KLAUS
MULTIPARKING


# PRODUCT DATA

DIMENSIONS, TECHNICAL INFORMATION AND PERFORMANCE SPECIFICATION

# trendvario 6200+


Certificate concerning the examination of conformity


PARK & SMILE

multiparkingusa.com

## Contents



## Explanation of symbols

Platforms accessible horizontally.

Maximum load per parking space in lbs.
Upweights above 4400 lbs possible with surcharge (*see "Vehicle data", page 3*).

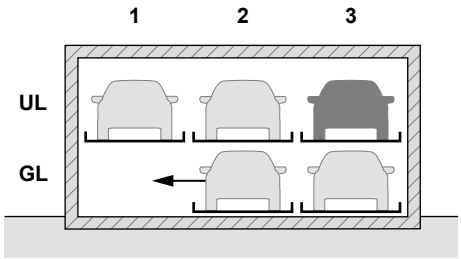
Parking space load can be subsequently upweighted (*see "Vehicle data", page 3*).

Driven-through arrangement and can be combined with other TrendVario systems as a KombiSystem.

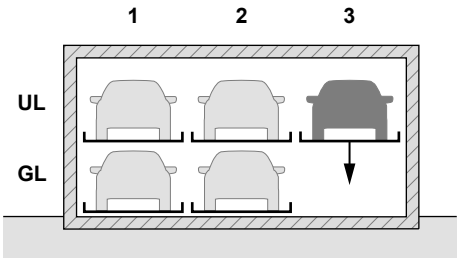
The quoted systems correspond to DIN EN 14010 and EU Machinery Directive 2006/42/EC.
In addition, this system has undergone a voluntary conformity test by TÜV SÜD.

## Function diagram with standard designation

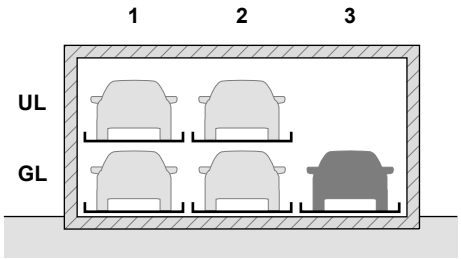
Example for vehicle on upper level (UL) of grid 3:
Selection via the control panel; all doors must be closed.
Representation of parking spaces in a row.




To remove the vehicle from the space in **grid 3/UL** , the GL platforms are moved to the left.




The empty space is now located under the vehicle being removed. The parking space in **grid 3/UL** is lowered.



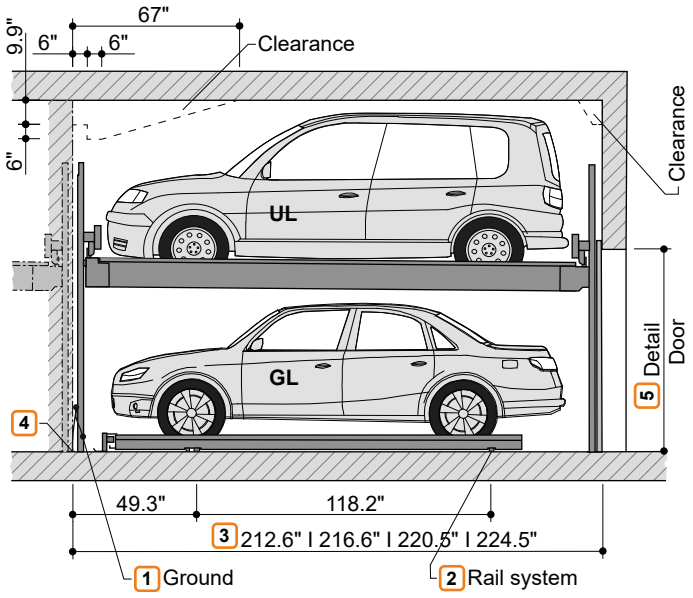

The vehicle in the space in **grid 3/UL** can now be removed.

## 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 configuration with sliding door standard 5




1 Equipotential bonding from the foundation ground connection to the system (provided by customer).

2 The tolerances for the levelness of the roadway (floor) must be adhered to as per DIN 18202, table 3, row 3.(*see "Detail of building configuration - rail system", page 7*).

3
- 212.6" for vehicles up to 196.9" in length
- 216.6" for vehicles up to 200.8" in length
- 220.5" for vehicles up to 204.8" in length
- 224.5" for vehicles up to 208.7" 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 at least 220.5".

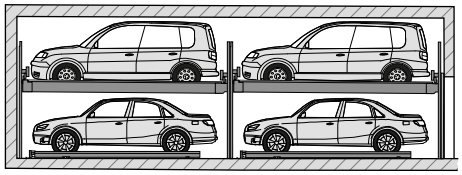
4 Grooves/concrete haunches are not possible at the transition from the pit floor and the walls. If grooves/concrete haunches are required, then the system must be narrower or the pits wider.

5 Detail of door and additional door variants (*see "Configuration sliding door standard", page 5* and *see "Configuration sliding door plus", page 6*).

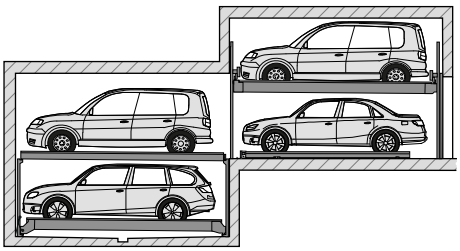
If sprinklers are required, the customer must leave sufficient clearance during the construction phase.

