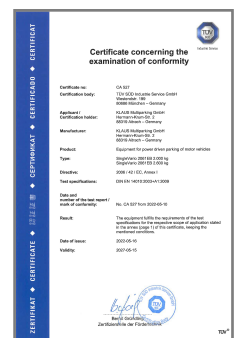




# PRODUCT DATA

DIMENSIONS, TECHNICAL INFORMATION AND PERFORMANCE SPECIFICATION

## singlevario 2061 OUTDOOR



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## Explanation of symbols



Platforms accessible horizontally.



Maximum load per parking space in lbs.  
Upweights above 4,400 lbs possible with surcharge (see "Vehicle data", page 3).



Outdoor setup.



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



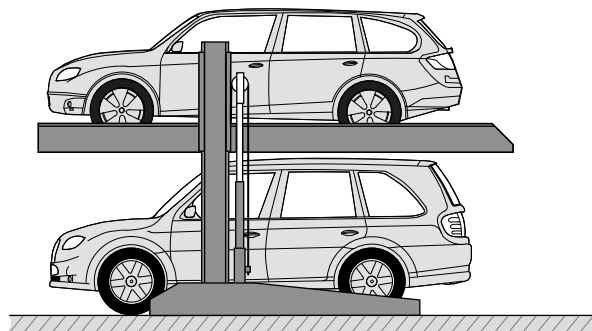
The quoted systems correspond to DIN EN 14010 and EU Machinery Directive 2006/42/EC.



In addition, this system has undergone a voluntary conformity test by TÜV SÜD.

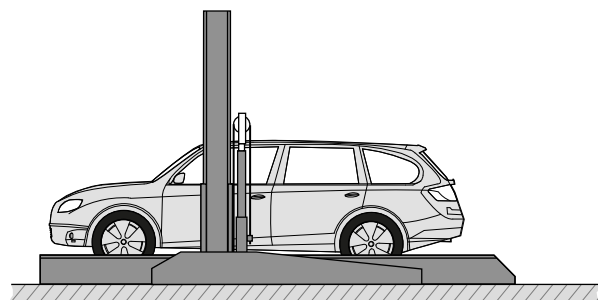
## Parking positions

### Lower parking space



The lower vehicle can enter or exit the parking space.

### Upper parking space



The upper vehicle can enter or exit the parking space.

## Dimensional specifications & tolerances

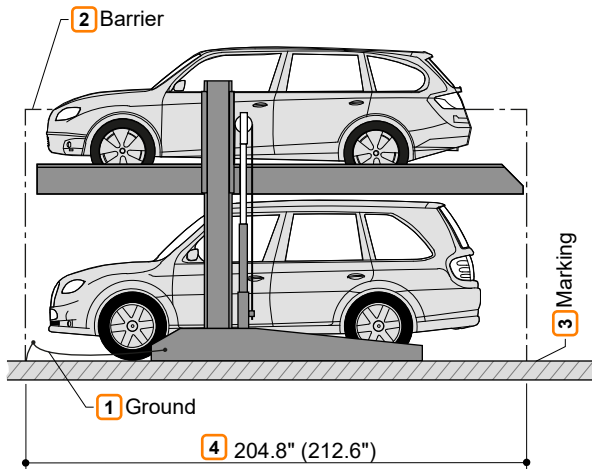


All structural dimensions are minimum finished dimensions.

Tolerance for structural dimensions: +1.2/-0". Dimensions in inches (in).

The tolerances specified in the German Construction Contract Procedures (VOB), Part C (DIN 18330 and 18331) as well as DIN 18202 must also be taken into account in order to adhere to the minimum finish dimensions.

## Overview of building design



- 1 Equipotential bonding from the foundation ground connection to the system (provided by customer).
- 2 Three-side barrier as per DIN EN ISO 13857. Can also be designed as wind protection depending on site.
- 3 As per DIN EN 14010, the customer must apply a 4" wide gold and black marking as per DIN ISO 3864 in front of the bearing area of the top platform edge in the entry area to mark the danger area. (see "Loading schedule", page 5).
- 4
  - 204.7" for vehicles up to 196.9" in length
  - 212.6" for vehicles up to 204.8" in length
 Shorter designs possible upon request. Observe local regulations for parking space length!  
 So that you can conveniently use your parking space and due to the ever increasing length of vehicles, we recommend a length of 212.6".



The lower vehicle must exit before the platform is lowered.

## Vehicle data

### Design

SP (single platform) = 2 vehicles

### Parking options

Production vehicles:  
Sedan, station wagon, SUV, and van as per clearance gauge and maximum parking space load.

