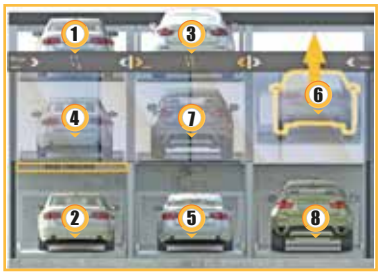
“ Parking with pleasure...”

Parkolay

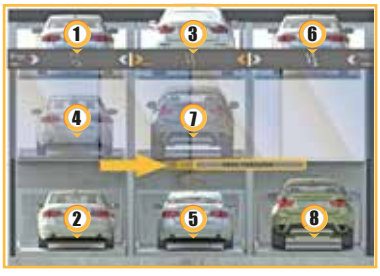
Parkonfor 111 Pass Through

M = Multiple grid system = min. 2 grids (5 cars), max. 10 grids (29 cars)
Standard: Car weight max. 2.200 kg, wheel load: max. 550 kg
Option: Car weight max. 2.800 kg, wheel load: max. 700 kg

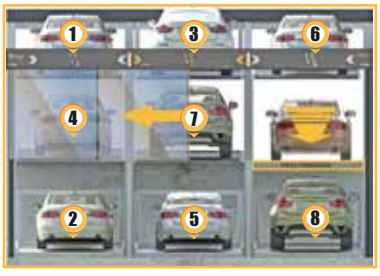
Parkonfor Series



To enter the system through the # 6 space, the #6 platform should first be lifted up.



The #**PT** platform then slides under #4 and #7 platforms to cover the now-empty space.



The multi-panels sliding door opens in order for the driver to pass through to the rear side of the system.

Smooth access by means of the unique sliding bridge...

The **Parkonfor 111 Pass Through** sliding bridge covering the empty space of the pit-type semi-automated parking system **Parkonfor 111**, allows an easy access to the rear row of the parking lot.

ADVANTAGES

- Easy and comfortable access to the rear row of the parking lot.
- Possibility to reach the desired parking capacity by making 2 and/or 3 in-rows parking arrangements, using 3-storey parking systems.
- A single unit can be designed with maximum of 3 rows and 10 arrays.
- Suitable for use in automatic operations along with its automatic doors and close boundaries.
- Sliding bridge uses only 25 cm pit depth.
- The superior features of Parkonfor systems:
    - No columns at the system's entrance from the corridor.
    - Low profile and slope of the platforms' entry ramps.
    - A special twisted-flat platform surface design instead of a deck sheet.
    - Increased access opening in virtue of the multi-panel doors design.
- Increased comfort and ease in both driving and walking.

CE

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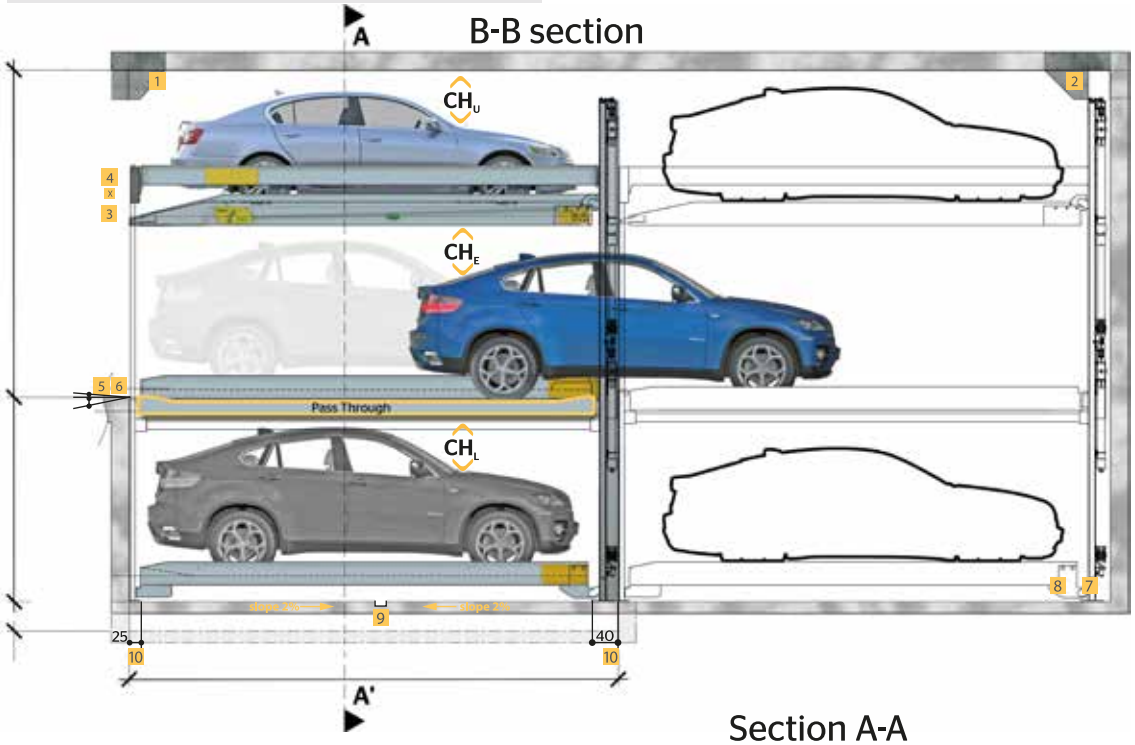
Parkolay

