



## MULTILEVEL

Mechanical parking system  
for 3 or 4 floor

DATA SHEET



WE  
EXPAND  
YOUR PARKING  
CAPACITY

## 2 MULTILEVEL

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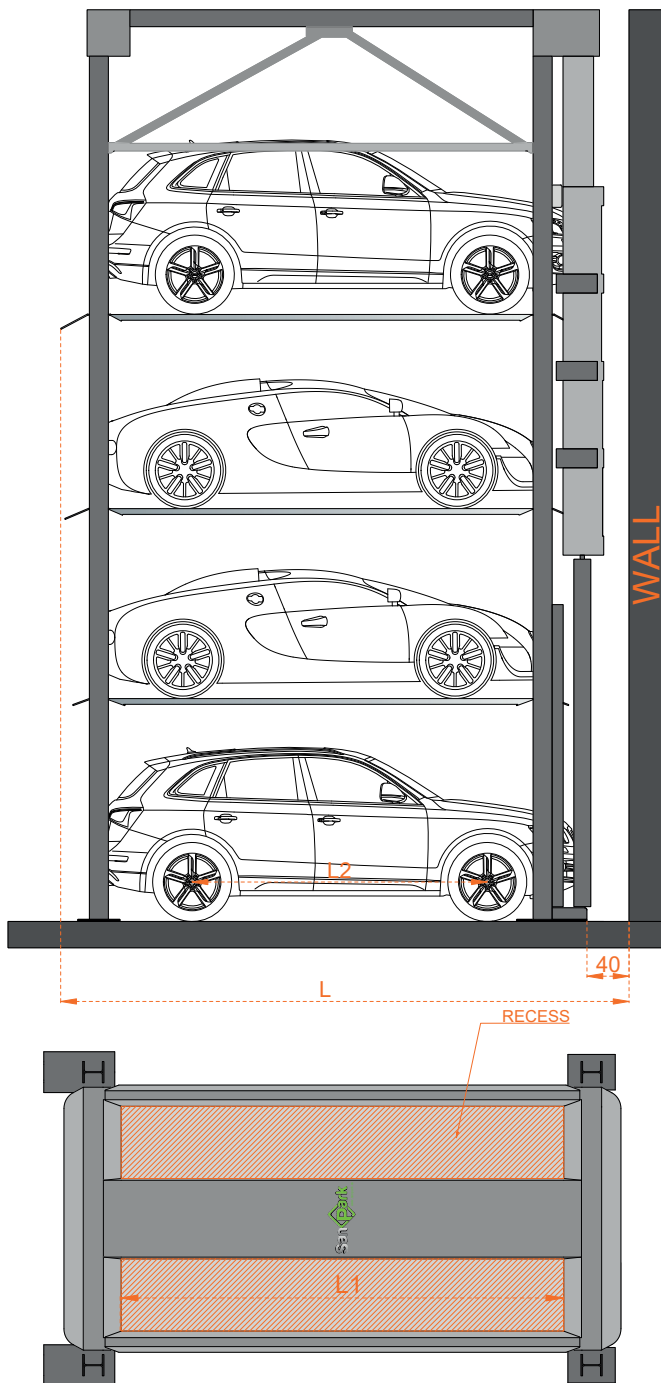
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### GENERAL DESCRIPTION

- MULTILEVEL is an dependent parking system for an indoor and outdoor application and it allows 3 or 4 vehicles to be parked on top of each other in respect to its types in a parking space that merely allows 1 vehicle under normal conditions.
- MULTILEVEL platforms moves vertically.
- The height of the platform can be customized according to the customer's request. (see "Height Details", page 5).
- The lifting capacity of the platforms can be customized according to the customer's request. (see "Loads and Construction Details", page 9).
- The operating key is installed in front of the columns.
- Hot-dip galvanization is applied to the main construction.
- It safe and secured with an automatic electromagnetic mechanic position lockers
- All dimensions are minimum and tolerance for dimensions +3/-0 cm.