### KombiSystem examples

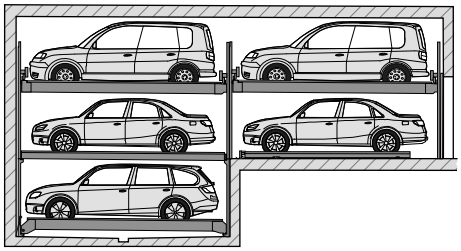
**Combination 6200+ with 6200+**



**Combination 6100 with 6200+**



**Combination 6300 with 6200+**



## Vehicle data

### Parking options

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

| | UL \| GL 3 | | |
|---|---|---|---|
| **Weight 4** | 4400 lbs | 5720 lbs | 6600 lbs |
| **Wheel load** | 1100 lbs | 1430 lbs | 1650 lbs |

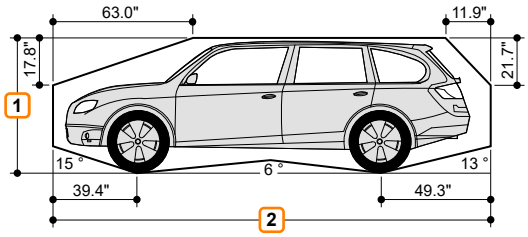
1 Vehicle height (*see "Overview of system types & ceiling heights", page 4*)

2 Vehicle length (*see "Overview of building design", page 3*)

3 UL = upper level | GL = ground level

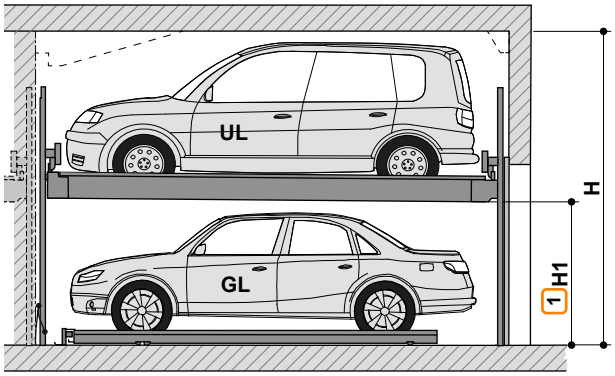
4 Individual parking spaces can also be subsequently upweighted to 6,600 lbs.

### 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:** Building height:
**H1:** Headroom

| Type | H1 | GL vehicle height | UL 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" | 86.7" |
| **6200+ / 160** | 63.0" | **59.1"** | 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 | 157.5 |
| **6200+ / 165** | 65.0" | **61.1"** | 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 | 157.5 | 159.5 |
| **6200+ / 170** | 67.0" | **63.0"** | 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 | 161.5 |
| **6200+ / 175** | 68.9" | **65.0"** | 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" | 161.5" | 163.4" |
| **6200+ / 180** | 70.9" | **67.0"** | 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 | 165.4 |
| **6200+ / 185** | 72.9" | **68.9"** | 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 | 165.4 | 167.4 |
| **6200+ / 190** | 74.9" | **70.9"** | 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 | 169.3 |
| **6200+ / 195** | 76.8" | **72.9"** | 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 | 169.3 | 171.3 |
| **6200+ / 200** | 78.8" | **74.9"** | 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 | 173.3 |
| **6200+ / 205** | 80.8" | **76.8"** | 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 | 173.3 | 175.2 |
| **6200+ / 210** | 82.7" | **78.8"** | 149.7 | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 | 161.5 | 163.4 | 165.4 | 167.4 | 169.3 | 171.3 | 173.3 | 175.2 | 177.2 |
| **6200+ / 215** | 84.7" | **80.8"** | 151.6 | 153.6 | 155.6 | 157.5 | 159.5 | 161.5 | 163.4 | 165.4 | 167.4 | 169.3 | 171.3 | 173.3 | 175.2 | 177.2 | 179.2 |
| **6200+ / 220** | 86.7" | **82.7"** | 153.6 | 155.6 | 157.5 | 159.5 | 161.5 | 163.4 | 165.4 | 167.4 | 169.3 | 171.3 | 173.3 | 175.2 | 177.2 | 179.2 | 181.2 |

**H - Building height**

[1] Maximum vehicle height for the passage = H1 - 2"

### Configuration example

Example: GL vehicle height 65" & UL vehicle height 70.9".
Type: 6200+ / 175
Building height: 147.7"

| Type | H1 | GL vehicle height | UL 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" | 86.7" |
| **6200+ / 160** | 63.0" | **59.1"** | 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 | 157.5 |
| **6200+ / 165** | 65.0" | **61.1"** | 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 | 157.5 | 159.5 |
| **6200+ / 170** | 67.0" | **63.0"** | 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 | 161.5 |
| **6200+ / 175** | 68.9" | **65.0"** | 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 | 161.5 | 163.4 |
| **6200+ /180** | 70.9" | **67.0"** | 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 | 165.4 |

**H**

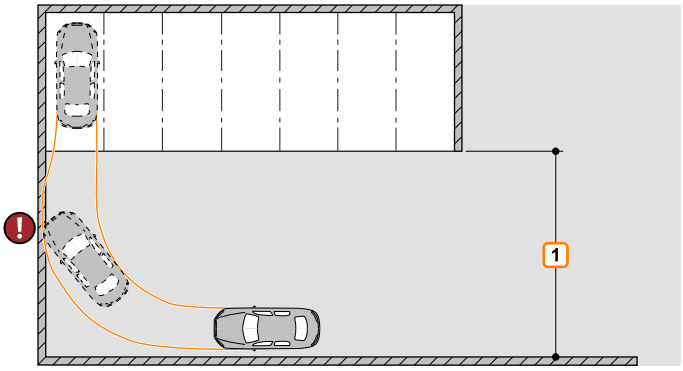
## Width and door height

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.