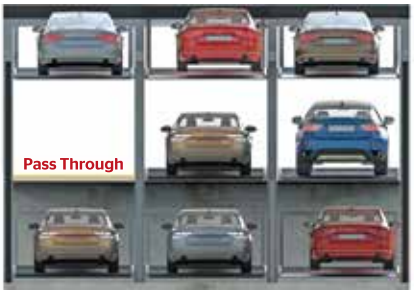
1 2 Free space.
3 Lintel; clear height, min 210 cm or according to regulations.

4 (X) for door, 35 cm.

B-B section



Section A-A



Example shows 3 grids, 8 spaces. 1 empty space on entrance level is necessary for movement.
4 grids = 11 spaces, 5 grids = 14 spaces, etc.
Each grid is enter/exit.

5 300 cm plain, max slope +3%/ -5%.
6 Yellow/ black marking 10 cm wide on the edge to parking area according to ISO 3864 (by customer).

7 No haunches, voutes on the joints between ground and walls.
9 Drainage channel 10/ 2 cm, pump sump 50/ 50/ 20 cm. Slope 1-2% to drainage channel and pump sump. No water in area allowed.

8 Grounding: Potential equalization from system to foundation grounding according to DIN EN 60204. Foundation earth connector every 10 m (by customer).
10 There must be no slope at both ends of pits.

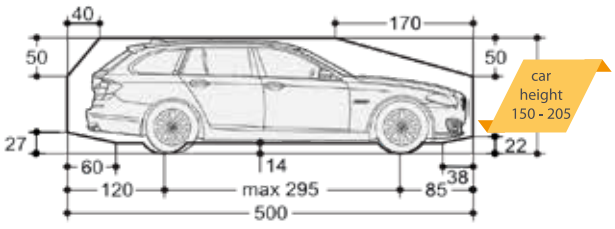
Points 1 et seq. are the responsibility of customer and must be noted. Unless otherwise stated they are executed, supplied and/ or connected by customer.

Variant For Car Height

Ceiling Height (Hc)	Car Height (cm)							
	CH_E	CH_U	Pit Depth Hp (cm)					
			200	215	220	225	250	255
			CH_L					
325	150	150	150	-	-	-	-	-
355	165	165	150	165	-	-	-	-
365	170	170	150	165	170	-	-	-
385	180	180	150	165	170	175	-	-
425	200	200	150	165	170	175	200	-
435	205	205	150	165	170	175	200	205

Clear Height (cm)
H1= CH_L + 5
H2= CH_E + 5
H3= CH_U + 5

Car Profile Dimension »

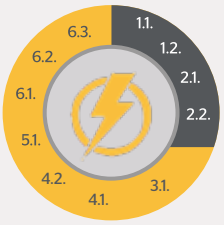


The “car height” including roof rails, antenna and others must not exceed the mentioned max car height dimension.