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

	SP	
Weight <b>3</b>	4400 lbs	5720 lbs
Wheel load	1100 lbs	1430 lbs

For countries in which snow loads have to be taken into account, the parking option in the upper parking space is reduced as per the following table:

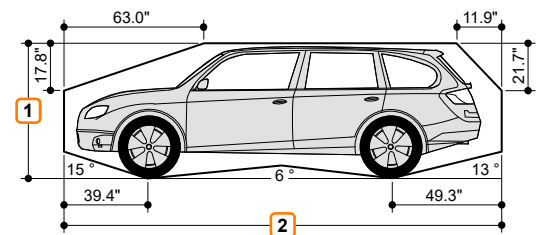
	SP	
Weight <b>3</b>	3300 lbs	4400 lbs
Wheel load	820 lbs	1100 lbs

- 1 Vehicle height (see "Overview of system types & ceiling heights", page 4)
- 2 Vehicle length (see "Overview of building design", page 3)
- 3 Parking spaces can be subsequently upweighted to 5,720 lbs!



The snow loads apply to a snow height of 7.9". In the case of greater snow heights, the snow load must be cleared accordingly.

### Clearance gauge

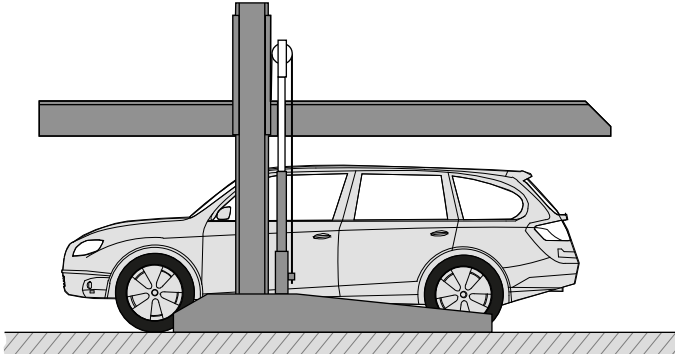


Vehicle width of 74.9" with a platform width of 90.6". Wider platforms allow correspondingly wider vehicles to be parked.

## Overview of system types & ceiling heights



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



Type	Lower vehicle height
2061-160	59.1"
2061-170	63.0"
2061-180	67.0"
2061-190	70.9"
2061-200	74.9"
2061-210	78.8"

## Width dimensions

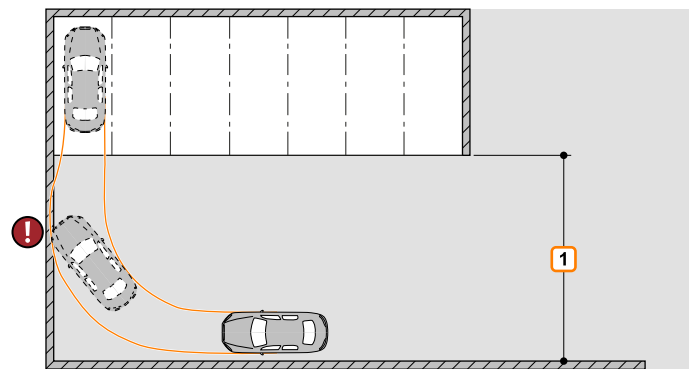


We recommend a platform width of at least 98.5" and driving lane widths of 256" to ensure convenient vehicle access to the multiparking system and easy entry into and exit from the vehicle.

Narrower platforms can make parking more difficult, depending on the following criteria.

- Driving lane width
- Entry conditions
- Vehicle dimensions

**1** Observe the minimum driving lane width specified by local regulations!



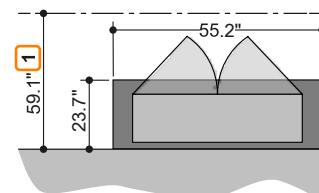
	Clear platform width	B1	Dividing walls
SP	90.6"	102.4"	
	94.5"	106.3"	
	98.5"	110.3"	
	102.4"	114.2"	
	106.3"	118.2"	

## 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 foundation (55.2" x 23.7") of concrete (concrete quality min. C20/C25). The cabinet is dowelled into the floor. The drill hole depth is approx. 4.0".