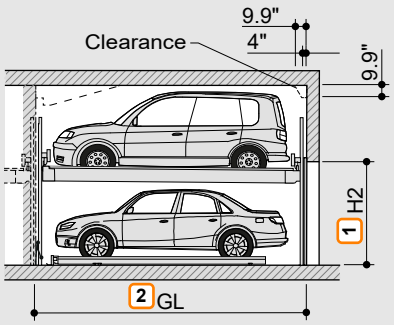
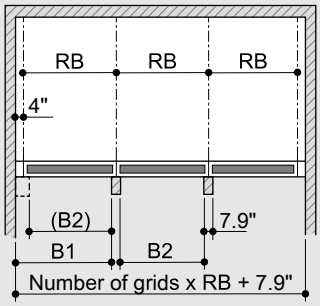
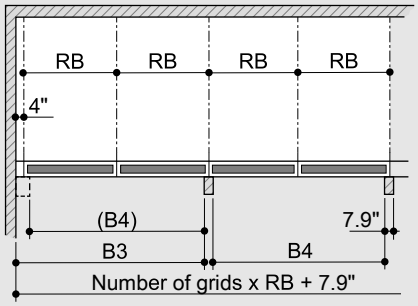
- Driving lane width
- Entry conditions
- Vehicle dimensions

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




For commercial use of doors with electrical drive systems, an inspection log is required in accordance with ASR A1.7 “Technical Rules for Workplaces” in Germany. The door must be inspected by an expert before commissioning and annually thereafter and the result entered in the inspection log. The inspection must be carried out independently of maintenance. Observe local regulations regarding the operation of electrical doors.

### Configuration sliding door standard

| | Door variant | Supports per grid | Supports per second grid |
|---|---|---|---|
| Sliding door standard |  |  |  |





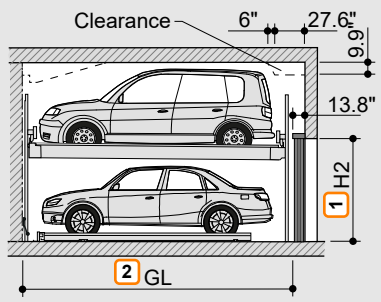
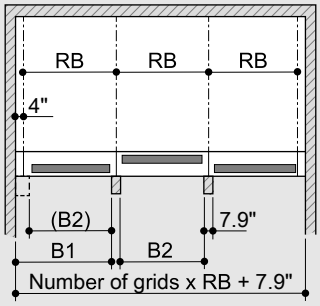
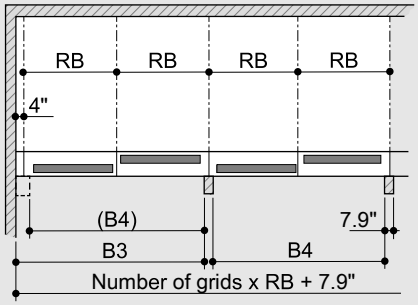
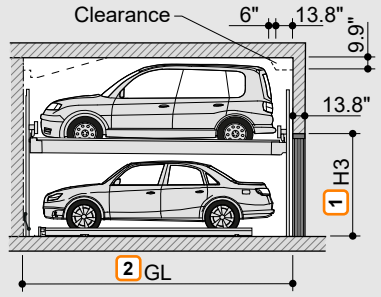
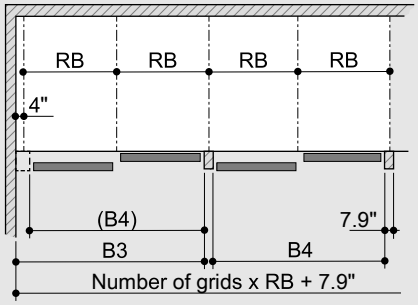
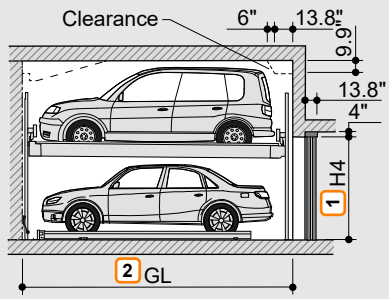
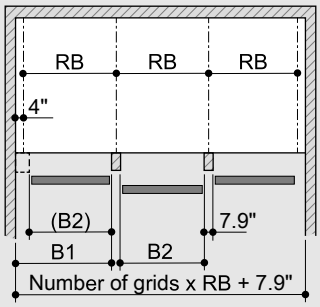
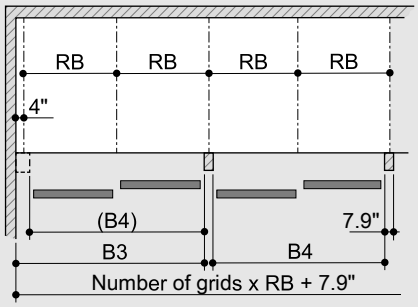


| | Clear platform width | | RB [3] | Support per grid | | Support per second grid | |
|---|---|---|---|---|---|---|---|
| | UL | GL | | B1 | B2 | B3 | B4 |
| Width dimensions | 90.6" | 86.7" | 98.5" | 98.5" | 90.6" | 196.9" | 189.0" |
| | 94.5" | 90.6" | 102.4" | 102.4" | 94.5" | 204.8" | 196.9" |
| | 98.5" | 94.5" | 106.3" | 106.3" | 98.5" | 212.6" | 204.8" |
| | 102.4" | 98.5" | 110.3" | 110.3" | 102.4" | 220.5" | 212.6" |
| | 106.3" | 102.4" | 114.2" | 114.2" | 106.3" | 228.4" | 220.5" |

| | Max. vehicle height UL \| GL | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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" | 86.7" |
| H2 | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 84.7" | 86.7" | 88.6" | 90.6" | 92.6" |

[1] Observe the minimum clear height H2 specified by local regulations.
[2] GL: building length (*see "Overview of building design", page 3*).
[3] RB: grid width. This dimension **must** be adhered to!