Electrical Supply »

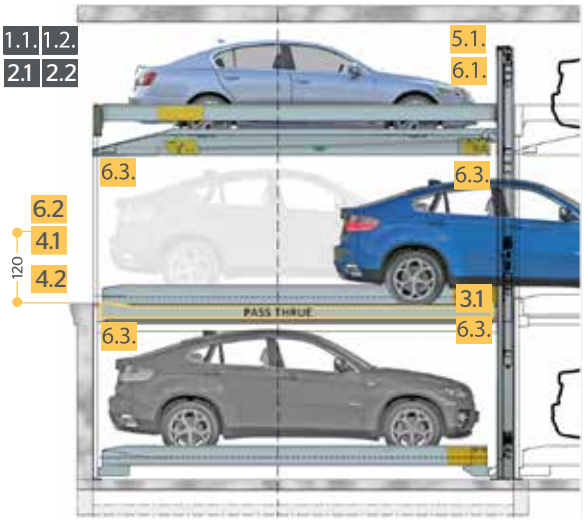
Parkolay

6.3 Control cable goes to locks .
6.2. Control cable goes to user interface panel.
6.1. Upper limit switch and platform valve control cable.
5.1. Control cable line goes to other side platform system
4.2. 4.0 kW, 400V, 50Hz hydraulic power unit for each system.
4.1. Touch panel for each sytem (prefably located in driver side so that being reachable, outside of system range motion). Its cable is organized as cable entrance under panel.
Remote control available as an optional



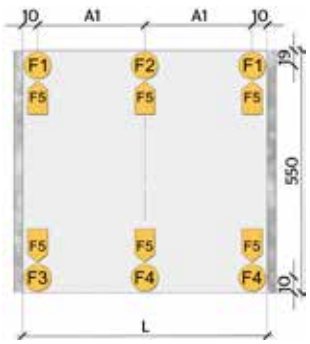
Customer

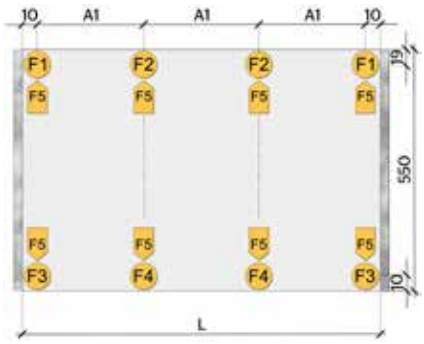
1.1. Electric power distribution panel.
1.2. 3 x 16 A slow character MCB-(Miniature Circuit Braker) for each control panel and hydrolic power unit set.
2.1. Equipotential earthing connection according to DIN TS EN 60204.
2.2. 5 x 4 mm2 supply cable (4.0 kW, 400V, 50Hz) goes from customer power distrubition panel to system control panel set for each control panel and hydrolic power unit.
3.1. Motor, limit switch supply and earthing line for traveller platform.

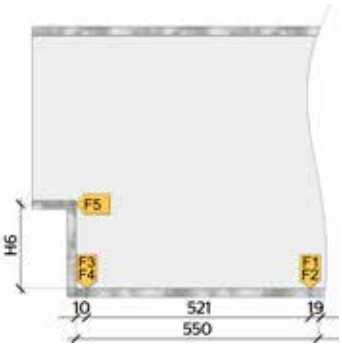


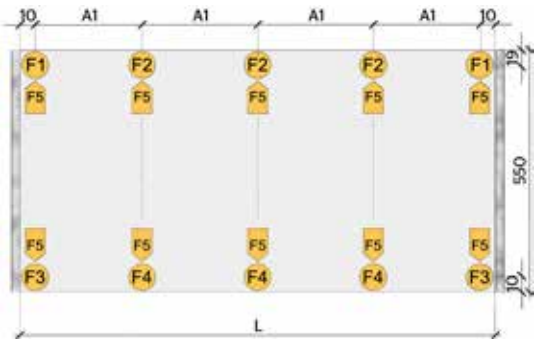
Switch cabinet: The switch cabinet must be placed outside the movement range of the system. The position should be adjacent to the system and provide overview to it. The size of switch cabinet is about 80 x 120 x 25 cm and there must be 100 cm free space in front of the cabinet for door opening and service operator.