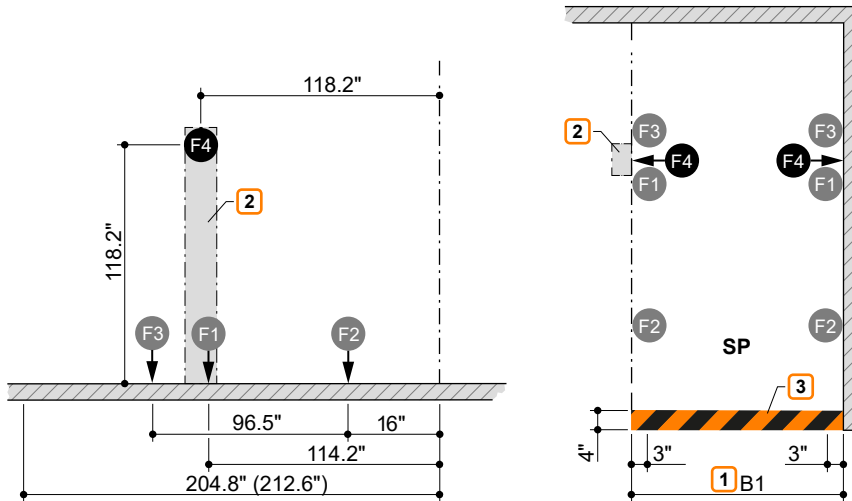


**1** Clearance

## Loading schedule



The systems are doweled to the floor. The drill hole depth in the floor plate is approx. 6", in the walls approx. 4.8".  
The floor plate and walls must be of concrete (concrete quality min. C20/25)!  
The dimensions for the bearing points have been rounded. If you need to know the exact position, please contact KLAUS Multiparking.



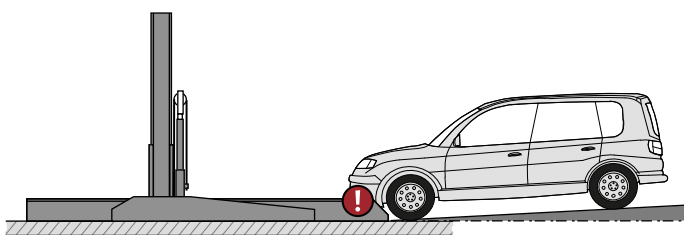
Parking space load	F1	F2	F3	F4
4400 lbs	+ 6745 lbf	+ 113 lbf	+ 1732 lbf	± 225 lbf
5720 lbs	+ 8094 lbf	+ 158 lbf	+ 2204 lbf	± 225 lbf

- 1 Width dimension B1 (see "Width dimensions", page 4)
- 2 The system must be supported on both sides. If there are no walls on the sides, an additional stand must be installed. A floor area of 19.7" x 11.9" is required for this stand (concrete quality min. C20/25, drill hole depth approx. 6").
- 3 Marking in accordance with DIN ISO 3864 (illustration colour not consistent with DIN ISO 3864)

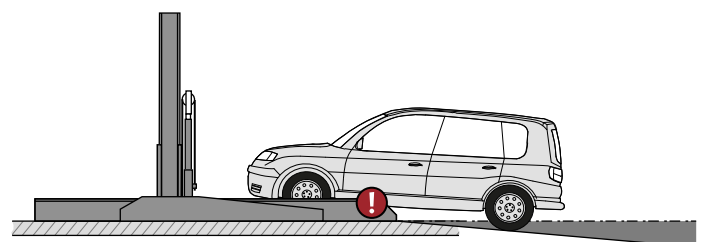
## Entrance inclination



The maximum entry inclinations specified in the sketch must not be exceeded.  
An incorrect design can make driving into the system considerably more difficult, for which KLAUS Multiparking is not responsible.



