

# Product data

Dimensions, Technical Information and Performance  
Specification



## spacevario CP61



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## Explanation of symbols



Platforms accessible horizontally.



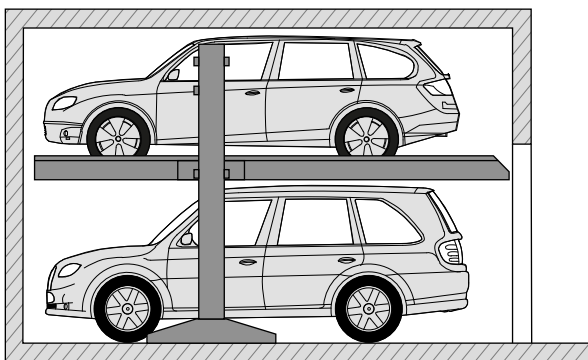
Maximum load per parking space in lbs.



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.

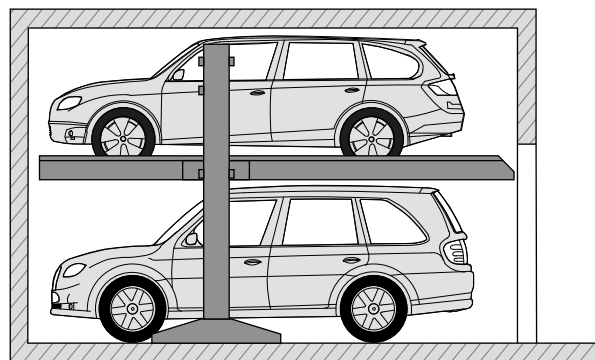
## Parking positions

### 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



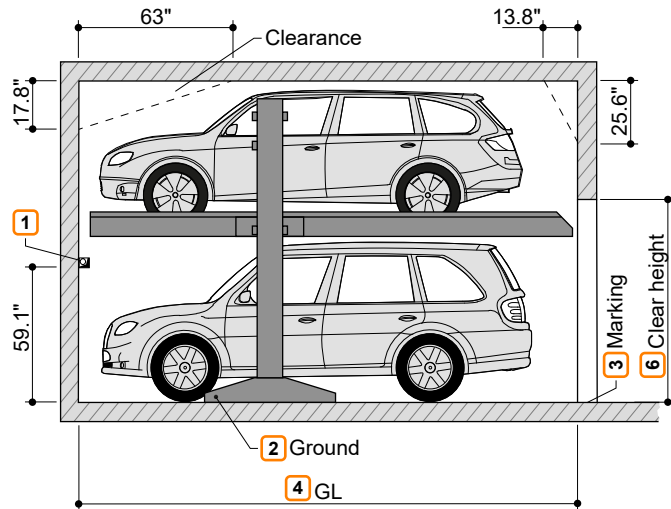
All structural dimensions are minimum finished dimensions.

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.

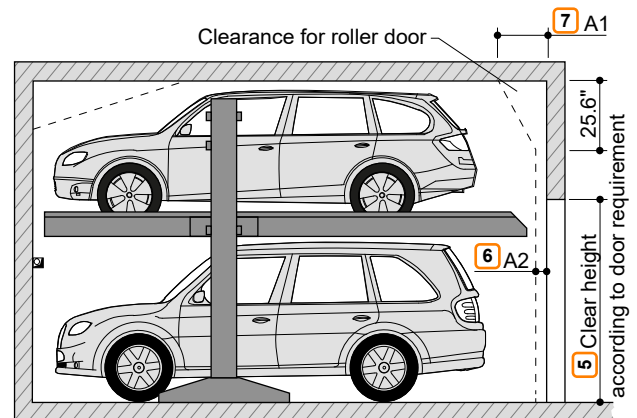
## Overview of building design

### Building design without door



- 1 For dividing walls: Wall opening 4" x 4".
- 2 Equipotential bonding from the foundation ground connection to the system (provided by customer).
- 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 and strutting", page 7).

### Building design with door



- 4 GL = building length
  - 204.7" for vehicles up to 196.9" in length
 Shorter designs possible upon request. Observe local regulations for parking space length!
- 5 Clear height as per local regulations. At least largest possible vehicle height + 4".
- 6 The customer must coordinate dimension A1 and A2 with the door manufacturer.