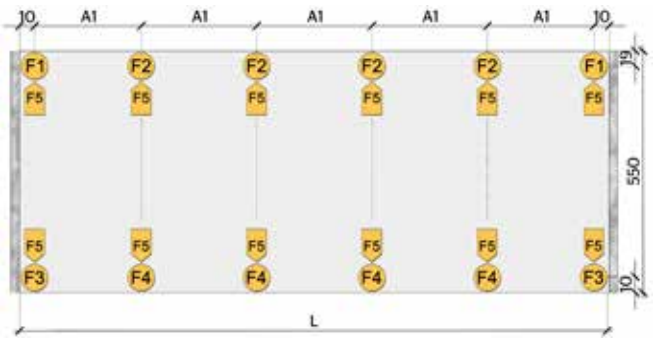
Structural Forces »











Forces kN**	Max. car version kg	
	2.200	2.800*
F1	28	33
F2	50	59
F3***	35/43/53/62	41/51/62/73
F4	32	38
F5	±5	±7

*Option ** with car weight. *** 2/3/4/5 column gap F3 or (F3')

Dimensions (cm)			L			
	P_U	A1	2 grid	3 grid	4 grid	5 grid
	230	250	520	770	1020	1270
	240	260	540	800	1060	1320
	250	270	560	830	1100	1370
	260	280	580	860	1140	1420
	270	290	600	890	1180	1470

Advised platform width 250 cm. (190 cm net car width)

FOUNDATION »

Systems are fixed by heavy duty anchor bolts with a drilling depth of approx. 14 cm.

Floor plate made of reinforced concrete, min thickness 18cm, quality minimum C20/ 25. Chemical anchors are option for water-proof concrete.

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System Width

Between walls

Picture shows 3 Grids

3 Grids = 5 spaces, min. is 2 Grids

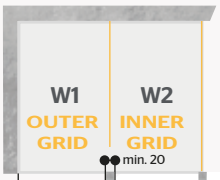
CLEAR SPACE WIDTH	W1	W2	W1	Total Width With x Grids 2	3	4	5	6	7	8	9	10
230	260	250	260	520	770	1020	1270	1520	1770	2020	2270	2520
240	270	260	270	540	800	1060	1320	1580	1840	2100	2360	2620
250	280	270	280	560	830	1100	1370	1640	1910	2180	2450	2720
260	290	280	290	580	860	1140	1420	1700	1980	2260	2540	2820
270	300	290	300	600	890	1180	1470	1760	2050	2340	2630	2920

Driving lane according to regulation.

Pillars in front of parking area

Picture shows +2 Grids

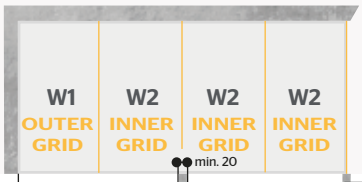
2 Grids = 3 spaces



CLEAR SPACE WIDTH	W1	W2
230	250	230
240	260	240
250	270	250
260	280	260
270	290	270

Picture shows + 4 Grids

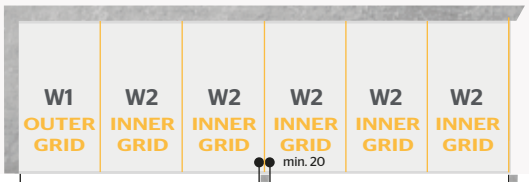
4 Grids = 7 spaces



W1	W2	W2	W2
500	480		
520	500		
540	520		
560	540		
580	560		

Picture shows + 6 Grids

6 Grids = 11 spaces



W1	W2	W2	W2	W2	W2
750					730
780					760
810					790
840					820
870					850

Driving lane according to regulation

Arrangements increase Efficiency

WHEN THE PLOT IS SMALL - THERE ARE SOLUTIONS TO INCREASE EFFICIENCY: TRIPLE DEEP.

With the triple row arrangement, there are 3 x 3 grids and 8 spaces per line, in total 24 spaces. Mirrored on the driving lane that will be 48 spaces, instead of 6 conventional spaces. The first row can be also exposed with the Parkonfor 11, 2 levels without pit.

This solution needs additional gates, at least before the second row, to be sure no persons are inside the system.

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Parkolay

For comfortable walking

“A savior” flat platform surface design.

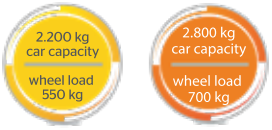
Users deserve more comfort. Our platform design offers comfort beyond your expectations.
The flat platforms provide much comfort while walking and driving on.
Whoever uses it like it:Elderly or young, male or female.