## Configuration sliding door plus

| | Door variant | Supports per grid | Supports per second grid |
|---|---|---|---|
| Sliding door plus behind the supports |  |  |  |
| Sliding door plus inside the supports |  | Not possible! |  |
| Sliding door plus in front of the supports |  |  |  |

| | Clear platform width | | RB [3] | Support per grid | | Support per second grid | |
|---|---|---|---|---|---|---|---|
| | UL | GL | | B1 | B2 | B3 | B4 |
| Width dimensions | 90.6" | 86.7" | 98.5" | 98.5" | 90.6" | 196.9" | 189.0" |
| | 94.5" | 90.6" | 102.4" | 102.4" | 94.5" | 204.8" | 196.9" |
| | 98.5" | 94.5" | 106.3" | 106.3" | 98.5" | 212.6" | 204.8" |
| | 102.4" | 98.5" | 110.3" | 110.3" | 102.4" | 220.5" | 212.6" |
| | 106.3" | 102.4" | 114.2" | 114.2" | 106.3" | 228.4" | 220.5" |

| | Max. vehicle height UL \| GL | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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" | 86.7" |
| H2 | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 84.7" | 86.7" | 88.6" | 90.6" | 92.6" |
| H3 | 86.7" | 86.7" | 86.7" | 86.7" | 86.7" | 86.7" | 86.7" | 86.7" | 86.7" | 86.7" | 88.6" | 90.6" | 92.6" | 94.5" | 96.5" |
| H4 | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 82.7" | 84.7" | 86.7" | 88.6" | 90.6" | 92.6" |

[1] Observe the minimum clear height H2/H3/H4 specified by local regulations.
[2] GL: building length (*see "Overview of building design", page 3*).
[3] RB: grid width. This dimension **must** be adhered to!

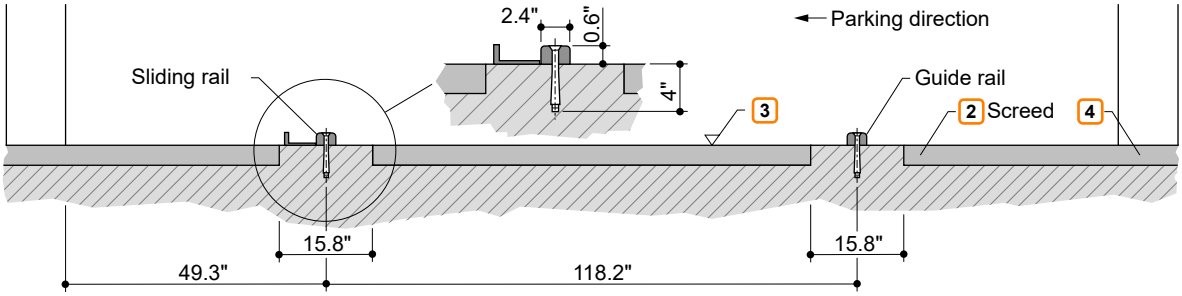
## Detail of building configuration - rail system

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

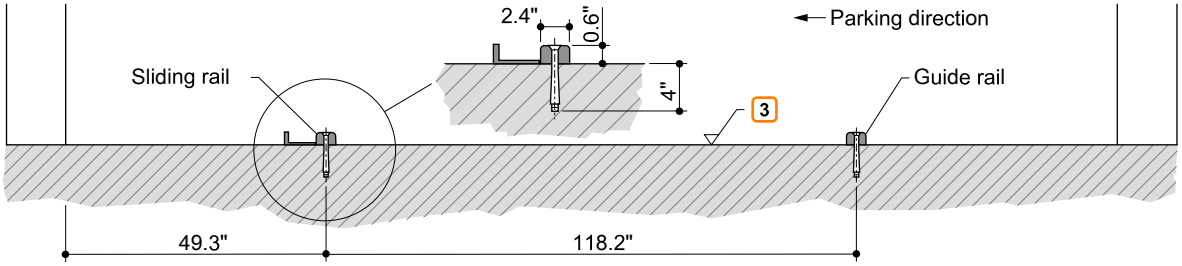
Rail load due to a moving traffic load:

- With parking space load 4400 lbs: 1462 lbf per wheel
- With parking space load 5720 lbs: 1799 lbf per wheel
- With parking space load 6600 lbs: 2024 lbf per wheel

### Laying on strip foundation [1]




### Laying on finished floor [1]




[1] The tolerances for the levelness of the roadway (floor) must be adhered to as per DIN 18202, table 3, row 3! There must not be an building joints or expansion joints in the area of the rail system.

[2] We recommend that you do not use poured asphalt.

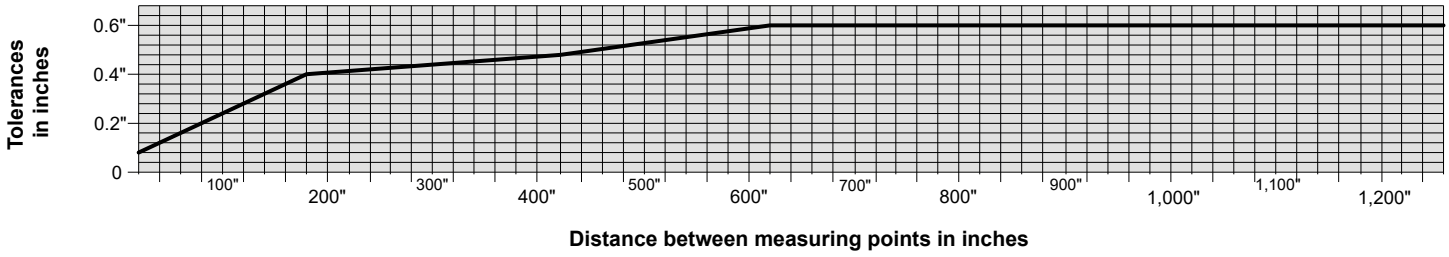
[3] Upper edge of finished floor

[4] Dowelled joint for the sliding door rails

### Evenness tolerance – extract from DIN 18202, Table 3 – converted to inches

The safety clearance between the outer lower edges of the ParkBoard and the floor must not exceed 0.8". 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.