The lower vehicle must exit before the platform is lowered.

## Vehicle data

### Design

SP (single platform) = 2 vehicles

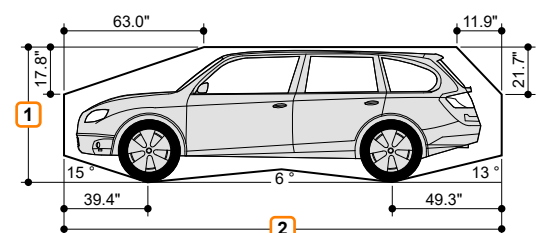
### Parking options

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

|            | SP        |
|------------|-----------|
| Weight     | 5,720 lbs |
| Wheel load | 1,430 lbs |

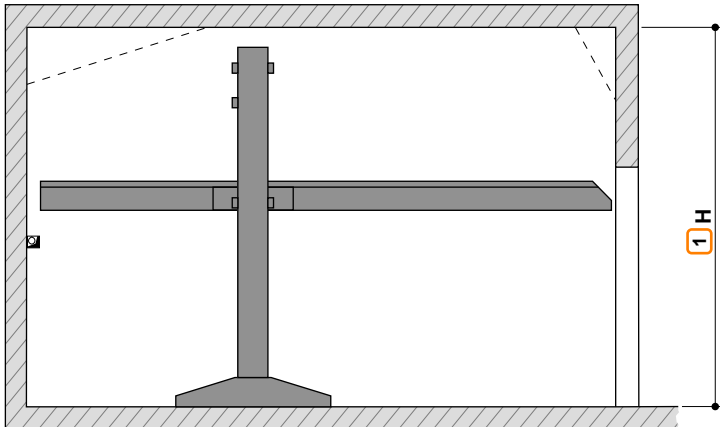
- 1 Vehicle height (see "Overview of system types & ceiling heights", page 4)
- 2 Vehicle length (see "Overview of building design", page 3)

### 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



H: Ceiling height

1 A higher ceiling height allows correspondingly taller vehicles to be parked.

| Type     | Lower vehicle height | Upper vehicle height |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------|----------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          |                      | 59.1"                | 61.1" | 63.0" | 65.0" | 67.0" | 68.9" | 70.9" | 72.9" | 74.9" | 76.8" | 78.8" | 80.8" | 82.7" | 84.7" |
| CP61-160 | 59.1"                | 126.0                | 128.0 | 130.0 | 131.9 | 133.9 | 135.9 | 137.8 | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 |
| CP61-170 | 63.0"                | 130.0                | 131.9 | 133.9 | 135.9 | 137.8 | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 |
| CP61-180 | 67.0"                | 133.9                | 135.9 | 137.8 | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 |
| CP61-190 | 70.9"                | 137.8                | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 | 161.5 | 163.4 |
| CP61-200 | 74.9"                | 141.8                | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 | 161.5 | 163.4 | 165.4 | 167.4 |
| CP61-210 | 78.8"                | 145.7                | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 | 161.5 | 163.4 | 165.4 | 167.4 | 169.3 | 171.3 |

H - Ceiling height

### Example configuration



Example: Lower vehicle height of 67.0" & upper vehicle height of 74.9".

Type: CP61-180

Ceiling height: 149.7"

| Type     | Lower vehicle height | Upper vehicle height |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------|----------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          |                      | 59.1"                | 61.1" | 63.0" | 65.0" | 67.0" | 68.9" | 70.9" | 72.9" | 74.9" | 76.8" | 78.8" | 80.8" | 82.7" | 84.7" |
| CP61-160 | 59.1"                | 126.0                | 128.0 | 130.0 | 131.9 | 133.9 | 135.9 | 137.8 | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 |
| CP61-170 | 63.0"                | 130.0                | 131.9 | 133.9 | 135.9 | 137.8 | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 |
| CP61-180 | 67.0"                | 133.9                | 135.9 | 137.8 | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 |
| CP61-190 | 70.9"                | 137.8                | 139.8 | 141.8 | 143.8 | 145.7 | 147.7 | 149.7 | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 | 161.5 | 163.4 |

