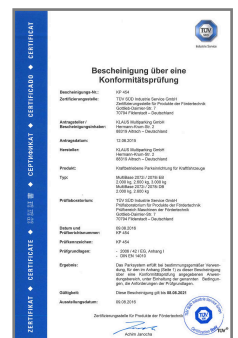


Product Data

Dimensions, Technical Information and Performance Specification



multibase 2072i | OUTDOOR



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Symbols



Platforms accessible horizontally.



Maximum load per parking space in lbs.
Upweights above 4400 lbs possible with surcharge (see "Vehicle data", page 4).



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



Outdoor setup.



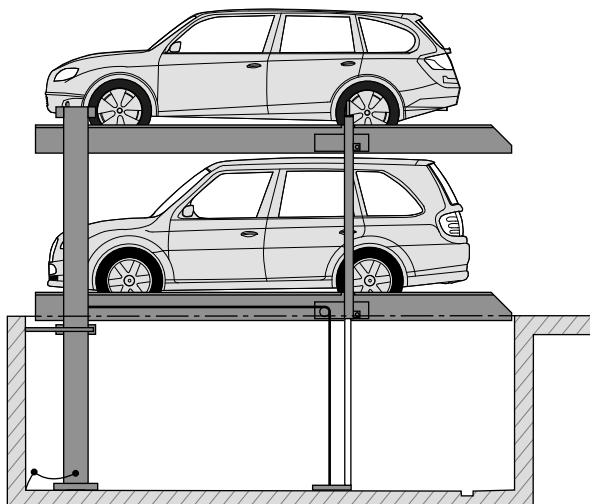
The quoted systems correspond to DIN EN 14010 and EU Machinery Directive 2006/42/EC.



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

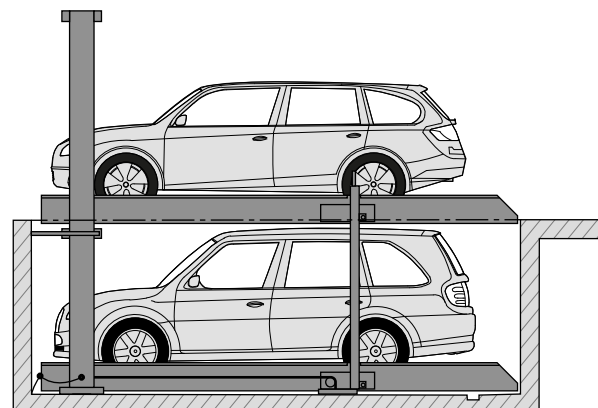
Parking positions

Lower parking space



The lower vehicle can enter or exit the parking space.

Upper parking space



The upper vehicle can enter or exit the parking space.

Dimensional specifications & tolerances

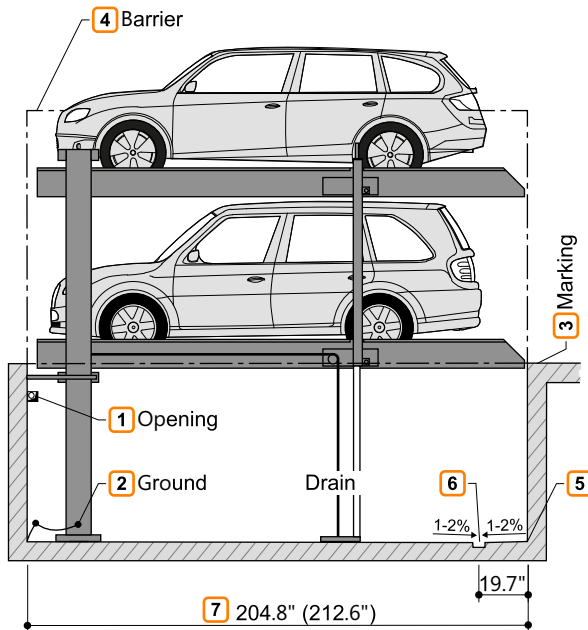


All structural dimensions are minimum finished dimensions.