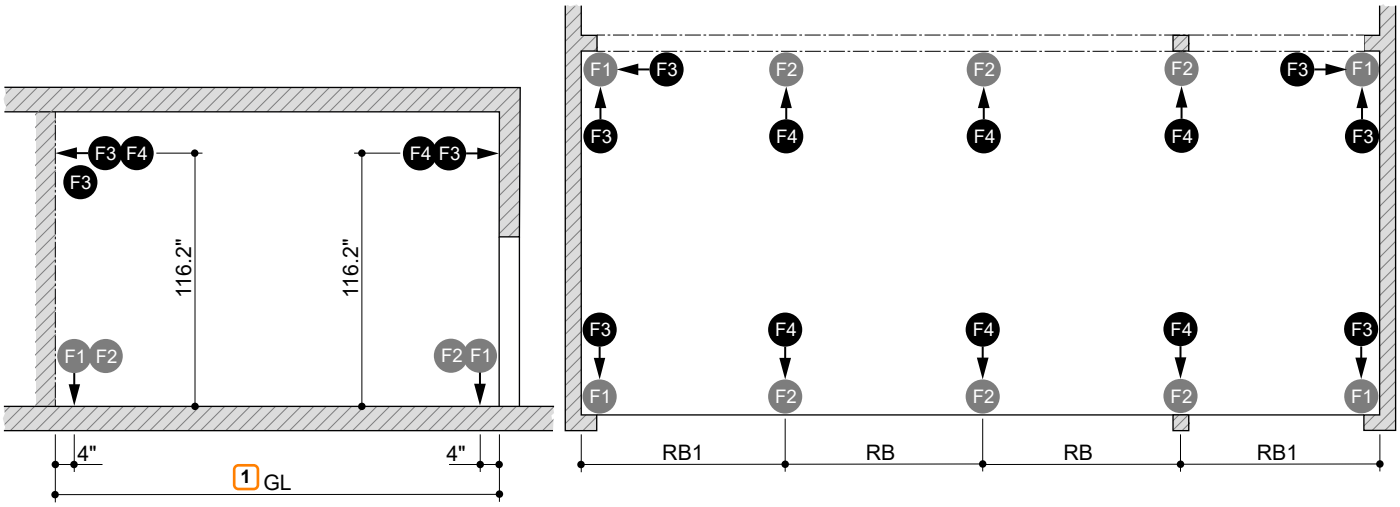
| Row | Reference | Inside micrometer dimensions as limit values in inches with measuring point distances in inches to [1] | | | | |
|---|---|---|---|---|---|---|
| | | 4" | 40" | 300" | 400" | 600" |
| 3 | Finished floors, e.g. screeds as floor screeds, screeds for floor coverings, floor coverings, tile coverings, levelled and glued coverings | 0.1" | 0.2" | 0.4" | 0.5" | 0.6" |




[1] Intermediate values must be taken from the diagram and rounded up.

## 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.

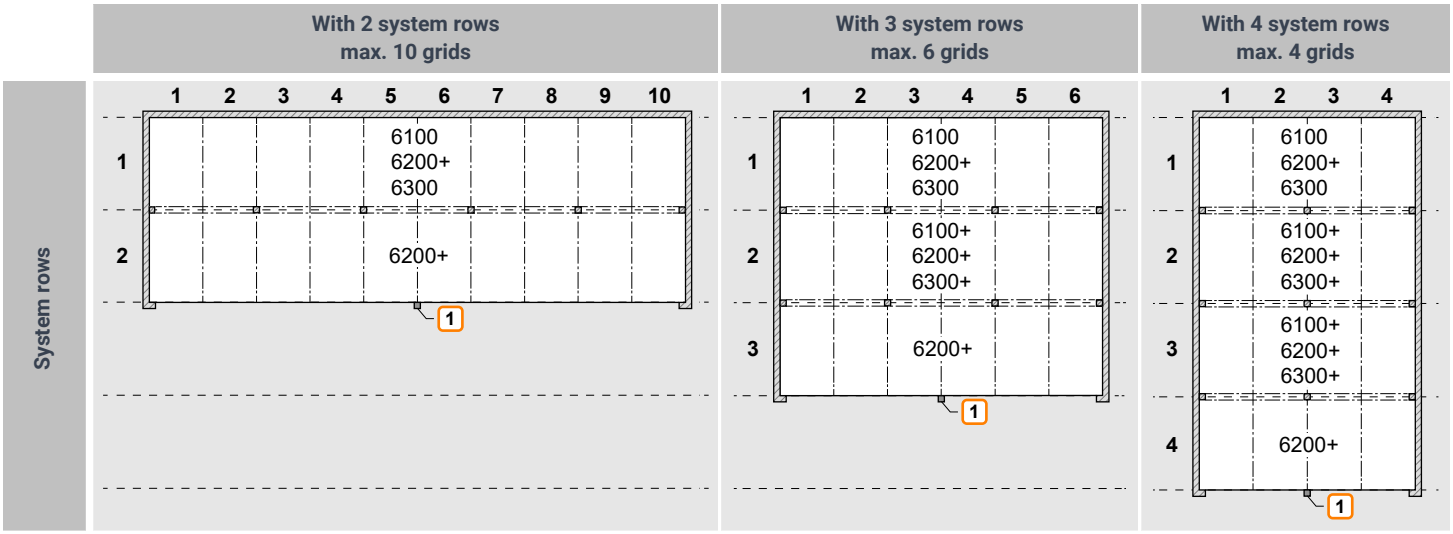



| Parking space load | F1 | F2 | F3 | F4 |
|---|---|---|---|---|
| 4400 lbs | + 2024 lbf<br>- 23 lbf | + 4047 lbf<br>- 45 lbf | ± 113 lbf | ± 225 lbf |
| 5720 lbs | + 2698 lbf<br>- 68 lbf | + 5396 lbf<br>- 135 lbf | ± 180 lbf | ± 360 lbf |
| 6600 lbs | + 2923 lbf<br>- 90 lbf | + 5846 lbf<br>- 180 lbf | ± 225 lbf | ± 450 lbf |

| Clear platform width UL | RB 2 | RB1 |
|---|---|---|
| 90.6" | 98.5" | 102.4" |
| 94.5" | 102.4" | 106.3" |
| 98.5" | 106.3" | 110.3" |
| 102.4" | 110.3" | 114.2" |
| 106.3" | 114.2" | 118.2" |