H

## Width dimensions

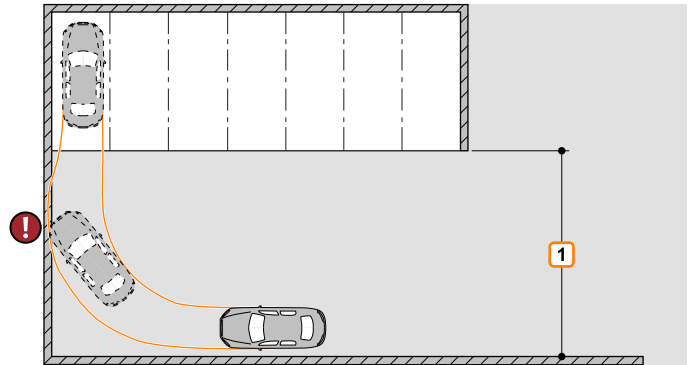


We recommend a platform width of at least 98.5" and driving lane widths of 256" to ensure convenient vehicle access to the multiparking system and easy entry into and exit from the vehicle.

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!

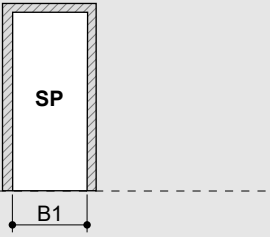
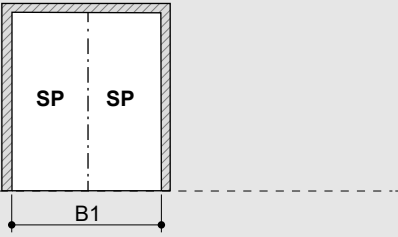
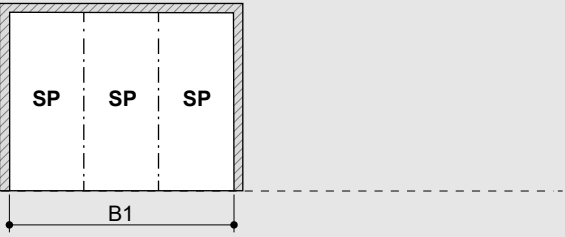
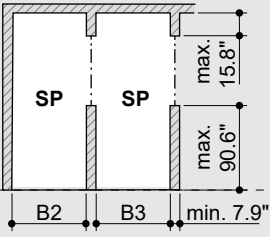
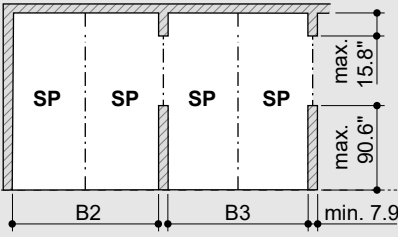
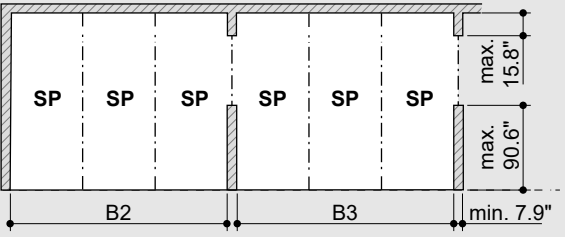
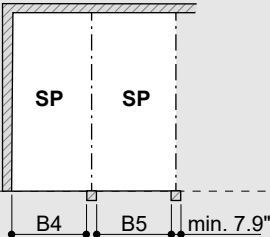
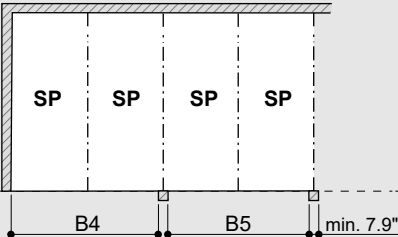
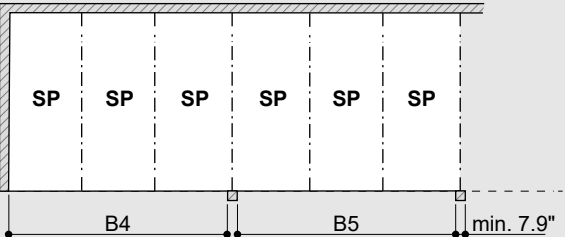