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

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

Overview of building design



- 1 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 at the edge of the pit in the entry area to mark the danger area. (see "Loading schedule", page 6).
- 4 Three-side barrier as per DIN EN ISO 13857.
Can also be designed as wind protection depending on site.
- 5 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.
- 6 Slope with water collection channel (see "Drainage", page 11).
- 7
 - 204.7" for vehicles up to 196.9" in length
 - 212.6" for vehicles up to 204.8" in length
 Shorter designs possible upon request. Observe local regulations for parking space length!
So that you can conveniently use your parking space and due to the ever increasing length of vehicles, we recommend a pit length of 212.6".



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

Vehicle data

Design

SP (single platform) = 2 vehicles
DP (double platform) = 4 vehicles

Parking options

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

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

	SP			DP	
Weight	4400 lbs	5720 lbs	6600 lbs	4400 lbs	5720 lbs
Wheel load	1100 lbs	1430 lbs	1650 lbs	1100 lbs	1430 lbs

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

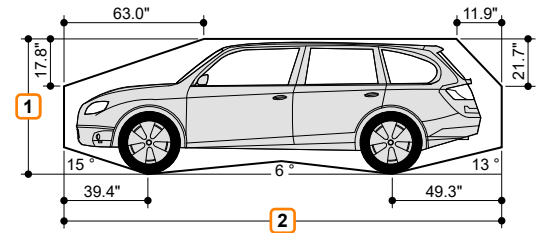
	SP			DP	
Weight	3300 lbs	4400 lbs	5500 lbs	3300 lbs	4400 lbs
Wheel load	820 lbs	1100 lbs	1360 lbs	820 lbs	1100 lbs



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

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

Clearance gauge

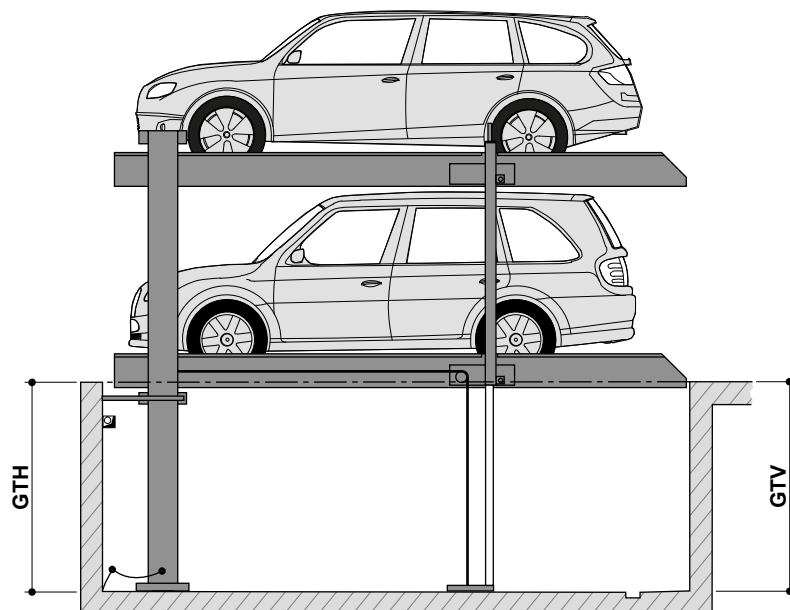


Vehicle width of 74.9" with a platform width of 90.6".
Wider platforms allow correspondingly wider vehicles to be parked.

Overview of system types & ceiling heights



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



Type	GTH	GTV	Lower vehicle height
2072i-165	65.0"	67.0"	59.1"
2072i-170	67.0"	68.9"	61.1"
2072i-175	68.9"	70.9"	63.0"
2072i-180	70.9"	72.9"	65.0"
2072i-185	72.9"	74.9"	67.0"
2072i-190	74.9"	76.8"	68.9"
2072i-195	76.8"	78.8"	70.9"
2072i-205	80.8"	82.7"	74.9"
2072i-215	84.7"	86.7"	78.8"
2072i-220	86.7"	88.6"	80.8"
2072i-230	90.6"	92.6"	84.7"