## 3 MULTILEVEL

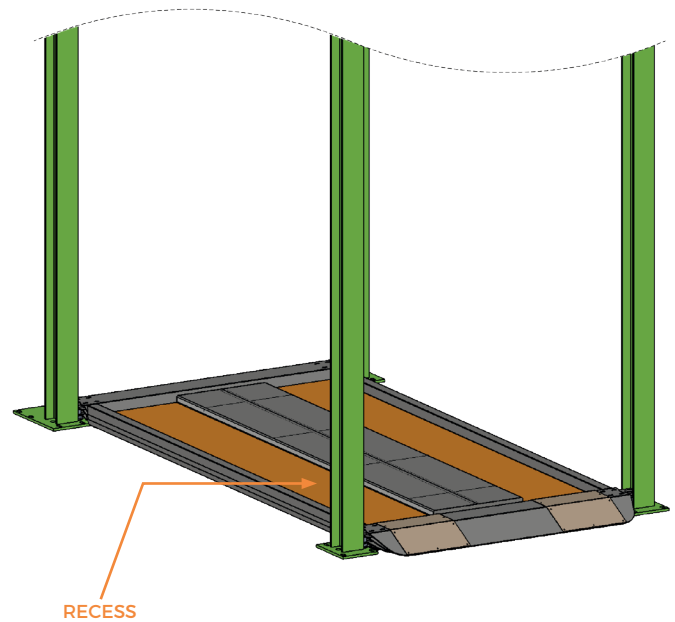
## LENGTH DETAILS

**Operation**

With the help of "Hold-to-Run" device which automatically returns to the "off" position after release, MULTILEVEL's users securely operate the system.

**Dependent Parking**

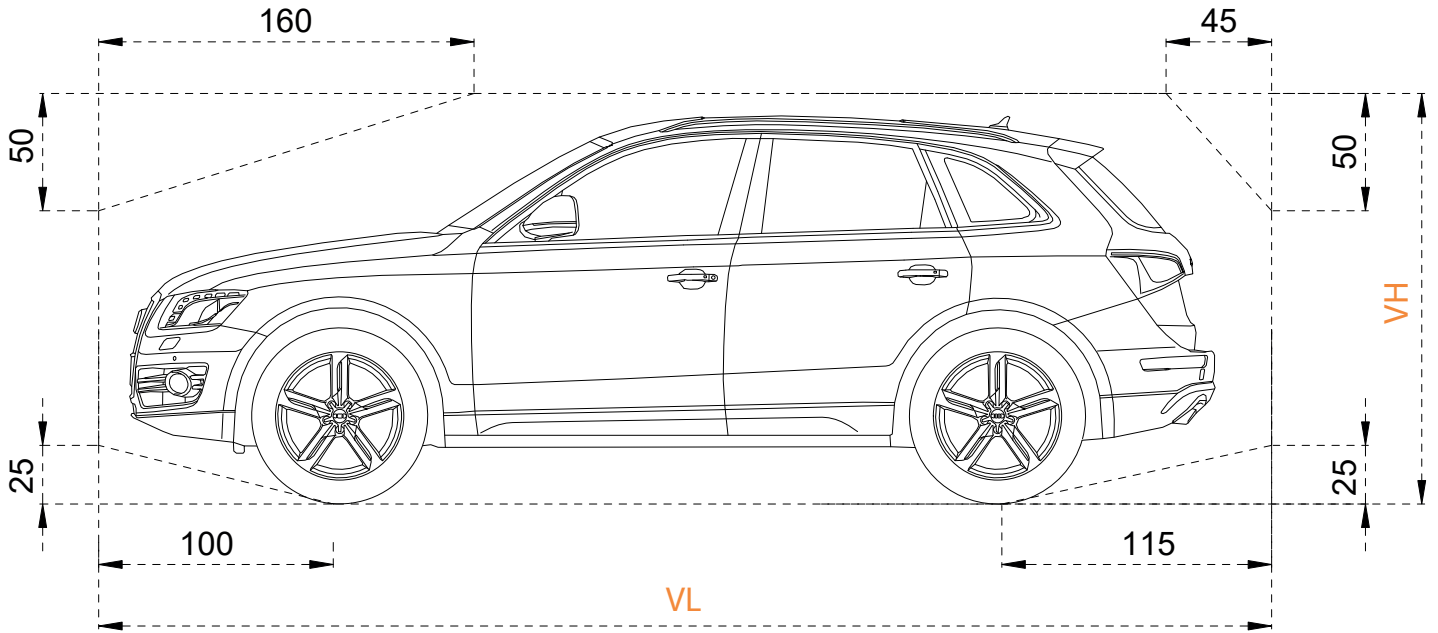
To be able to park in or out the vehicles at the top level, the vehicle at the lower levels must be parked out first.