### Width dimensions with door

|                                     | Single platform – SP 3 |                  | Double arrangement – 2x SP 3 |        |
|-------------------------------------|------------------------|------------------|------------------------------|--------|
| Supports outside of the system area |                        |                  |                              |        |
|                                     | Clear platform width 2 | Passage width B6 |                              |        |
| SP                                  | 90.6"                  | 90.6"            | 2x SP                        | 90.6"  |
|                                     | 94.5"                  | 94.5"            |                              | 193.0" |
|                                     | 98.5"                  | 98.5"            |                              | 200.8" |
|                                     | 102.4"                 | 102.4"           |                              | 208.7" |
|                                     | 106.3"                 | 106.3"           |                              | 216.6" |
|                                     |                        |                  |                              | 224.5" |

- 1 Door offset (customer must coordinate dimension A3 with the door manufacturer). Lateral closing doors require coordination between the door manufacturer and KLAUS Multiparking.
- 2 Narrower platform widths are possible upon request, but it must be noted that use of the parking space is restricted by the reduced width and the parking process becomes more difficult. These often do not count as a verifiable vehicle parking spaces – observe local regulations!
- 3 Special width dimensions apply in the case of seismic loads. Please contact KLAUS Multiparking for planning documents.

Width dimensions without door

|                                     | Single platform – SP <sup>2</sup>  | Double arrangement – 2x SP <sup>2</sup>  | Triple arrangement – 3x SP <sup>2</sup>   |        |   |        |
|-------------------------------------|--|--|---|--------|---|--------|
| Dividing walls                      |   |   |   |        |   |        |
| Supports in the system area         |   |   |   |        |   |        |
| Supports outside of the system area |  |  |  |        |   |        |
|                                     | Clear platform width <sup>1</sup>  | Dividing walls<br>B1   | Supports in the system area<br>B2      B3   |        | Supports outside of the system area<br>B4      B5 |        |
| SP                                  | 90.6"  | 102.4"   | 100.4"  | 96.5"  | 98.5"   | 94.5"  |
|                                     | 94.5"  | 106.3"   | 104.4"  | 100.4" | 102.4"  | 98.5"  |
|                                     | 98.5"  | 110.3"   | 108.3"  | 104.4" | 106.3"  | 102.4" |
|                                     | 102.4"   | 114.2"   | 112.3"  | 108.3" | 110.3"  | 106.3" |
|                                     | 106.3"   | 118.2"   | 116.2"  | 112.3" | 114.2"  | 110.3" |
| 2x SP                               | 90.6"  | 204.8"   | 202.8"  | 200.8" | 200.8"  | 196.9" |
|                                     | 94.5"  | 212.6"   | 210.7"  | 208.7" | 208.7"  | 204.8" |
|                                     | 98.5"  | 220.5"   | 218.6"  | 216.6" | 216.6"  | 212.6" |
|                                     | 102.4"   | 228.4"   | 226.4"  | 224.5" | 224.5"  | 220.5" |
|                                     | 106.3"   | 236.3"   | 234.3"  | 232.3" | 232.3"  | 228.4" |
| 3x SP                               | 90.6"  | 307.1"   | 305.2"  | 303.2" | 303.2"  | 299.3" |
|                                     | 94.5"  | 318.9"   | 317.0"  | 315.0" | 315.0"  | 311.1" |
|                                     | 98.5"  | 330.8"   | 328.8"  | 326.8" | 326.8"  | 322.9" |
|                                     | 102.4"   | 342.6"   | 340.6"  | 338.6" | 338.6"  | 334.7" |
|                                     | 106.3"   | 354.4"   | 352.4"  | 350.4" | 350.4"  | 346.5" |

<sup>1</sup> Narrower platform widths are possible upon request, but it must be noted that use of the parking space is restricted by the reduced width and the parking process becomes more difficult. These often do not count as a verifiable vehicle parking spaces – observe local regulations!