High heels are no longer an issue

Design: Safety & Comfort

STRONG BUT SMOOTH LOW BUT ROBUST »

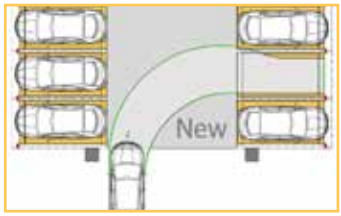
The profiles on both sides of the platform are strong due to them being constituted of one single long piece, in addition to their soft slope from low to high. This latter eliminated the risk of collision that may damage the vehicle and the wheels and provides easy and safe maneuvering. The teardrop pattern used at the entry ramp facilitates holding the vehicles’ wheels and prevents slipping. Due to their low height, the profiles on both sides are both robust and eliminate the risk of collision while opening the doors. Moreover, adjustable wheel stoppers are used to assist the driver in positioning the vehicle on the platform.



WE OFFER WHAT YOU NEED »

CAR CAPACITY AND DIMENSIONS »

Sliding roofs, bigger wheels, hifi systems, seat motors, and other individual options oftenly increase the weight of upper-middle class cars to more than 2000kg. Parallelly, Parkolay offers a standard 2.200 kg load capacity for each platform. Optionally the 2800kg load can be provided for heavier cars. In addition, Parkolay recommends an ideal platform width of 250cm and min. height of 160cm according to the increased dimensions of the new generation cars.



MORE COMFORT FOR PARK IN PROCESS »

The design offers recessed system columns to take profit from an increased driving lane. The driving lane and platform entry width are the deciding factors for the parking comfort. A plus of 50 cm driving lane can be equated with 10 cm parking space width. Practically the special design can increase the driving lane up to 100 cm. This can be valued like 20 cm parking place width on the left and right side of the driving lane.

Undoubtely, this valuable effect will increase the profit in the driving curve radius and thus will make the drive in process onto the parking space more convenient and comfortable.

CONTROL SOUND EMISSIONS »

Due to mechanical deficiencies, parking systems can cause high noise, which can negatively affect the health and concentration of the users. Parkolay takes many precautions in terms of noise abatement and restriction in the mechanical design and application of its products
The compliance to the sound insulation characteristics is therefore an important matter to consider, and applying them to the project requires a deep know-how in terms of R&D, planning and execution, since it leads to modifications in the overall design and dimensions.

CLEANING AND VALUE PRESERVATION »

A car parking system represents a major financial investment. Cleaning and care services preserve the system’s appearance, value, function and availability which lengthens its life time. In most cases, the main reason for the poor and rusty look is the platforms’ structure that is difficult to clean and thus the necessary processes are often neglected. Parkolay has developed a practical platform design that facilitates the deep professional cleaning and maintenance of the systems.

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Parkolay

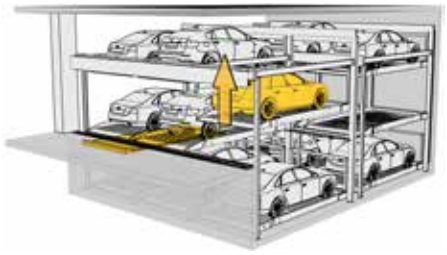
Pass Through increases your parking capacity »

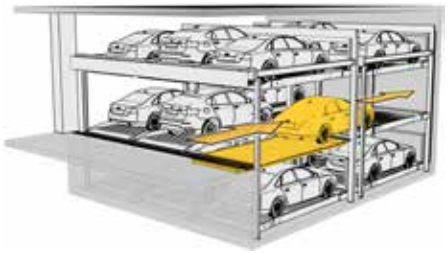
SMOOTH ACCESS BY MEANS OF THE UNIQUE SLIDING BRIDGE...

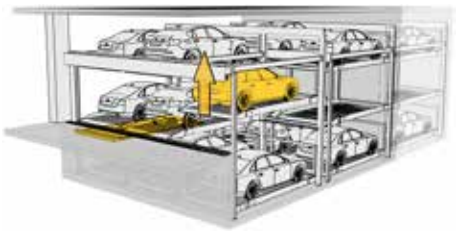
The **Parkonfor 111 Pass Through** sliding bridge covering the empty space of the pit-type semi-automated parking system **Parkonfor 111**, allows an easy access to the rear row of the parking lot.