1 GL: building length
2 RB = grid width. This dimension **must** be adhered to!

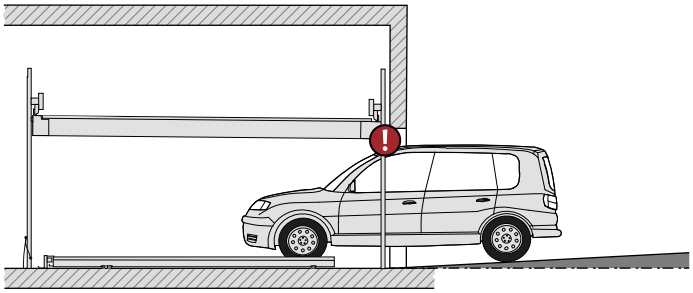
## Arrangement of grids – KombiSystem



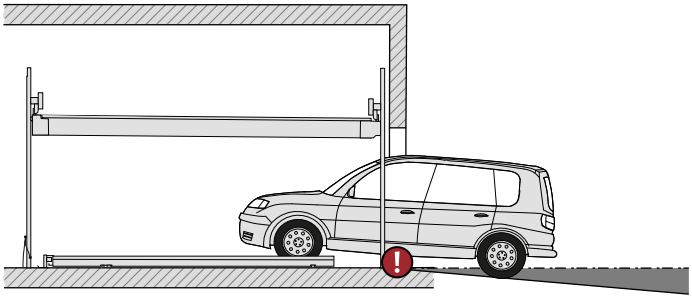

1 Control panel

## 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.
A drainage channel at the entrance is recommended for aboveground garages on a slope.