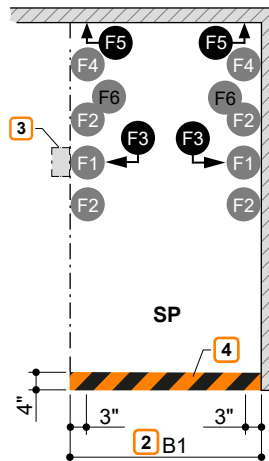
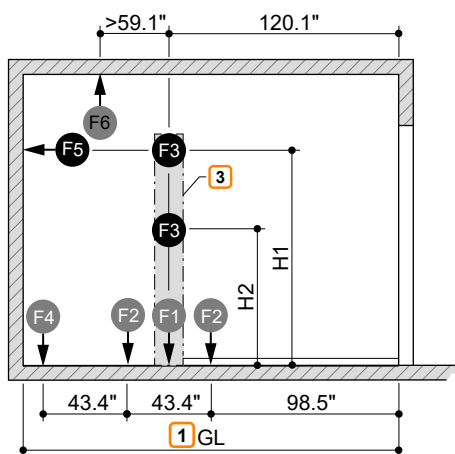
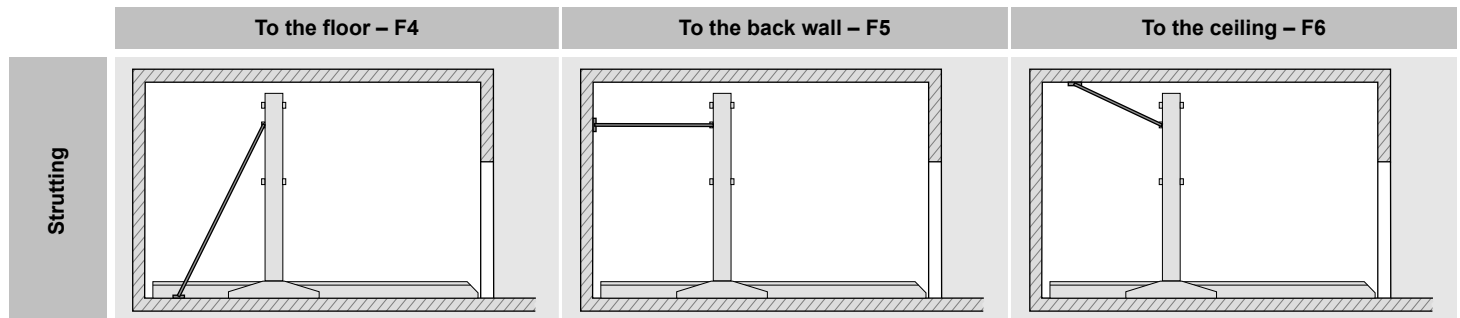
<sup>2</sup> Special width dimensions apply in the case of seismic loads. Please contact KLAUS Multiparking for planning documents.

## Loading schedule and strutting



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.

Various options are available for strutting depending on the structural conditions.



| Parking space load | F1          | F2        | F3        | F4          | F5          | F6          |
|--------------------|-------------|-----------|-----------|-------------|-------------|-------------|
| 5,720 lbs          | + 6,745 lbf | - 945 lbf | - 405 lbf | - 2,698 lbf | - 1,552 lbf | - 1,844 lbf |

|    | Type     |          |          |          |          |          |
|----|----------|----------|----------|----------|----------|----------|
|    | CP61-160 | CP61-170 | CP61-180 | CP61-190 | CP61-200 | CP61-210 |
| H1 | 114.2"   | 114.2"   | 114.2"   | 126.0"   | 126.0"   | 126.0"   |
| H2 | 72.9"    | 72.9"    | 72.9"    | 74.7"    | 74.7"    | 74.7"    |

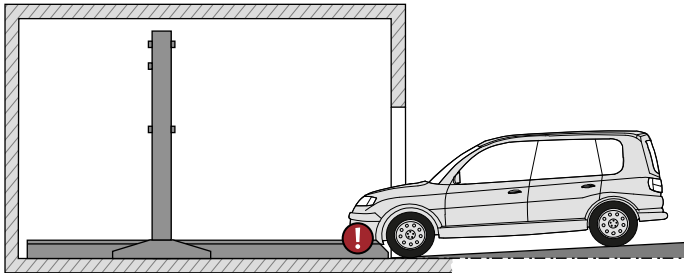
- 1 GL = building length
- 2 Width dimension B1 (see "Width dimensions without door", page 6)
- 3 The system must be supported on both sides. If there are no walls on the sides, an additional stand must be installed. A floor area of 19.7" x 11.9" is required for this stand (concrete quality min. C20/25, drill hole depth approx. 6").
- 4 Marking in accordance with DIN ISO 3864 (illustration colour not consistent with DIN ISO 3864)

