KLAUS MULTIPARKING

PRODUCT DATA

DIMENSIONS, TECHNICAL INFORMATION AND PERFORMANCE SPECIFICATION

multibase 2072i OUTDOOR


Certificate concerning the examination of conformity

2000 EB | 2600 EB | 3000 EB | 2000 DB | 2600 DB

PARK & SMILE

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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 4*).

Disabled parking space
Parking for persons with restricted mobility possible (*see "Disabled parking space", page 9*)

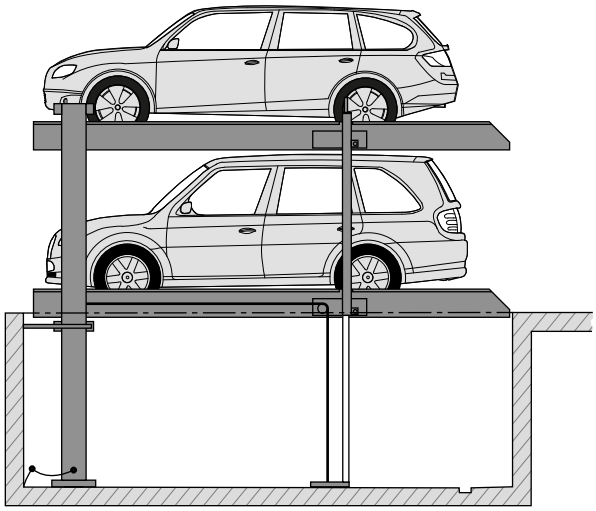
Outdoor installation.

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.

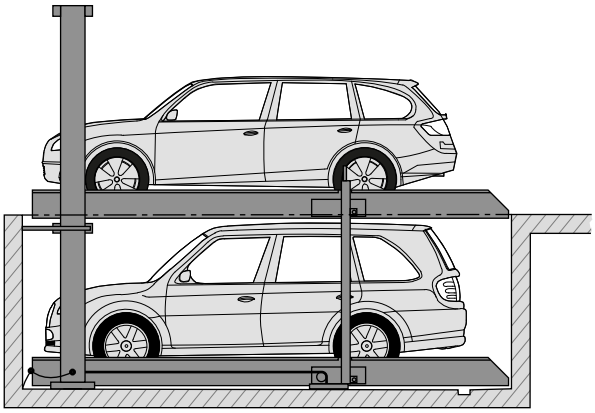
Parking positions

Lower parking space



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

Upper parking space

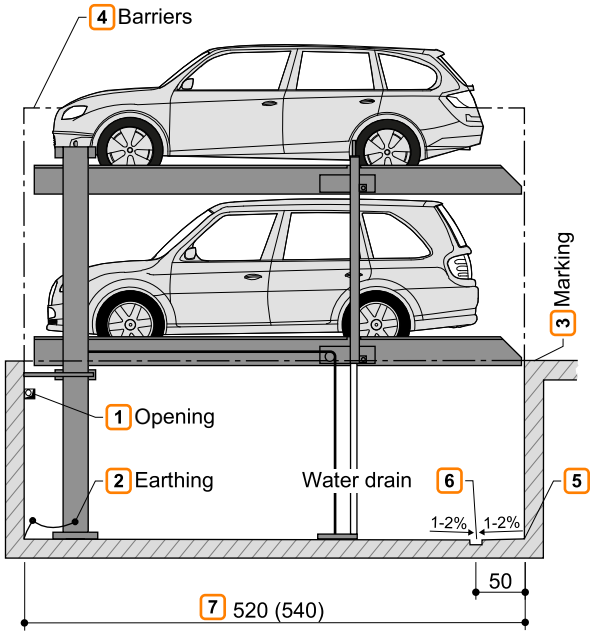


The upper vehicle can park in or leave the parking space.

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. If there are dividing walls: Wall opening 10 x 10 cm.
2. Equipotential bonding from the foundation earth connection to the system (on site).
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 along the edge of the pit to identify the hazard area. (*see "Loading schedule", page 6*).
4. Three-sided barriers in accordance with DIN EN ISO 13857. Depending on location, configuration also available as wind protection.
5. No fillets/haunches are permitted at the transition from the pit floor to the walls. If fillets/haunches are required, the systems must be narrower or the pits wider.
6. Slope with water collection channel (*see "Drainage", page 11*).
7. ■ 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 pit length of 540 cm. for comfortable use of your parking space and increasingly longer vehicles.