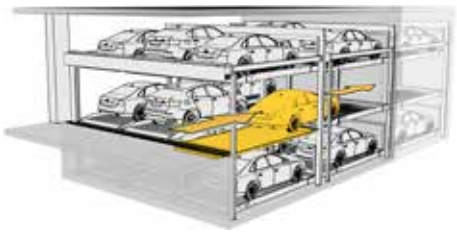
ADVANTAGES

- Easy and comfortable access to the rear row of the parking lot.
- Possibility to reach the desired parking capacity by making 2 and/or 3 in-rows parking arrangements, using 3-storey parking systems.
- A single unit can be designed with maximum of 3 rows and 10 arrays.
- Suitable for use in automatic operations along with its automatic doors and close boundaries.
- Sliding bridge uses only 25 cm pit depth.



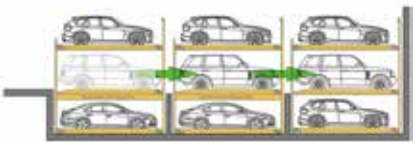


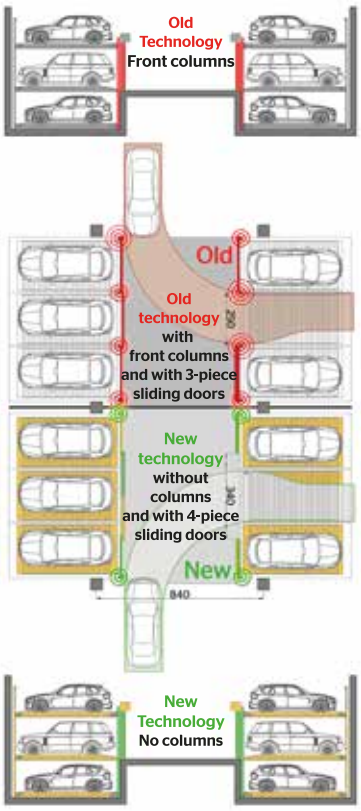




Old System: 18 Parking spaces

Innovation: 24 Parking spaces





Parking Comfort Advantage»

NO COLUMNS BETWEEN THE PARKING GRIDS

The most valuable feature of this system is the non-existence of columns in-between the parking spaces. The system's columns thereforelimit the units only at both ends of the system.
The front span of the system can be a maximum of 3 grids, for which there will only be two columns at both ends of the system insteadof 4 columns.

User oriented philosophy - Parking with pleasure- Undoubtely, this valuable effect will increase the profit in the driving curve radius and thus will make the drive in process onto the parking space more convenient and comfortable.

MORE COMFORT FOR PARK-IN PROCESS

Having the columns only at the ends of the systems allows for an increased driving lane, which is a prior deciding factor for the parking comfort.

This concept can be considered when the parking area is located on the open public area or when the building pillars are designed according to the conventional parking.

ADVANTAGES OF THE INNOVATIONS

- More drive in comfort.
- Better curve radius.
- Faster drive in process.
- More safety by less collision risks (missing the front columns).
- More drive in width.
- Optical and practical increased driving lane.

Critical Comment: LIMITED USER COMFORT WHEN COLUMNS IN FRONT.

Drivers still suffer today about the parking spaces had been built decades ago. Whether they are single garages, quarter garages, underground garages or parking lots: The problem is always having too narrow drive in space, either limited by the structure or the pillars. And this problem is now more serious with the today's increased car width. The trend is to build wider pillar spans, without pillars, wide entrances and spaces without limitations.

A woman recently said: "Imagine a parking space with 230 cm width and limited on entrance with fixed columns. How to enter daily, when the size of my BMW 3-series with mirrors is just 209 cm. There are just 10 cm left on each side and how to drive in from the driving lane by 90 degrees?

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Sliding Doors

The existing pit in **Parkonfor 111** must be protected by shutterdoors for security purposes according to EN 14010 standard. Door control is integrated with all the system operation; it can only be opened when selected parking platform reaches the entry / exit position.

The revision, maintenance or system requirements that may occur according to local regulations are the responsibility of the customer and the necessary technical requirements must be reported to the supplier in advance.