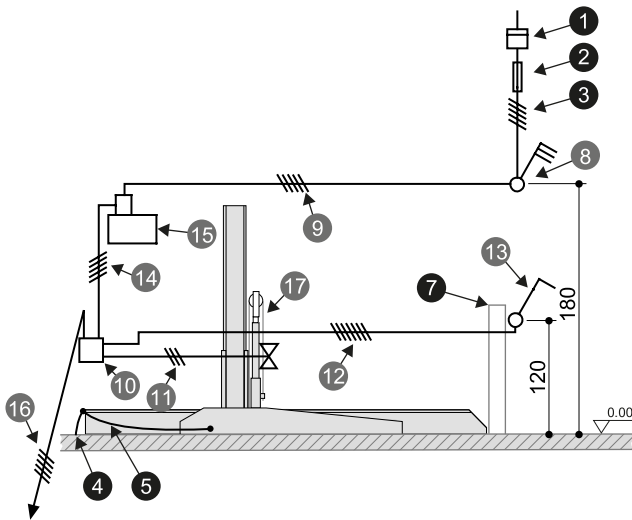
Max. slope: 4%



Max. gradient: 14%

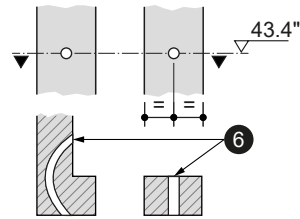
## Electrical installation

### Electrical installation diagram



### Performances provided by customer for operating elements

#### Surface-mounted operating element



### Register of electrical performances (provided by customer)

No.	Quantity	Designation	Position	Frequency
1	1	Power meter	In the supply cable	
2	1	Pre-fuse: 2x fuse 32 A (time-lag) or Circuit breaker 2 x 32 (tripping characteristic K or C)	In the supply cable	1x per 3.7-kW unit
	1	3x fuse 25 A (time-lag) or Circuit breaker 3 x 25 A (tripping characteristic K or C)	In the supply cable	1x per 4.0-kW unit
3	1	Supply cable 3 x AWG 10 (2 PH+N+PE) with labeled conductors and protective ground <sup>1</sup>	to master switch	1x per 3.7-kW unit
	1	Supply cable 4 x AWG 12 (3 PH+N+PE) with labeled conductors and protective ground <sup>1</sup>	to master switch	1x per 4.0-kW unit
4	Every 393.8"	Foundation ground connection	Corner of the floor plate	
5	1	Equipotential bonding as per DIN EN 60204 from the foundation ground connection to the system		1x per system
6	1	Empty conduit EN 25 (M25)		
7	1	Operating stands		1x per system


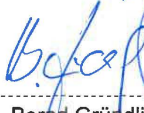
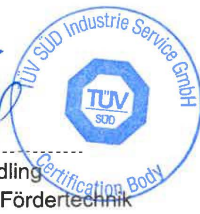

### Register of electrical performances – in conformity with UL/CSA (scope of supply of KLAUS Multiparking)

No.	Designation
8	Lockable master switch
9	Supply cable 4 x AWG 10 (2 PH+N+PE) with labeled conductors and protective ground for 3.7-kW unit
	Supply cable 4 x AWG 12 (3 PH+N+PE) with labeled conductors and protective ground for 4.0-kW unit
10	Junction box
11	Control cable 3 x AWG 16 with labeled conductors and protective ground
12	Control cable 5 x AWG 16 with labeled conductors and protective ground
13	Operating element
14	Control cable 7 x AWG 14 with labeled conductors and protective ground
15	Hydraulic unit, 3.7 kW, two-phase current, 240 V / 60 Hz <sup>1</sup>
	Hydraulic unit, 4.0 kW, three-phase current, 120/208 V / 60 Hz <sup>1</sup>
16	Control cable 7 x AWG 14 with labeled conductors and protective ground
17	Chain monitoring

<sup>1</sup> With hydraulic unit in cabinet: Lines to the foundation of the hydraulic unit are provided by the customer.

**CE conformity**

The quoted systems correspond to DIN EN 14010 and EU Machinery Directive 2006/42/EC. In addition, this system has undergone a voluntary conformity test by TÜV SÜD.

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ CERTIFICADO ◆ CERTIFICAT	 Industrie Service
	<h2>Certificate concerning the examination of conformity</h2>
	<b>Certificate no:</b> CA 527
	<b>Certification body:</b> TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München – Germany
	<b>Applicant / Certification holder:</b> KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach – Germany
	<b>Manufacturer:</b> KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach – Germany
	<b>Product:</b> Equipment for power driven parking of motor vehicles
	<b>Type:</b> SingleVario 2061EB 2.000 kg SingleVario 2061EB 2.600 kg
	<b>Directive:</b> 2006 / 42 / EC, Annex I
	<b>Test specifications:</b> DIN EN 14010:2003+A1:2009
<b>Date and number of the test report / mark of conformity:</b> No. CA 527 from 2022-05-10	
<b>Result:</b> 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.	
<b>Date of issue:</b> 2022-05-16	
<b>Validity:</b> 2027-05-15	
 Bernd Gründling Zertifizierstelle der Fördertechnik	
 TÜV SÜD Industrie Service GmbH Certification Body	
	

## Technical information

### Area of use

In general, the system is best suited for a fixed group of users. Structural adjustments to the multiparking system are required to accommodate a changing group of users (only in the upper parking spaces), e.g., short-term parkers in office buildings or hotels. If needed, please contact us.

### Units

Low-noise, bearing-mounted hydraulic units are installed on rubber-metal blocks. Nevertheless we recommend that parking system's garage be built separately from the dwelling. 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).

### Environmental conditions

Environmental conditions for the area of multiparking systems. Temperature range -4 to +104° F. Relative humidity 50% and a maximum outside temperature of +104° F. If raising and lowering times are specified, they refer to an ambient temperature of +50° F and a system arranged directly next to the hydraulic unit. These times increase at lower temperatures or with longer hydraulic lines.