After operation, the system must be moved into the lowermost limit position (key blocking).

Vehicle data

Version

SP (single platform) = 2 vehicles
DP (double platform) = 4 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			DP	
Weight	2000 kg	2600 kg	3000 kg	2000 kg	2600 kg
Wheel load	500 kg	650 kg	750 kg	500 kg	650 kg

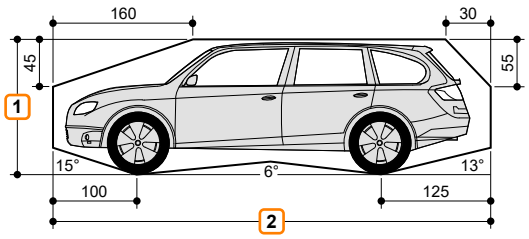
For countries in which snow loads need to be taken into account, the parking option on the upper parking space is reduced in accordance with the table below:

	SP			DP	
Weight	1500 kg	2000 kg	2500 kg	1500 kg	2000 kg
Wheel load	375 kg	500 kg	625 kg	375 kg	500 kg

The snow loads apply for a snow height of 20 cm (maximum snow load 0.4 kN/m²). If greater snow heights occur, the snow load must be cleared accordingly.

[1] Vehicle height (*see "Overview of system types and ceiling heights", page 4*)
[2] Vehicle length (*see "Overview of building configuration", page 3*)

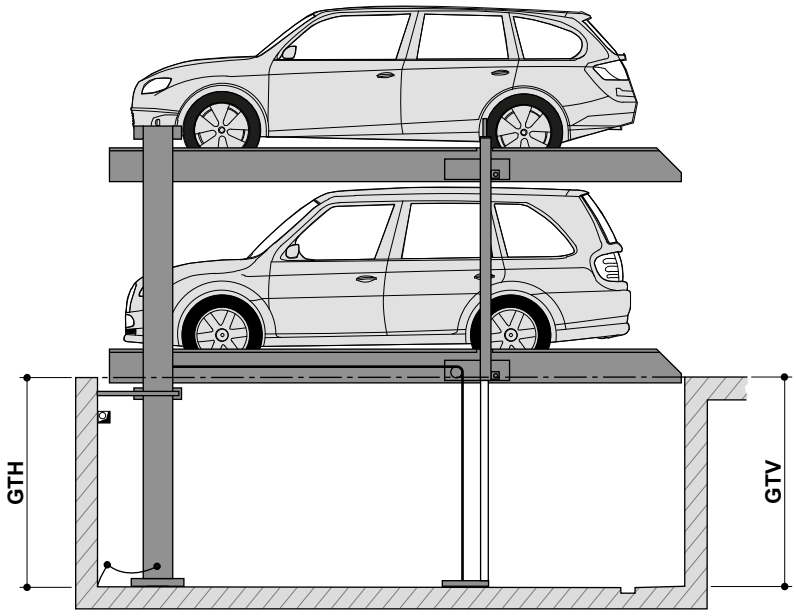
Clearance gauge



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	GTH	GTV	Vehicle height, lower
2072i-165	165	170	**150**
2072i-170	170	175	**155**
2072i-175	175	180	**160**
2072i-180	180	185	**165**
2072i-185	185	190	**170**
2072i-190	190	195	**175**
2072i-195	195	200	**180**
2072i-200	200	205	**185**
2072i-205	205	210	**190**
2072i-210	210	215	**195**
2072i-215	215	220	**200**
2072i-220	220	225	**205**
2072i-225	225	230	**210**
2072i-230	230	235	**215**