All dimensions are given in cm.

- ▣ Multilevel's required length for installation (**L**) is 540 cm. In case of shorter and longer versions, please consult Sanpark.
- ▣ Multilevel's platforms have recesses for a proper parking.
- ▣ The length of the recess is 380 cm so the axle between wheels (**L2**) shall not exceed the length of the recess (**L1**).
- ▣ Multilevel's platforms shall be at least 40 cm away from the wall to provide enough clearance for vehicles.

## VEHICLE DETAILS, CLEARANCE &amp; DIMENSIONS



Vehicle Length (VL)	500 cm
Vehicle Height (VH)	see "Height Details", page 5
Vehicle Width	220 cm
Vehicle Weight	2000 KG / 3000 KG
Wheel Load	500 KG / 750 KG
Vehicle Types	Saloon, Estate, SUV, Van

The overall vehicle height including roof luggage rails and antenna mounts must not exceed the max. vehicle height dimensions specified

▣ The following car heights shared as a guide to help you to select the platform distance and construction dimensions;

Volkswagen Golf	149 cm
Volkswagen Tiguan	167 cm
Volkswagen T-Roc	160 cm
Volkswagen T-Cross	159 cm
Volkswagen Passat	152 cm
Dacia Sandero	150 cm
Dacia Duster	170 cm
Renault Clio	145 cm
Renault Captur	158 cm
Fiat/Abarth 500	150 cm
Fiat Panda	156 cm

Tesla Model 3	145 cm
Tesla Model X	169 cm
Ford Kuga	169 cm
Ford Puma	156 cm
Mercedes A-Class	146 cm
Mercedes G-Class	198 cm
Mini Hatch	145 cm
Hyundai Kona	156 cm
Opel/Vauxhall Corsa	149 cm
Volvo XC40	166 cm
Skoda Octavia	147 cm
Hyundai Tucson	167 cm