### Seismic considerations

Local seismic conditions might require special precautionary measures such as struts. Please contact KLAUS Multiparking for seismic reports and advice.

### Building permit documents

Multiparking systems are usually subject to approval. Please observe local regulations and ordinances in this regard.

### Care

To prevent corrosion damage, please observe our separate cleaning and care instructions, and make sure that your garage is well ventilated.

### Corrosion protection

As per "Corrosion Protection" supplement.

### Noise protection

#### Normal noise protection:

As per DIN 4109-1 "Sound Insulation in Buildings – Part 1: Minimum Requirements," section 9:

The maximum sound pressure level in living and sleeping spaces is 30 dB (A).

User noises are not subject to the requirements.

The following actions are required to comply with this value:

- Noise protection package as per quotation/order (KLAUS Multiparking)
- Sound reduction index of the structure at least  $R'w = 57$  dB (customer-provided performance)

#### Increased noise protection (separate agreement):

As per DIN 4109-5 "Sound Insulation in Buildings – Part 5: Increased Requirements," section 8:

Maximum sound pressure level in living and sleeping spaces 25 dB (A).

User noises are not subject to the requirements.

The following actions are required to comply with this value:

- Noise protection package as per quotation/order (KLAUS Multiparking)
- Sound reduction index of the structure at least  $R'w = 62$  dB (customer-provided performance)

#### Note:

User noises are noises that can be influenced individually by the user of our multiparking systems. This includes, e.g., driving onto the platform, slamming vehicle doors, engine noises and breaking noises.



## 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). Subsequent upweighting to 5,720 lbs is possible.

Dimensions in accordance with the underlying building width and height dimensions.

Access to the parking spaces horizontally (installation tolerance  $\pm 1\%$ ).

Vehicle positioning in the upper parking space by positioning aid mounted on one side (to be adjusted in accordance with the operating instructions).

Operation using one operating element with automatic return via common key.

Brief instruction at each operating point.

### Multiparking system consisting of:

- 2 columns with column bases secured to the floor
- 2 sliding pieces (with slideways fastened to the columns)
- 1 platform
- 1 mechanical synchronization system (for synchronized operation of the hydraulic cylinders during lifting and lowering)
- 1 hydraulic cylinder
- Dowels, bolts, fasteners, pins, etc.
- The platforms/parking spaces are end-to-end accessible for parking!

### Platform comprising:

- Platform profiles
- Adjustable positioning aid
- Chamfered access plate
- Side beams
- Crossbeams
- Bolts, nuts, washers, spacer tubes, etc.

### Hydraulic system consisting of:

- Hydraulic cylinders
- Solenoid valves
- Hydraulic lines
- Threaded connections
- High-pressure hoses
- Fasteners

### Electrical system consisting of:

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

### Hydraulic unit consisting of:

- Hydraulic unit (low-noise, mounted on a console with rubber-bonded-to-metal mountings)
- Hydraulic oil tank
- Oil fill
- Internal gear pump
- Pump carrier
- Coupling
- Three-phase motor
- Circuit protection (with thermal overload relay and control fuse)
- Test pressure gage
- Pressure relief valve
- Hydraulic hoses (damping of noise transmission to the hydraulic pipes)

## Performances provided by 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 locations (except on the access side).

### Parking space numbering

Any parking space numbering required.

### Technical building systems

Any required lighting, ventilation, fire extinguishing systems and fire alarm systems, as well as clarification and fulfillment of the associated legal requirements.

### Lighting

The customer must observe local regulations regarding the lighting of parking spaces and roadways. As per DIN EN 12464-1 "Light and Lighting – Lighting of Work Places – Part 1: Indoor Work Places" an illuminance of at least 200 lx is recommended for parking spaces and the operating area of the system.

### Warning markings

As per DIN EN 14010, the customer must apply a 4" wide gold and black marking as per DIN ISO 3864 in front of the bearing area of the top platform edge in the entry area to mark the danger area.

### Supply cable to the master switch – foundation ground

The customer must provide the supply cable to the master switch during assembly. Our fitter can check functionality on site together with the electronics technician. If this is not possible during assembly due to reasons for which the customer is responsible, then the customer must contract an electronics technician.

The customer must ground the steel structure using the foundation ground connection (max. ground distance 393.8") and equipotential bonding as per DIN EN 60204.

### Operating element

Empty conduits and cutouts for the operating elements (see "Electrical installation", page 6).

## Right to technical changes reserved.

In carrying out its performances in the course of technical progress, KLAUS Multiparking is free to use new or different technologies, systems, processes or standards than those initially quoted, provided this does not result in any disadvantages for the customer.

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