GTV: Pit depth, front
GTH: Pit depth, rear

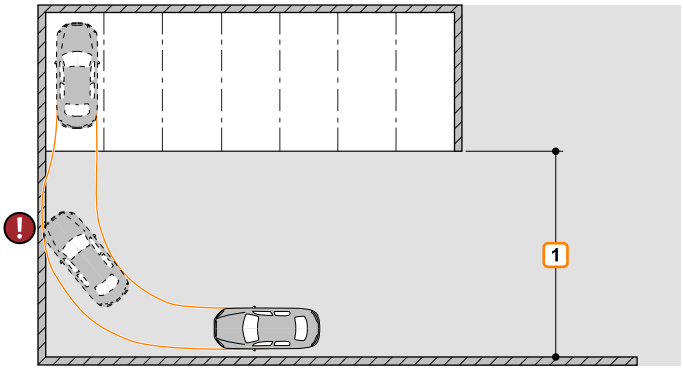
Width dimensions

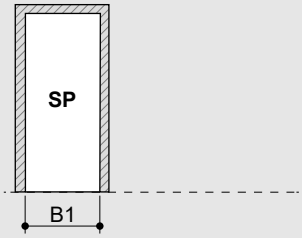
We recommend platform widths of minimum 250 cm and driving lane widths of 650 cm in order that vehicles can comfortably access the Multiparking system and enter and leave without difficulty.

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.



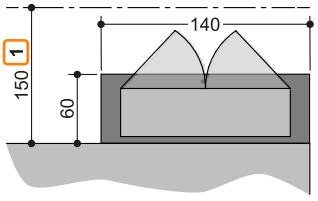
	Clear platform width	B1	Dividing walls
SP	230	260	
	240	270	
	250	280	
	260	290	
	270	300	
	350 [1]	380	
DP	460	490	
	470	500	
	480	510	
	490	520	
	500	530	
	510	540	
	520	550	
	530	560	
	540	570	
Combination	230 + 460	750	
	240 + 470	770	
	250 + 480	790	
	250 + 500	810	
	270 + 500	830	
	270 + 510	840	
	270 + 520	850	
	270 + 530	860	
	270 + 540	870	

[1] Disabled parking space version

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 dowelled into the floor. The drill hole depth is about 10 cm.

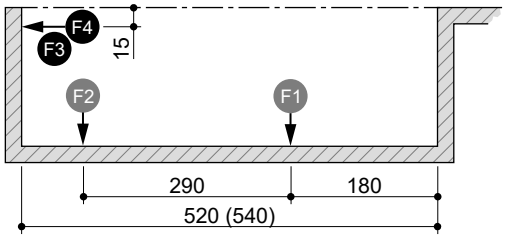
An additional opening (10 x 10 cm) to the pit must be provided for the hydraulic and electrical system (*see "Electrical installation", page 8*).

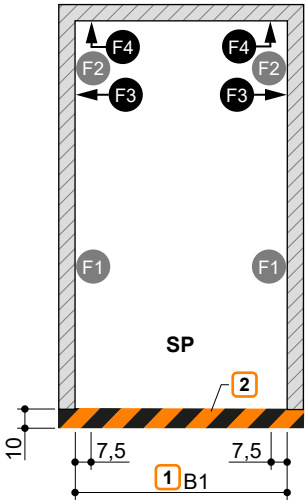


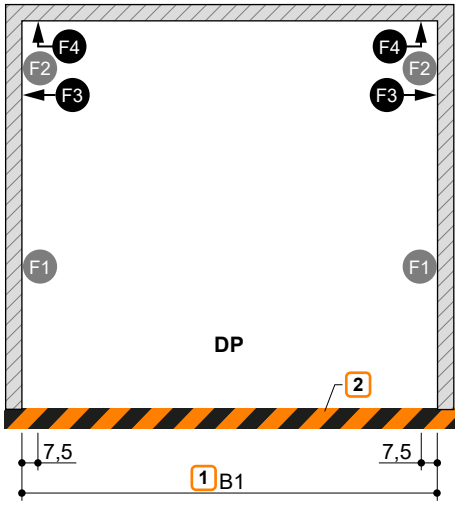
[1] Clearance

Loading schedule

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







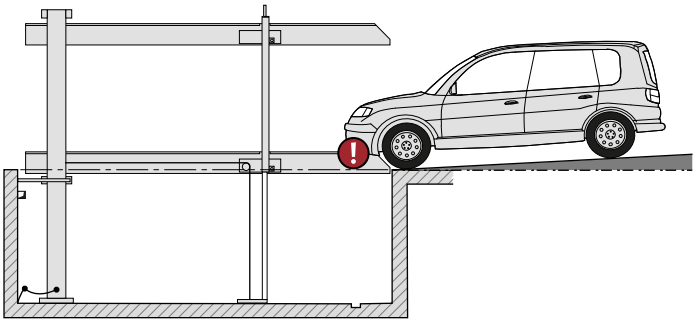
[1] Width dimension B1 (*see "Width dimensions", page 5*)