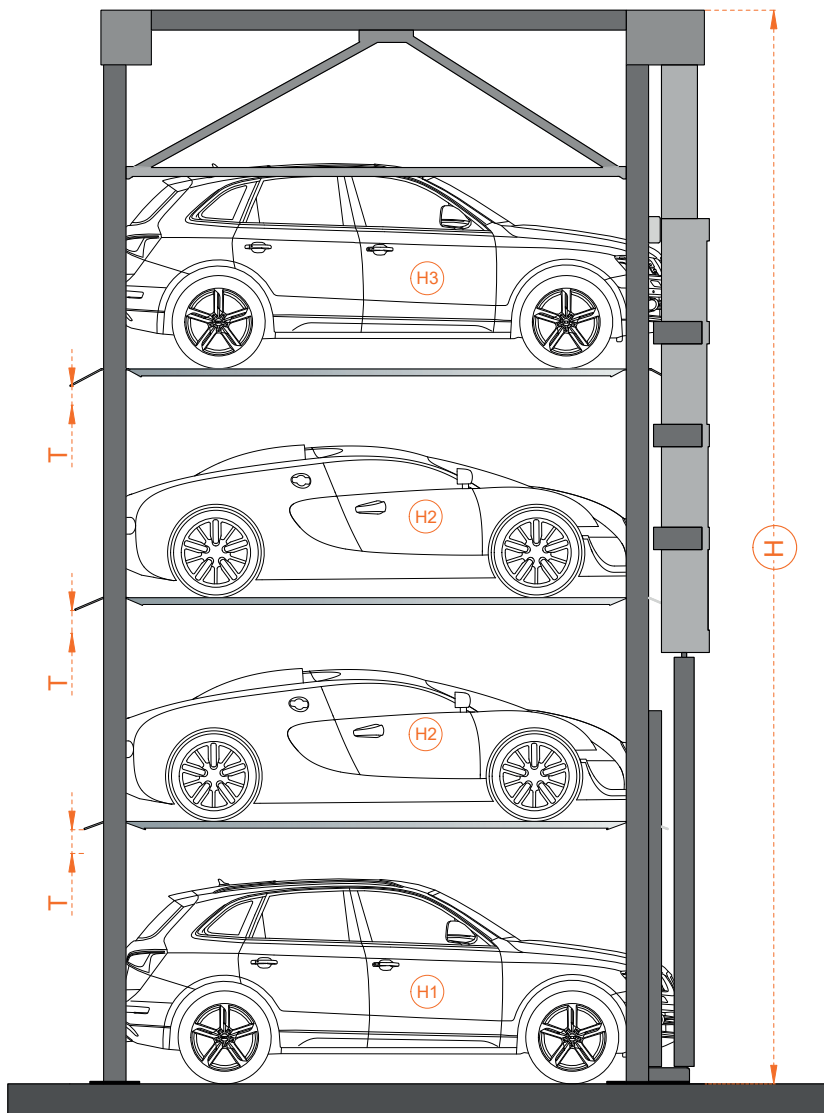
Peugeot 208	146 cm
Peugeot 2008	155 cm
Peugeot 3008	163 cm
Toyota Corolla	144 cm
Toyota Yaris	151 cm
Toyota RAV4	169 cm
Toyota Camry	145 cm
Citroen C3	161 cm
Porsche Macan	163 cm
Porsche Cayenne	168 cm
BMW 3-Series	143 cm
BMW iX	170 cm
BMW X5	175 cm
Volvo XC 90	178 cm
Land Rover Discovery	189 cm
Land Rover Range Sport	180 cm

All vehicle heights may vary due to the wide range of models and manufacturing year.