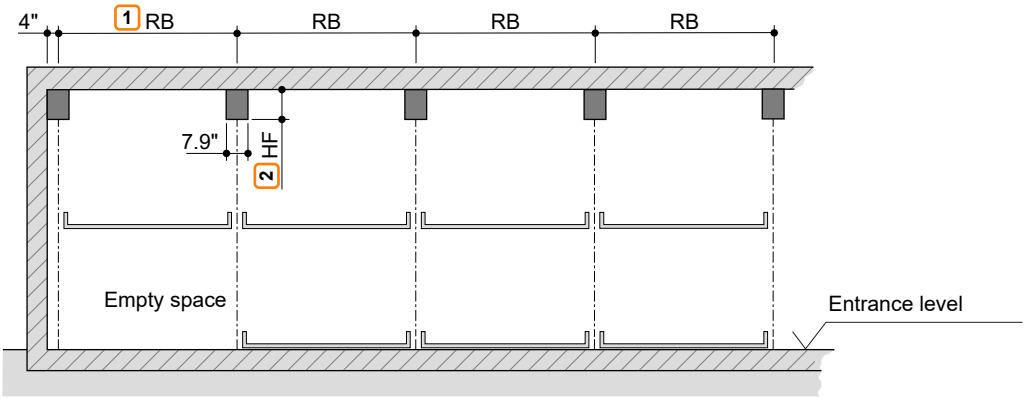


Max. slope: 3%



Max. gradient: 5%

## Clearances for installations



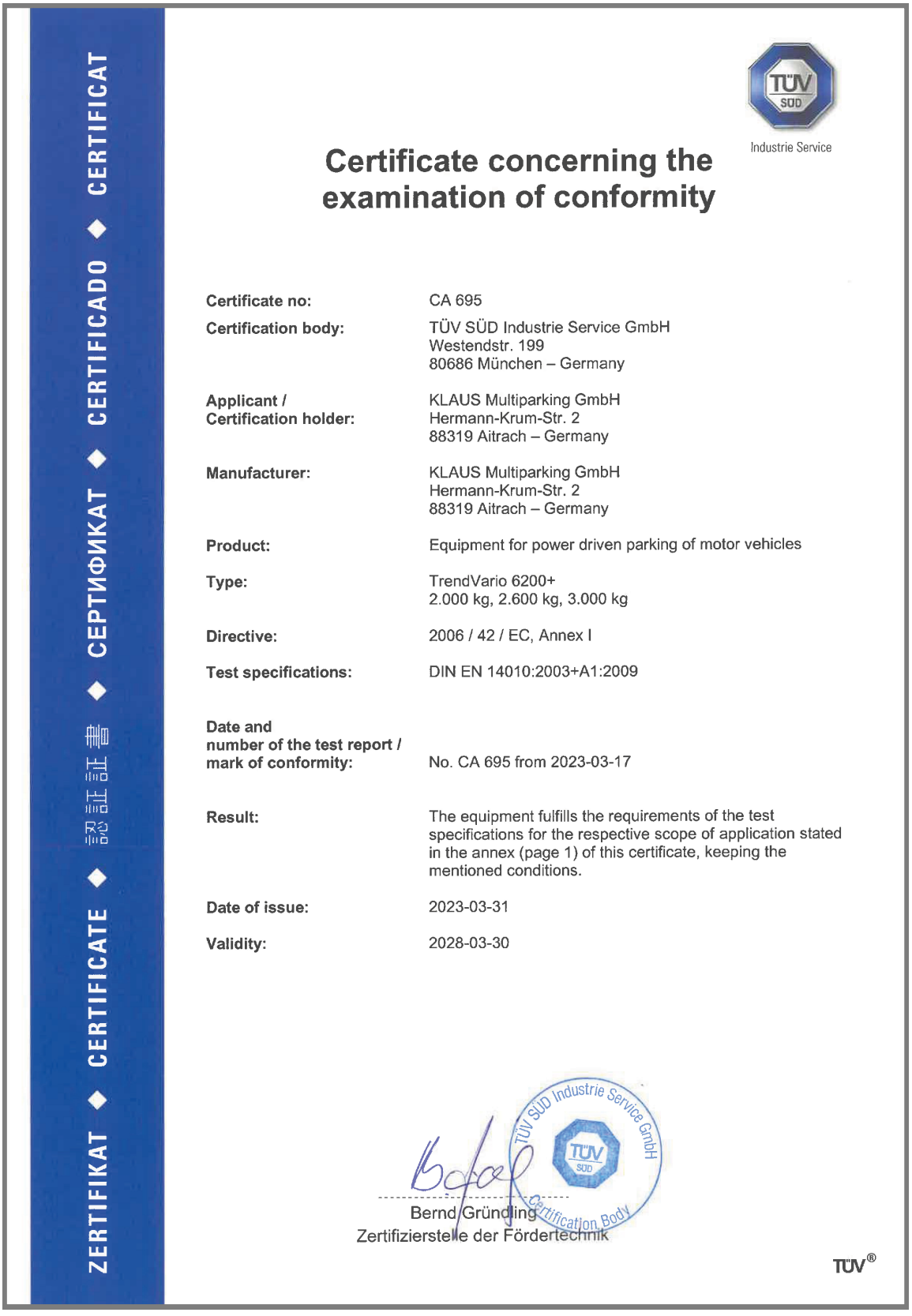

1 RB: grid width. This dimension **must** be adhered to!

2 HF: Clearance height = building height (H) - 120.1" | where HF max. = 17.8" (*see "Overview of system types & ceiling heights", page 4*).

Clearance for routing lines lengthways

## CE conformity

The quoted systems correspond to DIN EN 14010, to specification VDMA 15423 and to EU Machinery Directive 2006/42/EC. In addition, this system has undergone a voluntary conformity test by TÜV SÜD.



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

TÜV SÜD Industrie Service

# Certificate concerning the examination of conformity

| | |
|---|---|
| **Certificate no:** | CA 695 |
| **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:** | TrendVario 6200+<br>2.000 kg, 2.600 kg, 3.000 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 695 from 2023-03-17 |
| **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:** | 2023-03-31 |
| **Validity:** | 2028-03-30 |

TÜV SÜD Industrie Service GmbH Certification Body

Bernd Gründling
Zertifizierstelle der Fördertechnik

TÜV®

## Electrical installation

### Switch cabinet and master switch

Access to the switch cabinet (23,7" x 23,7" x 8,3") must be possible without danger. The lockable master switch must be positioned in such a way that the entire entrance area of the facility can be overlooked.
With wall opening from switch cabinet to system (consultation with KLAUS Multiparking required).

### Hydraulic unit

- 4.0 kW, three-phase current 120/208 V AC / 60 Hz / 15.6 A

**Alternative version (surcharge applies):**
- One hydraulic unit per row (4 kW) for shorter access times.

### Supply cable to master switch

**Sliding doors standard**
**One single hydraulic unit:**

On-site supply cable min. 5 X AWG 12 (3 PH+N+PE) to master switch with pre-fuse 3 x 20 A (time-lag) or circuit breaker 3 x 20 A (tripping characteristic K).

**Hydraulic units in two rows:**

On-site supply cable min. 5 X AWG 8 to master switch with pre-fuse 3 x 35 A (time-lag) or circuit breaker 3 x 35 A (tripping characteristic J).

**Hydraulic units in three rows:**

On-site supply cable min. 5 X AWG 6 to master switch with pre-fuse 3 x 50 A (time-lag) or circuit breaker 3 x 50 A (tripping characteristic J).

**Hydraulic units in four rows:**

On-site supply cable min. 5 X AWG 4 to master switch with pre-fuse 3 x 70 A (time-lag) or circuit breaker 3 x 70 A (tripping characteristic J).

National as well as local laws and regulations on power supply must be adhered to (*see "Supply cable to the master switch – foundation ground", page 15*).

**Sliding doors plus**
**One single hydraulic unit:**

On-site supply cable min. 5 X AWG 12 (3 PH+N+PE) to master switch with pre-fuse 3 x 20 A (time-lag) or circuit breaker 3 x 20 A (tripping characteristic J).

**Hydraulic units in two rows:**

On-site supply cable min. 5 X AWG 8 to master switch with pre-fuse 3 x 35 A (time-lag) or circuit breaker 3 x 35 A (tripping characteristic J).

**Hydraulic units in three rows:**

On-site supply cable min. 5 X AWG 6 to master switch with pre-fuse 3 x 50 A (time-lag) or circuit breaker 3 x 50 A (tripping characteristic J).

**Hydraulic units in four rows:**

On-site supply cable min. 5 X AWG 4 to master switch with pre-fuse 3 x 70 A (time-lag) or circuit breaker 3 x 70 A (tripping characteristic J).

National as well as local laws and regulations on power supply must be adhered to (*see "Supply cable to the master switch – foundation ground", page 15*).

### Control panel with emergency-stop

- Attachment at a clear point (e.g. pillar).
- Secured against third-party operation.

# Technical information

## Area of use

In general, the system is best suited for a fixed group of users.
Where users change (e.g. short-term parking in office buildings or hotels), structural modifications to the Multiparking system are required. 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.

## Parking space designation

Please consult the function diagram for the standard designation of the parking spaces (*see "Function diagram with standard designation", page 2*).
Alternative designations are only possible with a surcharge.

Please note the following specifications:
- The empty space is situated on the left as standard.
- Notification of alternative designations must be received 8 to 10 weeks before delivery.

## Environmental conditions

Environmental conditions for the area of multiparking systems.
Temperature range +14 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.

## 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 Information” supplement.

## Electrically driven doors

For commercial use of doors with electrical drive systems, an annual inspection is required in accordance with ASR A1.7 “Technical Rules for Workplaces” in Germany. We urgently recommend concluding a maintenance contact as these services are included for the complete system.