[2] Marking in accordance with DIN ISO 3864 (illustration colour not consistent with DIN ISO 3864)

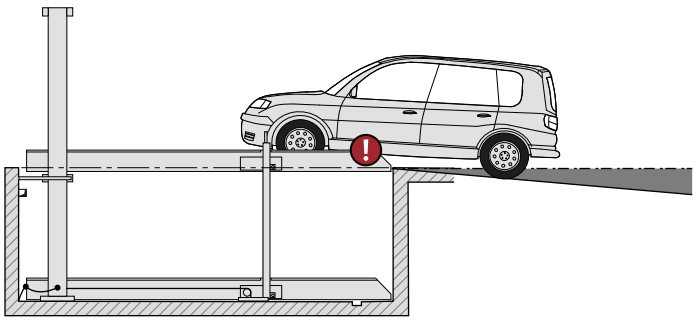
Parking space load		F1	F2	F3	F4
SP	2000 kg	+ 34,3 kN - 5,4 kN	+ 13,7 kN	± 1,3 kN	- 2,6 kN
	2600 kg	+ 41,0 kN - 6,6 kN	+ 16,5 kN	± 1,6 kN	- 3,4 kN
	3000 kg	+ 46,5 kN - 7,4 kN	+ 18,3 kN	± 1,9 kN	- 3,9 kN
DP	2000 kg	+ 64,8 kN - 9,2 kN	+ 23,0 kN	± 2,4 kN	- 5,0 kN
	2600 kg	+ 76,5 kN - 11,2 kN	+ 27,8 kN	± 3,1 kN	- 6,6 kN

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.
Where above-ground garages are on a slope, provision of a drainage gutter in the access is recommended.