GTV: pit depth, front
GTH: pit depth, rear

Width dimensions

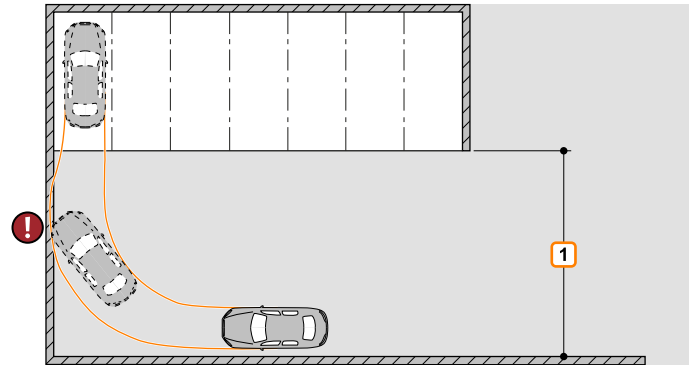


We recommend a platform width of at least 98.5" and driving lane widths of 256" to ensure convenient vehicle access to the multiparking system and easy entry into and exit from the vehicle.

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

- Driving lane width
- Entry conditions
- Vehicle dimensions

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



	Clear platform width	B1	Dividing walls
SP	90.6"	102.4"	
	94.5"	106.3"	
	98.5"	110.3"	
	102.4"	114.2"	
	106.3"	118.2"	
	137.8" 1	149.7"	
DP	181.2"	193.0"	
	185.1"	196.9"	
	189.0"	200.8"	
	193.0"	204.8"	
	196.9"	208.7"	
	200.8"	212.6"	
	204.8"	216.6"	
	208.7"	220.5"	
Combination	212.6"	224.5"	
	90.6" + 181.2"	295.3"	
	94.5" + 185.1"	303.2"	
	98.5" + 189.0"	311.1"	
	98.5" + 196.9"	318.9"	
	106.3" + 196.9"	326.8"	
	106.3" + 200.8"	330.8"	
	106.3" + 204.8"	334.7"	
	106.3" + 208.7"	338.6"	
	106.3" + 212.6"	342.6"	

- 1 Designed as disabled parking space

Detail of building configuration - hydraulic unit foundation

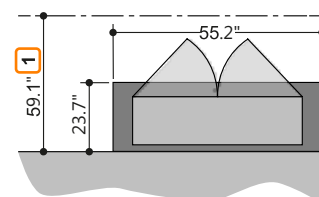


If the hydraulic unit cannot be installed in adjacent buildings or areas, the unit and the electrical components must be accommodated in a cabinet (surcharge applies).

The cabinet should be positioned in the rear area of the system. This requires a foundation (55.2" x 23.7") of concrete (concrete quality min. C20/C25).

The cabinet is dowelled into the floor. The drill hole depth is approx. .

An additional opening to the pit must be provided for the hydraulic and electrical system (see "Electrical installation", page 7).



