

In accordance with the 'Corrosion protection' supplement.

## Noise protection

**Standard noise protection:**

In accordance with DIN 4109-1 Noise protection in high-rise - Section 9:
Maximum sound pressure level in living and sleeping areas 30 dB (A).
User noise is not subject to the requirements.

The following dimensions are required for adherence to this value:

- Noise protection package in accordance with quote/order (KLAUS Multiparking)
- Sound insulation dimension of the building structure of min. R'w = 57 dB (service to be provided by the customer)

**Increased sound protection (special agreement):**

In accordance with DIN 4109-5 Increased noise protection in high-rise - Section 8:
Maximum sound pressure level in living and sleeping areas 25 dB (A).
User noise is not subject to the requirements.

The following dimensions are required for adherence to this value:

- Noise protection package in accordance with quote/order (KLAUS Multiparking)
- Sound insulation dimension of the building structure of min. R'w = 62 dB (service to be provided by the customer)

**Note:**
User noise is noise that can be influenced individually by the user of our Multiparking systems. This includes, e.g., accessing the platform, the slamming of vehicle doors, engine and brake noise.

## Performance specification

### Description

Multiparking system for dependent parking of 2 vehicles one on top of the other. The lower vehicle parks directly on the floor plate. The lower vehicle must exit before the platform is lowered.
The height of the platform can be flexibly adjusted (including subsequently).
Upweighting to 2600 kg can be performed retrospectively.
Dimensions in accordance with the underlying building, width and height dimensions.
Access to the parking spaces horizontally (installation tolerance ± 1%).
Vehicle positioning in the upper parking space by positioning aid mounted on one side (to be adjusted in accordance with the operating instructions).
Control via an operating element with automatic reset by means of simultaneous key.
Concise instructions at each operating point.

### Multiparking system comprising:

- 2 columns with column bases secured to the floor
- 2 sliders (with sliding guides secured to the columns)
- 1 platform
- 1 mechanical synchronisation system (for synchronised operation of the hydraulic cylinders when lifting and lowering)
- 1 hydraulic cylinder
- Dowels, screws, connectors, bolts, etc.
- The platforms/parking spaces are continuously accessible.

### Platform comprising:

- Platform profiles
- Adjustable positioning aid
- Chamfered ramp
- Side beams
- Crossbeams
- Screws, nuts, washers, spacers, etc.

### Hydraulic system comprising:

- Hydraulic cylinders
- Magnetic valves
- Hydraulic lines
- Bolted connections
- High-pressure hoses
- Attachments

### Electrical system comprising:

- Operating element (emergency-stop, key, 1 simultaneous key per parking space)
- Junction box on wall valve
- Electrical locking
- Chain monitoring

### Hydraulic unit comprising:

- Hydraulic unit (low-noise, fitted to bracket and bearing mounted on rubber-metal block)
- Hydraulic oil tank
- Oil filling
- Internal gear pump
- Pump holder
- Coupling
- Three-phase motor
- Circuit protection (with thermal overload relay and control fuse)
- Test pressure gauge
- Pressure relief valve
- Hydraulic hoses (to attenuate noise transmission to the hydraulic pipes)

## Services to be provided by the customer

### Barriers

Where there is no building to secure the traffic routes immediately in front of, adjacent to or behind the systems, the customer must provide barriers in accordance with DIN EN ISO 13857 at three points (except on the access side).

### Parking space numbering

Parking space numbering, if required.

### Building services systems

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

### Lighting

The customer must observe local regulations pertaining to the illumination of parking spaces and roadways. In accordance with DIN EN 12464-1 'Light and lighting - Lighting of work places', an illumination level of min. 200 lx is recommended for the parking spaces and operating area of the system.

### Warning marking

In accordance with DIN EN 14010, the customer must provide 10 cm wide, yellow/black marking in accordance with DIN ISO 3864, in the access area in front of the contact area of the upper platform edge to identify the hazard area.

### Supply cable to master switch - foundation earth

The customer must lay the supply cable to the master switch during assembly. 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.
The customer must earth the steel structure with a foundation earth connection (earthing distance max. 10 m) and equipotential bonding in accordance with DIN EN 60204.

### Operating element

Empty conduits and recesses for the operating element (*see "Electrical installation", page 7*).

## 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.

**KLAUS Multiparking GmbH**

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