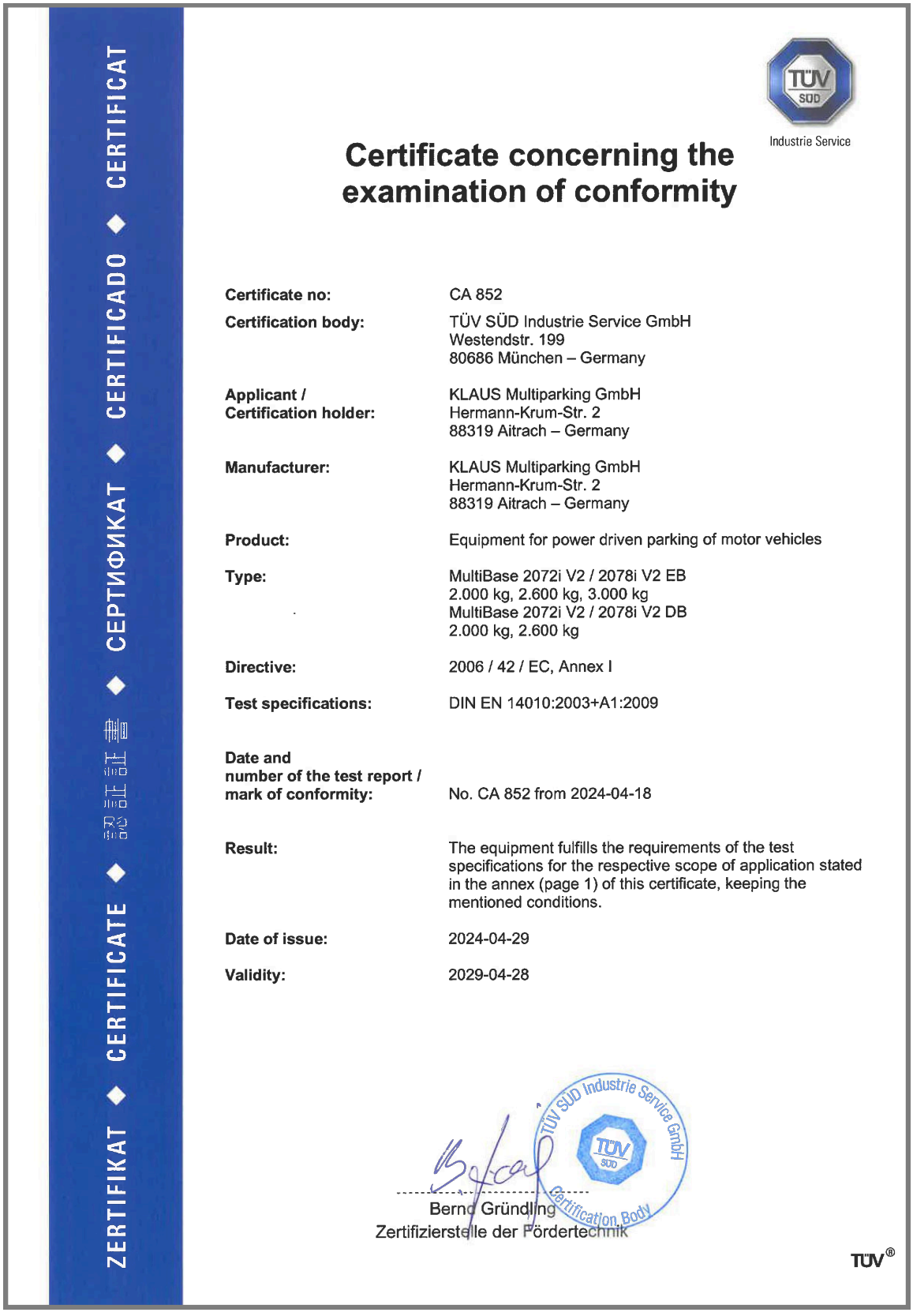
max. 3% slope



max. 10% 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 ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Industrie Service

Certificate concerning the examination of conformity

Certificate no:	CA 852
Certification body:	TÜV SÜD Industrie Service GmbH Westendstr. 199 80686 München – Germany
Applicant / Certification holder:	KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach – Germany
Manufacturer:	KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach – Germany
Product:	Equipment for power driven parking of motor vehicles
Type:	MultiBase 2072i V2 / 2078i V2 EB 2.000 kg, 2.600 kg, 3.000 kg MultiBase 2072i V2 / 2078i V2 DB 2.000 kg, 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 852 from 2024-04-18
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:	2024-04-29
Validity:	2029-04-28

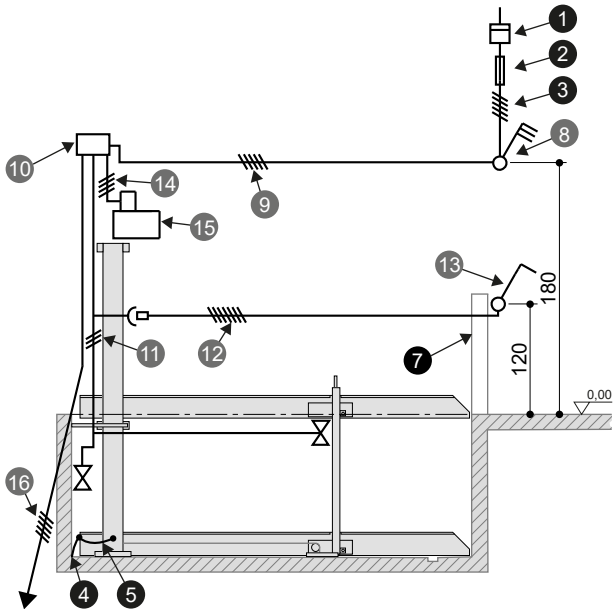
TÜV SÜD Industrie Service GmbH Certification Body

Bernd Gründling
Zertifizierstelle der Fördertechnik

TÜV®

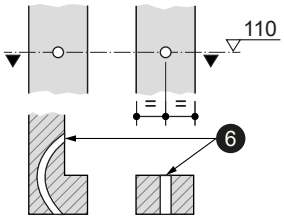
Electrical installation

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:		
		3x safety fuse 16 A (slow-blow) or Circuit breaker 3x 16 A (trip characteristic K or C)	in the supply cable	1x per 3.0 kW unit
		3x safety fuse 20 A (slow-blow) or Circuit breaker 3x 20 A (trip characteristic K or C)	in the supply cable	1x per 5.2 kW unit
3	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
		Supply cable 5 x 4.0 mm² (3 PH+N+PE) with marked wires and protective earth [1]	to master switch	1x per 5.2 kW unit
4	every 10 m	Foundation earth connection	Corner of pit floor	
5	1	Equipotential bonding in accordance with DIN EN 60204 from foundation earth connection to system		1x per system
6	1	Empty pipe EN 25 (M25)	to the rear wall of the pit	
7	1	Operating stands		1x per system