- 1 Clearance

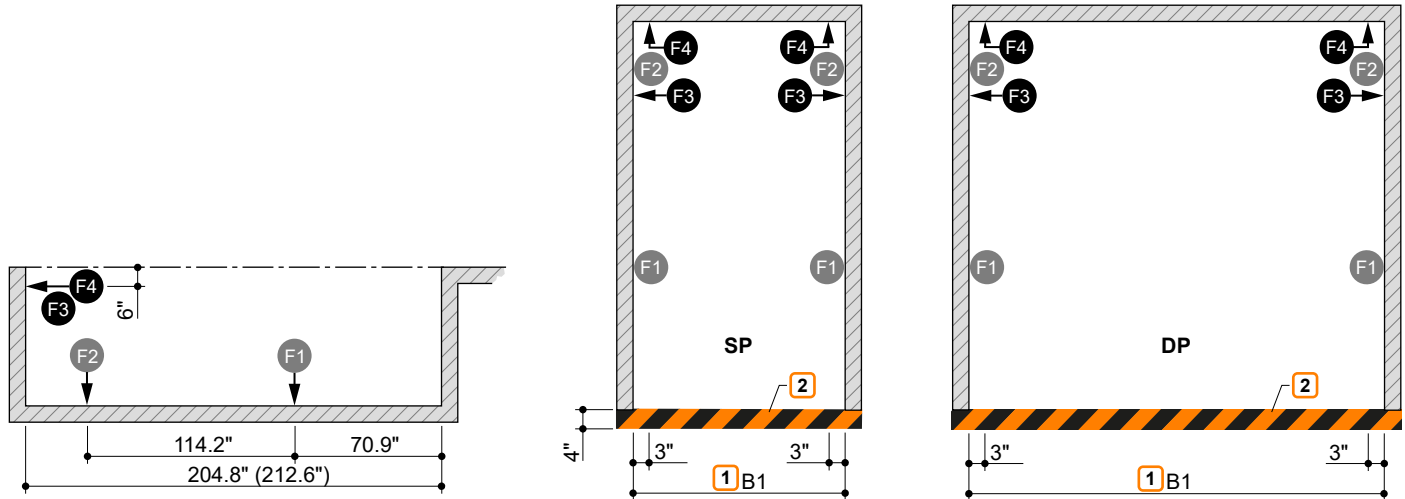
Loading schedule



The systems are doweled to the floor. The depth of the boreholes in the floor plate is approximately 6", and approximately 4.8" in the walls.

Floor plates and walls below the level of the entrance must be made of concrete (concrete quality at least C20/25)!

The dimensions for the bearing points have been rounded. If you need to know the exact position, please contact KLAUS Multiparking.



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

2 Marking as per DIN ISO 3864 (coloring of the marking corresponds to DIN ISO 3864)

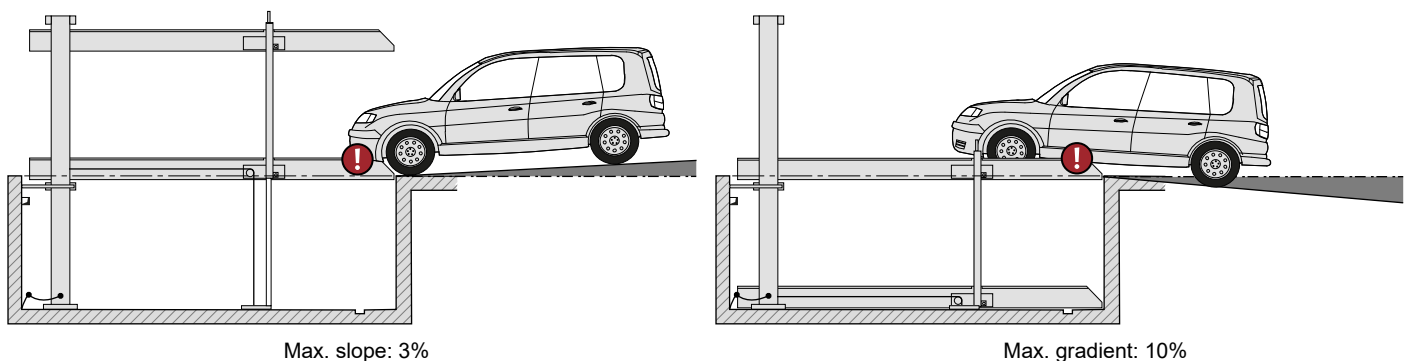
Parking space load	F1	F2	F3	F4
4400 lbs	+ 6295 lbf - 383 lbf	+ 2698 lbf	± 225 lbf	± 360 lbf
SP 5720 lbs	+ 8094 lbf - 495 lbf	+ 3373 lbf	± 315 lbf	± 473 lbf
6600 lbs	+ 9442 lbf - 540 lbf	+ 3822 lbf	± 360 lbf	± 540 lbf
DP 4400 lbs	+ 11466 lbf - 1507 lbf	+ 4497 lbf	± 383 lbf	± 675 lbf
5720 lbs	+ 15063 lbf - 1934 lbf	+ 5846 lbf	± 495 lbf	± 855 lbf

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.