# 5 MULTILEVEL

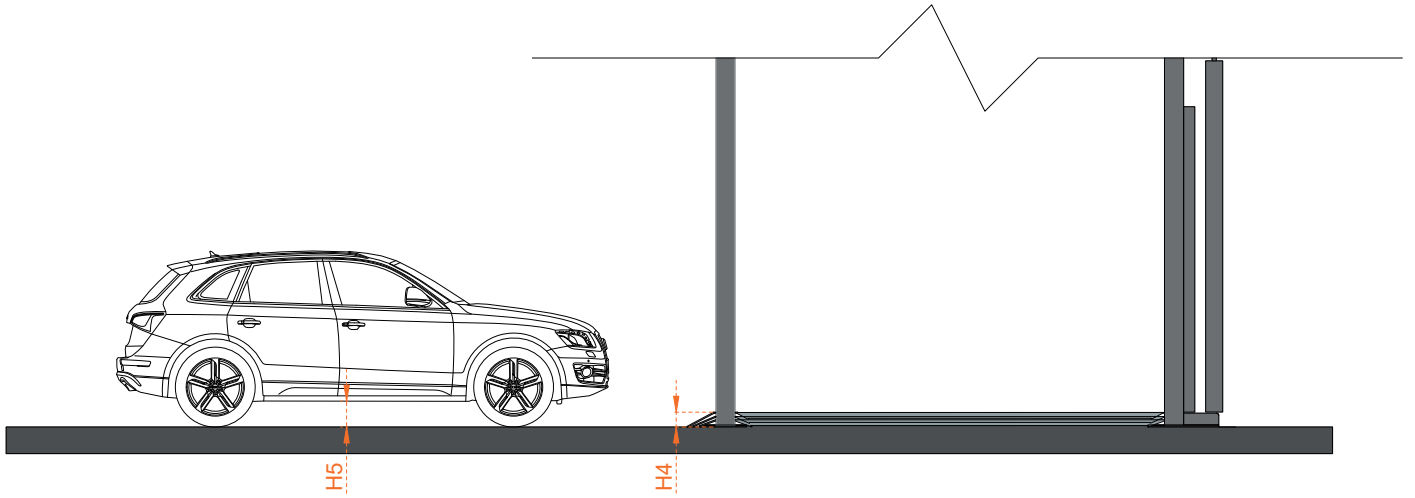
## HEIGHT DETAILS



- To keep the dimension table below clear, the vehicle height on the second level and third level is kept the same. **H2** dimensions can vary and they don't have to be the same in every case. It is possible to adjust both floor levels with various heights; however, the height of the second level cannot exceed the height of the third level. Please consult Sanpark in such cases.
- The table below indicates vehicle heights (**H1-H2**) and their corresponding overall height (**H**). Various versions are available upon request so please contact to have technical support if it is necessary.

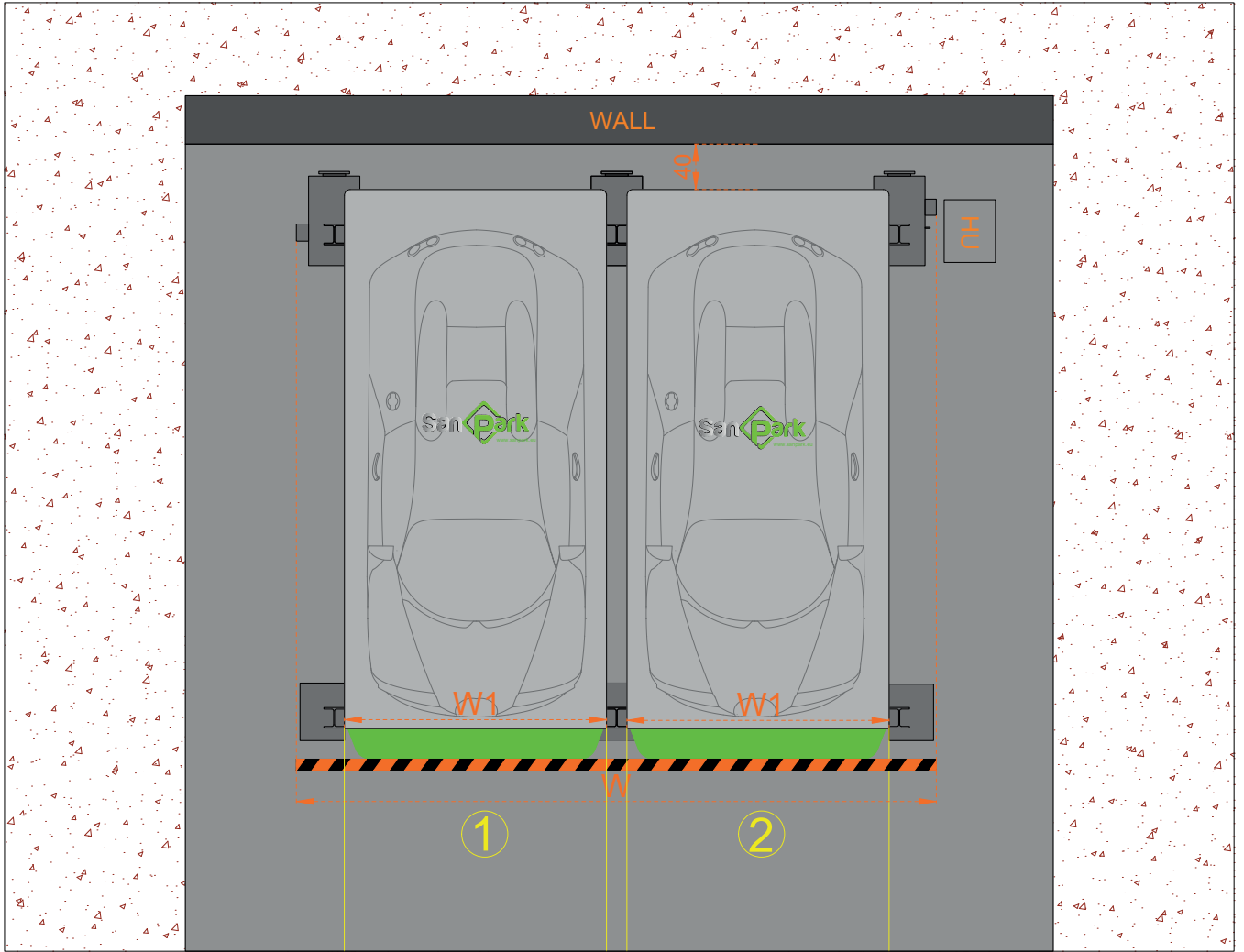
		Upper-Level Vehicle Height (H2)											Required Clearance Height (H)	
		150	155	160	165	170	175	180	185	190	195	200		205
Ground Level Vehicle Height (H1)	160	780	795	810	825	840	855	870	885	900	915	930	945	
	165	785	800	815	830	845	860	875	890	905	920	935	950	
	170	790	805	820	835	850	865	880	895	910	925	940	955	
	175	795	810	825	840	855	870	885	900	915	930	945	960	
	180	800	815	830	845	860	875	890	905	920	935	950	965	
	185	805	820	835	850	865	880	895	910	925	940	955	970	
	190	810	825	840	855	870	885	900	915	930	945	960	975	
	195	815	830	845	860	875	890	905	920	935	950	965	980	
	200	820	835	850	865	880	895	910	925	940	955	970	985	
	205	825	840	855	870	885	900	915	930	945	960	975	990	