Electrical specifications (KLAUS Multiparking scope of supply)

Nr.	Designation
8	Lockable master switch
9	Supply cable 5 x 2.5 mm² (3 PH+N+PE) with marked wires and protective earth / Supply cable 5 x 4.0 mm² (3 PH+N+PE) with marked wires and protective earth
10	Unit switch cabinet
11	Multiparker cable harness
12	Connecting cable (operating element) [1]
13	Operating element
14	Control cable 4 x 2.5 mm² with marked wires and protective earth
15	Hydraulic unit 3.0 kW/5.2 kW, three-phase current 230/400 V / 50 Hz [2]
16	Connecting cable to next system [1]

[1] With hydraulic unit in cabinet: Cable conduit to be provided to hydraulic unit foundation by the customer.
[2] 5.2 kW unit for 2072i 2600 kg DP only

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.

Disabled parking space

Disabled parking space version in accordance with recommendation DIN 18040 (Barrier-free Construction - Design Principles) with the following specifications:

- Platform width 350 cm
- Platform accessible horizontally (1° incline)
- AluLongLife platform profile
- Key blocking operating element

Note: AluLongLife on the upper platform ensures better accessibility for wheelchairs. When the operating element with key blocking is used, the key can only be removed when the system has been lowered. This ensures that the upper parking space is always ready for access.

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 5*).

Gap covers

Gaps between the systems or platforms and the pit walls must be reduced to about 10 cm with cover sheets (surcharge applies).

Ambient conditions

Ambient conditions for the areas around Multiparking systems:

- Temperature: Temperature range -20 to +40° C. Relative humidity 50 % for a maximum outside temperature of +40° C.
- Wind: wind-protected installation is necessary.
- Snow: Characteristic snow load of 1.24 kN/m² according to DIN EN 1991-1-3. Snow load data apply to the lowered system (*see "Vehicle data", page 4*)

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.

Railings

If the permissible fall opening is exceeded, railings must be installed on the systems. If there are roadways immediately adjacent to or behind the systems, the customer must provide barriers in accordance with DIN EN ISO 13857. This also applies during the construction stage.

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 independent parking of 2 vehicles (single platform - SP), 2x 2 vehicles (double platform - DP) one on top of the other.
Dimensions in accordance with the underlying pit, width and height dimensions.
The parking spaces are accessed horizontally and have a slope of ± 1° for proper drainage of the platforms.
Special configuration of the lift and support structure prevents hindrance to door opening.
Vehicle positioning in any parking space by positioning aid mounted on one side (to be adjusted in accordance with the operating instructions).
Control via an operating element with key blocking by means of simultaneous key.
Concise instructions at each operating point.

Multiparking system comprising:

- 2 columns (secured to the floor)
- 2 sliders (with sliding guides secured to the columns)
- 2 platforms
- 1 electrical/hydraulic synchronisation system (for synchronised operation of the hydraulic cylinders when lifting and lowering)
- 2 hydraulic cylinders
- 2 rigid supports (platform connection)
- 2 chains and chain diversion wheels
- Dowels, screws, connectors, bolts, etc.
- The platforms are continuously accessible.

Platforms comprising:

- Platform profiles
- Adjustable positioning aid
- Chamfered ramps
- Side beams
- Centre beam (DP only)
- Crossbeams (DP long and short crossbeams)
- Railings (on the upper and lower platform - if required)
- 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)
- Control device with cable harness and sensors

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
- Noise protection, motor protection switch 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). Railings on the systems, where required, are included as standard.

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.

Drainage

Functional drainage of the pit must be provided by means of, for example, a water collection channel towards the front that is connected to the sewer system or a pump sump. The channel may contain a lateral slope, but not in the other pit areas (lengthways slope is already provided by the building dimensions). In the interests of environmental protection, we recommend coating the pit floor. Oil and/or fuel separators should be installed in accordance with local regulations. To drain large quantities of water from the yard area, the customer must install a water collection channel around the outside of the pit.

Strip foundations

Due to structural conditions, the customer must erect an accessible platform when constructing strip foundations, level with the upper edge of the strip foundation.

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 along the edge of the pit to identify the hazard area.

Wall openings

Any wall openings that may be required should be in accordance with the sectional drawings (*see "Overview of building configuration", page 3*).

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 8*).

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.

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