DOOR TYPES

Manually operated
Electrical drive (with optional remote control)

MULTI-PART SLIDING DOORS

3 grid : 4-piece sliding doors
2 grid: 3-piece sliding doors

PARKING COMFORT IS ENHANCED BY THE MULTI SLIDING DOORS AND COLUMN-FREE DESIGN, WHICH PROVIDE MORE MANOEUVRING SPACE.

Control Panel

The user-friendly software of the ergonomically designed control panel, enables to easily call your parking space from the system. The fact that the control panel is fully integrated into the system allows the movement of the selected platform to be monitored simultaneously on the screen. Besides, the touch-screen control panel, you may also prefer the bluetooh remote control or card reading options.

Corossion protection and Prevention

Besides the maintenance, the systems have to be cleaned regularly. This is for the systems, at least for the platforms as well as for all parts being exposed to corrosive substances, e.g. salt water, dirt, car fluids, sand, etc..
Garages also have to be ventilated and deaerated, The base plates have to be dewatered and dry.

Marking band

ISO 3864

According to DIN EN 14010/ ISO 3864 a yellow/ black 10cm wide safety warning band must be placed at the edge of the parking area by customer.

Safety fences DIN EN ISO 13857

According to DIN EN ISO 13857 safety fences have to be provided by customer for pathways directly around the parking boxes (besides or behind the units).
Also during construction.

Fire safety

Designing fire safety in the proposed garage or area must comply with local/ regional regulations. The compliance must be managed by customer. Depending on the location and the fire department there might be very dfferent and specific requirements. The supplier has to be in informed in advance by the customer.

Dewatering

Dewatering involves controlling water in the system area with possibility of pumping it out of a water collecting pump sump. Water may occur from snow on the car, leaking shell, ground water, wet cleaning the systems (to prevent corossion) or others. It can be solved by a drainage system with pump sump (50 x 50 x 20 cm).

Car development

The size and weight of new generation of cars have been increased due to the extra equipment, which means that the weight of upper middle class cars oftenly exceed 2.000 kg. Parallelly to that, the manufacturer offers a 2.200 kg load capacity as standard. Optionally, 2.800 kg can be provided for heavier cars. In this case, the manufacturer recommends as ideal platform width of 250 cm and min. height of 160 cm according to the increased dimensions of the new generation cars.

Sound insulation DIN 4109: 2016-07

"Sound insulation in buildings". According to the german norm a value of 30 dB(A) is allowed in living quarters. This can be fullfilled with: option noise protection according to offer supplier. Sound insulation of building R'w = 57 dB. Surrounding walls/ ceilings (e.g. monolithic and rigid) of parking should be made of min m' = 300/ 400 kg/ m².

The adjacent critical building element should be min m' = 580 kg/ m. User noises are created by individual users. These can be from driving up/ down the platforms, slamming of vehicle doors, motor and brake noises. They are not subject to the limit. "Increased sound insulation" is made on special offer and discussion and needs more space.

MINIMUM DIMENSIONS & TOLERANCES »

Shown dimensions are minimum. Tolerances according to VOB part C (DIN 18330 and 18331) and the DIN 18202 have to be considered additionally. Tolerances for space requirements are +3 cm/ 0 cm. Dimensions are in cm.

ENVIRONMENTAL RANGE »

Temperature range -10 to +40° C. Relative humidity 50% at maximum outside temperature of +40° C.

LIGHTING »

There must be sufficient ligthing in the parking garage and parking area according to regulations, supplied by customer.

CE AND CONFORMITY »

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

RIGHTS TO CHANGE »

The manufacturer reserves the right to change, alter, modify parts, groups or general design in procedures or standards due to technical progress.

HYDRAULIC POWER UNITS »

Several units/block can be operated with one power unit. The power unit(s) need(s) additional space (35x80cm), which has to be in/ near the parking area and should be clarified with the drawing approval (e.g. wall recesses, moving with platform, others).

The general planning/supply of the garage with the building structure, statics, tolerances, free spaces, wall cutting, drainage, noise protection, fire demands, electricity, grounding, driveway, illumination, ventilation, numbering of spaces, yellow-black marking band, safety fences and others has to be arranged according to local requirements by the customer and must be also in accordance with the delivery/ requests of the parking system supplier.

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