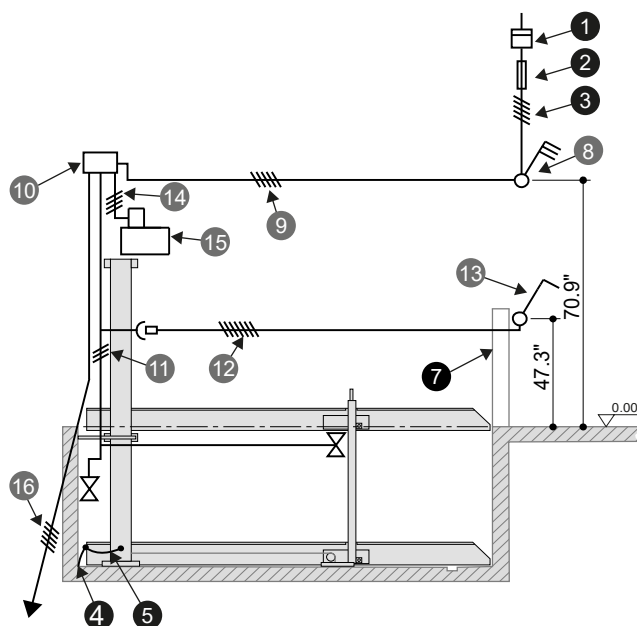


Max. slope: 3%

Max. gradient: 10%

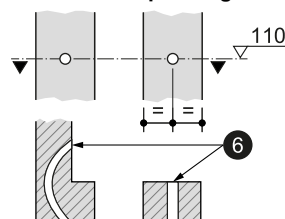
Electrical installation

Electrical installation diagram



Performances provided by customer for operating elements

Surface-mounted operating element



Register of electrical performances (provided by customer)

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

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

No.	Designation
8	Lockable master switch
9	Supply cable 4 x AWG 10 (2 PH+PE) with labeled conductors and protective ground for 3.7-kW unit
	Supply cable 4 x AWG 12 (3 PH+PE) with labeled conductors and protective ground for 4.0-kW unit
10	Unit junction box
11	Multiparker wiring harness
12	Connection cable (operating element) 1
13	Operating element
14	Control cable 4 x AWG 14 with labeled conductors and protective ground
15	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
16	Connection cable to the next system 1

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

CE conformity

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

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ CERTIFICADO ◆ CERTIFICAT	<div style="text-align: right; margin-bottom: 20px;">  Industrie Service </div> <h3 style="text-align: center;">Certificate concerning the examination of conformity</h3> <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Certificate no:</td> <td>KP 454</td> </tr> <tr> <td>Certification body:</td> <td>TÜV SÜD Industrie Service GmbH Zertifizierungsstelle für Produkte der Fördertechnik Gottlieb-Daimler-Str. 7 70794 Filderstadt - Germany</td> </tr> <tr> <td>Applicant / Certification holder:</td> <td>KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach - Germany</td> </tr> <tr> <td>Date of application:</td> <td>2015-06-12</td> </tr> <tr> <td>Manufacturer:</td> <td>KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach - Germany</td> </tr> <tr> <td>Product:</td> <td>Equipment for power driven parking of motor vehicles</td> </tr> <tr> <td>Type:</td> <td>MultiBase 2072i / 2078i EB 2.000 kg, 2.600 kg, 3.000 kg MultiBase 2072i / 2078i DB 2.000 kg, 2.600 kg</td> </tr> <tr> <td>Test laboratory:</td> <td>TÜV SÜD Industrie Service GmbH Prüflaboratorium für Produkte der Fördertechnik Prüfbereich Maschinen der Fördertechnik Gottlieb-Daimler-Str. 7 70794 Filderstadt – Germany</td> </tr> <tr> <td>Date and number of the test report</td> <td>2016-08-09 KP 454</td> </tr> <tr> <td>mark of conformity:</td> <td>KP 454</td> </tr> <tr> <td>Test specifications:</td> <td>- 2006 / 42 / EC, Annex I - DIN EN 14010</td> </tr> <tr> <td>Validity:</td> <td>This Certificate is valid until 2021-08-08</td> </tr> <tr> <td>Result:</td> <td>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.</td> </tr> <tr> <td>Date of issue:</td> <td>2016-08-09</td> </tr> </table> <div style="text-align: right; margin-top: 20px;">  Achim Janocha </div> <div style="text-align: right; margin-top: 20px;">  </div>	Certificate no:	KP 454	Certification body:	TÜV SÜD Industrie Service GmbH Zertifizierungsstelle für Produkte der Fördertechnik Gottlieb-Daimler-Str. 7 70794 Filderstadt - Germany	Applicant / Certification holder:	KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach - Germany	Date of application:	2015-06-12	Manufacturer:	KLAUS Multiparking GmbH Hermann-Krum-Str. 2 88319 Aitrach - Germany	Product:	Equipment for power driven parking of motor vehicles	Type:	MultiBase 2072i / 2078i EB 2.000 kg, 2.600 kg, 3.000 kg MultiBase 2072i / 2078i DB 2.000 kg, 2.600 kg	Test laboratory:	TÜV SÜD Industrie Service GmbH Prüflaboratorium für Produkte der Fördertechnik Prüfbereich Maschinen der Fördertechnik Gottlieb-Daimler-Str. 7 70794 Filderstadt – Germany	Date and number of the test report	2016-08-09 KP 454	mark of conformity:	KP 454	Test specifications:	- 2006 / 42 / EC, Annex I - DIN EN 14010	Validity:	This Certificate is valid until 2021-08-08	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:	2016-08-09
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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.