## Entrance inclination

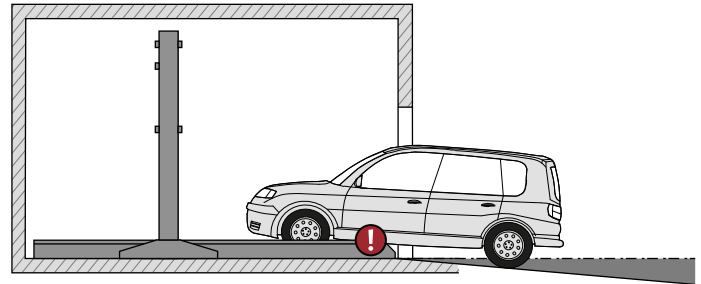


The maximum entry inclinations specified in the sketch must not be exceeded.

An incorrect design can make driving into the system considerably more difficult, for which KLAUS Multiparking is not responsible.



Max. slope: 4%



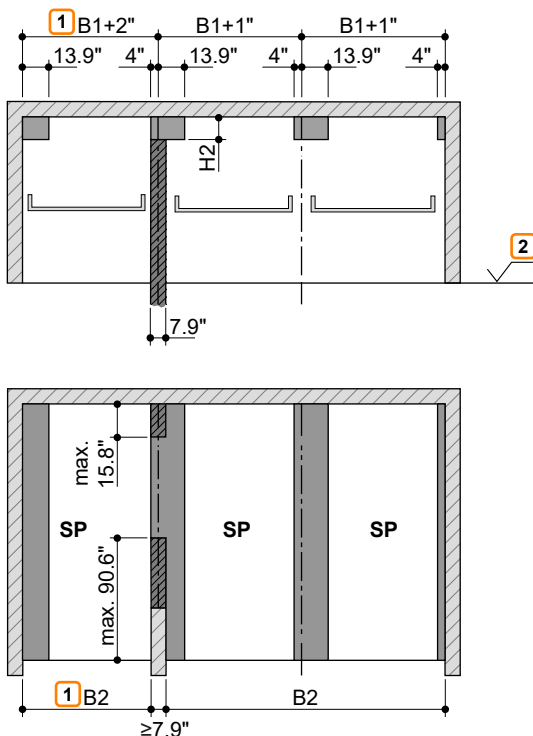
Max. gradient: 14%

## Clearances for installations



These clearances apply exclusively to vehicles parked forward with exit on the left. The clearances must be adjusted accordingly for vehicles with exit on the right or if vehicles are backed into the parking space.

These clearances only apply to strutting to the floor. The clearances must be adjusted accordingly for other variants.



| max.<br>Upper vehi-<br>cle height | Type                 |                      |                      |
|-----------------------------------|----------------------|----------------------|----------------------|
|                                   | CP61-160<br>CP61-190 | CP61-170<br>CP61-200 | CP61-180<br>CP61-210 |
| 59.1"                             | 0.0"                 | 4.0"                 | 7.9"                 |
| 61.1"                             | 2.0"                 | 6.0"                 | 9.9"                 |
| 63.0"                             | 4.0"                 | 7.9"                 | 11.9"                |
| 65.0"                             | 6.0"                 | 9.9"                 | 13.8"                |
| 67.0"                             | 7.9"                 | 11.9"                | 15.8"                |
| 68.9"                             | 9.9"                 | 13.8"                | 17.8"                |
| 70.9"                             | 11.9"                | 15.8"                | 19.7"                |
| 72.9"                             | 13.8"                | 17.8"                | 21.7"                |
| 74.9"                             | 15.8"                | 19.7"                | 23.7"                |
| 76.8"                             | 17.8"                | 21.7"                | 25.6"                |
| 78.8"                             | 19.7"                | 23.7"                | 27.6"                |
| 80.8"                             | 21.7"                | 25.6"                | 29.6"                |
| 82.7"                             | 23.7"                | 27.6"                | 31.5"                |
| 84.7"                             | 25.6"                | 29.6"                | 33.5"                |