## 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 independent parking of vehicles one on top of the other and next to one another.
The system is traversable and can be combined with the TrendVario 6100, 6100+, 6200+, 6300 and 6300+ (details on these systems can be found in the corresponding product sheets).
Dimensions in accordance with the underlying building width and height dimensions.
Access to the parking spaces horizontally (installation tolerance ±1%).
Access must be provided over the entire width of the system (minimum driving lane width in accordance with local regulations).
The parking spaces are arranged on 2 levels one on top of the other. Vehicles park on stable steel platforms.
The platforms on the upper level (UL) move vertically, while the platforms on the ground level (GL) move horizontally. At entrance level (GL), there is always 1 parking space less. This empty space is used for the sideways movement of the GL parking spaces to allow a parking space on the UL above to lower to entrance level. Consequently, 3 parking spaces (1 on GL, 2 on UL) is the smallest unit for this parking system.
A vehicle positioning aid is mounted on one side of each parking space (must be adjusted as per operating instructions).
For safety reasons, the movement operation of the platforms always takes place behind locked doors.
All requisite safety equipment is integrated into the system. This essentially comprises a chain monitoring system, locking levers for the upper platforms and locked doors. The doors can only be opened when the selected parking space has reached its parking position.

### Steel frame (secured to the floor) comprising:

- Supports (arranged in rows)
- Crossbeams and lengthways beams
- Sliding rails for the sideways moving GL platforms

### Platform comprising:

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

### Lifting equipment for platforms on the UL comprising:

- Hydraulic cylinders with solenoid valves
- Chain wheels
- Chains
- Limit switches
- The platforms are each suspended at 4 points and are guided at the supports by means of plastic plain bearings.

### Drive unit for sideways moving platforms on GL:

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

### 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
- Contactor, motor protection switch and control fuse
- Test pressure gage
- Pressure relief valve
- Hydraulic hoses (damping of noise transmission to the hydraulic pipes)

### Control:

- Central control point (control panel with emergency-stop) for selecting the desired parking space
- The electrical wiring from the system cabinet is provided by the supplier.

### Sliding doors standard:

**Size**

Dimensions adjusted to the underlying widths and height dimensions.
The door comprises two door leaves.

**Frame**

- Frame structure with two vertical center rungs made of extruded aluminum profile (anodized, coating thickness approx. 0.8 mil)
- There is a rubber lip on the closing edge for a clean seal with the building.

**Door filling**

Aluminum perforated plate
- Thickness /0.06", RV 8-14 E6/EV1, anodized, coating thickness approx. /0.8 mil
- Ventilation cross-section of the filling approx. 30%

Plain aluminum sheet
- Thickness 0.08" E6/EV1, anodized, coating thickness approx. 20 µm

Wire mesh
- Thickness 0.12", mesh size 12 x 12 mm, V2A

**Sliding rails**

The ceiling and floor sliding rails of the doors are attached to the steel frame of the system.

**Door actuation**

- Electrical drive system by means of electric motor, above the door frame.

For safety reasons, the movement operation of the platforms always takes place behind locked doors. An electrical signal generator is used to query the positions “door open” and “door closed.”

**Please note:**

Door trim (at the side, covers over the sliding rails, etc.) and door suspensions are not included with the standard configuration but can be supplied as special equipment for a surcharge.

## Sliding doors plus:

**Size**

- Sliding doors, size approx. 98.5" x 78.8" (width x height).

**Frame**

- Frame structure with one vertical center rung made of extruded aluminum profile (anodized, coating thickness approx. 0.8 mil)
- A handle shell is provided in a vertical aluminum profile for opening the doors.
- There is a rubber lip on the closing edge for a clean seal with the building.

**Standard door filling**

Aluminum perforated plate

- Thickness 0.08", RV 5-8 E6/EV1, anodized, coating thickness approx. 0.8 mil
- Ventilation cross-section of the filling approx. 40%

**Alternative door filling**

Plain aluminum sheet

- Thickness 0.08" E6/EV1, anodized, coating thickness approx. 0.8 mil

Corrugated steel sheet

- Thickness 0.04", galvanized, coating thickness approx. 0.8 mil
- Additional powder coating, coating thickness approx. 1 mil on the outside and approx. 0.5 mil on the inside
- Color options on the outside (building view):

| | |
|---|---|
| RAL 1015 (light ivory) | RAL 3003 (ruby red) |
| RAL 5014 (pigeon blue) | RAL 6005 (moss green) |
| RAL 7016 (anthracite grey) | RAL 7035 (light grey) |
| RAL 7040 (window grey) | RAL 8014 (sepia brown) |
| RAL 9006 (white aluminum) | RAL 9016 (traffic white) |

- Door inside in a light grey tone

Wood filling

- Nordic spruce, grade A
- Vertical tongue and groove boards
- Colorless, pre-impregnated

Composite safety glass

- Composite safety glass made of tempered glass 0.32"/0.16"

Wire mesh

- Mesh size 0.5" x 0.5"
- Wire diameter 0.08", galvanized, coating thickness approx. 0,8 mil
- Ventilation cross-section of the filling approx. 70%

**Sliding rails**

- The running gear comprises 2 double-pair roll systems per door, height-adjustable.
- The sliding rails of the doors are attached to brackets with cover bushings or directly to the concrete lintel or a building-specific door suspension.
- The lower guide comprises 2 plastic rollers on a base plate which is dowelled to the floor.
- Sliding rails, cover bushings, and guide roller base plate are galvanized.

**Door actuation**

- Electrical drive system by means of electric motor attached to the rail system at the turning point of the sliding doors. The drive pinion engages a chain attached to the door.

For safety reasons, the movement operation of the platforms always takes place behind locked doors. An electrical signal generator is used to query the positions “door open” and “door closed.”

**Separation (if required)**

- On request

**Please note:**

Door trim (at the side, cover over the sliding rails, etc.) and door suspensions are not included with the standard configuration but can be supplied as special equipment for a surcharge.

## 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. A dry contact can be provided for actuation of parking space lighting provided by the customer.

### Floor structure – rails

Floor structure in accordance with the details in the product data sheet (*see "Detail of building configuration - rail system", page 7*).

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

### Wall openings

Wall openings, if required.

### 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.

### Door suspensions

Please note that if the specified clear heights (*see "Width and door height", page 5*) are not adhered to, additional measures for door attachment (door suspensions) will be required for a surcharge.

### Door trim

Door trim, if required. This may be requested from KLAUS Multiparking for a surcharge.

## 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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