Disabled parking space

Designed as disabled parking space as per Recommendation DIN 18040 "Construction of Accessible Buildings – Design Principles" with the following specifications:

- Platform width of 137.8"
- Platform accessible horizontally (1° gradient)
- AluLongLife platform profiles
- Operating element with key blocking

Note: AluLongLife on the top platform facilitates access on foot or by wheelchair. The key blocking feature of the operating element ensures that the key can only be removed when the system is lowered. This ensures that the upper parking space is available for access at all times.

Units

Low-noise, bearing-mounted hydraulic units are installed on rubber-metal blocks. Nevertheless we recommend that parking system's garage be built separately from the dwelling. If the hydraulic unit cannot be installed in adjacent buildings or areas, the unit and the electrical components must be accommodated in a cabinet (surcharge applies) (see "Detail of building configuration - hydraulic unit foundation", page 5).

Gap covers

Gaps between the systems or platforms and the pit walls must be reduced to approx. 4" with cover sheets (surcharge applies).

Environmental conditions

Environmental conditions for the area of multiparking systems. Temperature range -4 to +104° F. Relative humidity 50% and a maximum outside temperature of +104° F.

If raising and lowering times are specified, they refer to an ambient temperature of +50° F and a system arranged directly next to the hydraulic unit. These times increase at lower temperatures or with longer hydraulic lines.

Seismic considerations

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

Building permit documents

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

Care

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

Corrosion protection

As per "Corrosion Protection" supplement.

Railing

If the permissible fall opening is exceeded, railings are attached to the systems. 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.

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 2 vehicles (single platform – SP), 2 x 2 vehicles (double platform – DP) on top of each other.

Dimensions as per the underlying pit, width and height dimensions.

The parking spaces are accessed horizontally and have a slope of $\pm 1^\circ$ to ensure proper drainage of the platforms.

The special arrangement of the lifting and bearing structure allows doors to be opened without restrictions.

A vehicle positioning aid is mounted on one side of each parking space (must be adjusted as per operating instructions).

Control via an operating element with key blocking via common key.

Brief instruction at each operating point.

Multiparking system consisting of:

- 2 columns (anchored to the floor)
- 2 sliding pieces (with slideways fastened to the columns)
- 2 platforms
- 1 electrohydraulic synchronization system (to ensure that the hydraulic cylinders run synchronously during raising and lowering)
- 2 hydraulic cylinders
- 2 rigid supports (connection of the platforms)
- 2 chains and chain deflection pulleys
- Dowels, bolts, fasteners, pins, etc.
- The platforms are end-to-end accessible for parking!

Platforms consisting of:

- Platform profiles
- Adjustable positioning aid
- Chamfered access plates
- Side beams
- Center beam (DP only)
- Crossbeams (long and short crossbeams for DP)
- Railings (on the top and bottom platform, if needed)
- 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)
- Control unit with wiring harness and sensors

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)

Performances provided by customer

Barriers

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

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.

Drainage

Functional drainage of the pit provided by, e.g., a water collection channel in the front area connected to the sewer system or a sump. A lateral slope is possible within the channel but not in the rest of the pit area (a lengthways slope is provided by the structural dimension). As an environmental protection measure, we recommend that the pit floor be painted. Oil or gasoline separators must be appropriately taken into account as per local regulations when the drain is attached to the sewer system. 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

If strip foundations are used for structural reasons, the customer must construct a walkable platform at the height of the upper edge of the strip foundations so that the assembly work can be performed.

Warning markings

As per DIN EN 14010, the customer must apply a 4" wide gold and black marking as per DIN ISO 3864 at the edge of the pit 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 7).

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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