1 Dimensions B1 and B2 (see "Width dimensions with door", page 5, "Width dimensions without door", page 6)

2 Entrance level

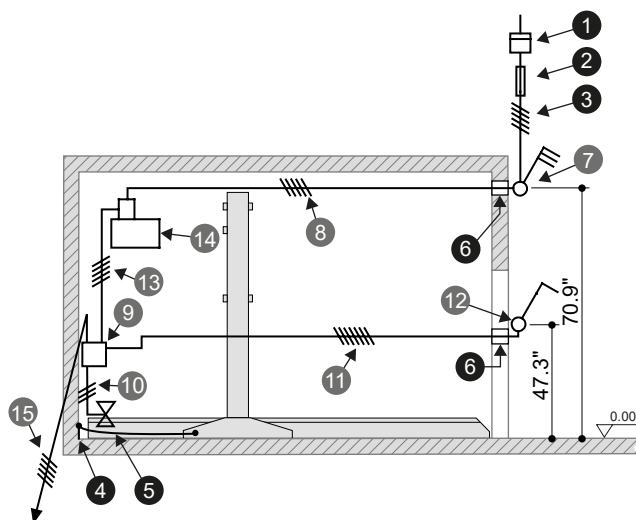
Clearance for routing lines lengthways

Clearance for vertical pipes, ventilation ducts, etc.



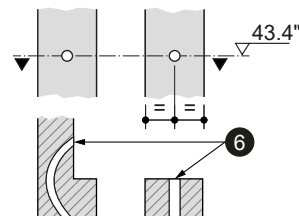
## Electrical installation

### Electrical installation diagram



### Performances provided by customer for operating elements

#### Surface-mounted operating element



### List of electrical items provided by customer

| No. | Quantity     | Designation  | Position                         | Frequency          |
|-----|--------------|--|----------------------------------|--------------------|
| 1   | 1            | Power meter  | In the supply cable              |                    |
| 2   | 1            | Pre-fuse:<br>2x fuse 32 A (time-lag) or<br>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<br>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 4 x AWG 10 (2 PH+N+PE) with labeled conductors and protective ground                  | to master switch                 | 1x per 3.7-kW unit |
|     | 1            | Supply cable 5 x AWG 12 (3 PH+N+PE) with labeled conductors and protective ground                  | to master switch                 | 1x per 4.0-kW unit |
| 4   | Every 393.8" | Foundation ground connection   | Rear wall corner of the building |                    |
| 5   | 1            | Equipotential bonding as per DIN EN 60204 from the foundation ground connection to the system      |                                  | 1x per system      |
| 6   | 2            | Empty conduit EN 25 (M25)  |                                  |                    |

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

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

## 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 power units mounted to rubber-bonded-to metal mountings are installed. Nevertheless, we recommend separating the garage body from the residential building.

### Ambient conditions

Ambient conditions for the areas around Multiparking systems:  
Temperature range +41 to +104° F. Relative humidity 50 % for a maximum outside temperature of +104° F.  
If ascent/descent times are specified, these relate to an ambient temperature of +50° F and with the system positioned immediately adjacent to the hydraulic unit. These times increase at lower temperatures and 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

Our coating system has been designed in accordance with DIN EN ISO 12944-5 Annex A, coating systems for corrosivity category C3. The powder coating has been tested as per DIN EN ISO 12944-6 and fulfillment of the requirements has been verified in test sequences. Zinc coatings as per DIN EN ISO 1461 and DIN EN 10346.

### Railing

If traffic routes are located immediately next to or behind the systems, then the customer must provide barriers as per DIN EN ISO 13857. This applies during the construction phase as well.

### 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.

### 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.

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.

The operating element is usually attached in front of the support or outside on the door jamb.

Brief instruction at each operating point.

In the case of a building design with a door, special dimensions must be observed.

### 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
- Sloped access ramp
- Side beams
- 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

### 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

Barriers that may be required in accordance with DIN EN ISO 13857 to secure traffic routes immediately in front of, adjacent to or behind the systems. This applies during the construction phase as well.

### 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.

### Wall openings

Any required wall openings as per sectional drawings (see "Overview of building design", page 3).

### 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 9). Consultation with KLAUS Multiparking is required for folding doors.

## 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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