All dimensions are given in cm.

**6 MULTILEVEL****HEIGHT DETAILS**

- It is recommended that Ground level vehicle height (**H1**) should be higher than an average human height for drivers to conveniently get out of the vehicle.
- The height for the vehicle on the fourth floor (**H3**) is more 250 cm in any case so customers can park SUV cars the fourth floor.
- When all platforms on the ground, the height between ground and the third platform surface (**H4**) is 14,5 cm so the height of vehicle bumper (**H5**) must be more than **H4**.
- Clearance height (**T**) between vehicle and ceiling shall be minimum 5 cm. The clearance height is included to the following table.

## WIDTH DETAILS



Reducing parking width lowers parking comfort according to the vehicle width, vehicle type, and individual driving style.

- ▣ The required installation width (**W**) for 2 module is 315 cm. There are other types of modules and their corresponding width dimensions. Please see "Module Details" at page 7 to have more information.
- ▣ The clear width of the platform (**W1**) is 230 cm.
- ▣ Multilevel's platforms shall be at least 40 cm away from the wall to provide enough clearance for vehicles.
- ▣ **HU** indicates a hydraulic power pack and its minimum length, width and height is 55,45,115 cm, respectively.
- ▣ While planning MULTILEVEL next to a wall, it is significant to take into consideration that turning the vehicle in one maneuver may cause a crash so please take advice from Sanpark in a such situation, shown in the illustration above.
- ▣ While setting driving lane width, please check local regulations. It can be a minimum of 500 cm, but we advise 650 cm driving lane width so that drivers can park their vehicles conveniently without additional maneuvering.

MODULE DETAILS



☐ The following figures demonstrate the required width for parking areas and their correspondence to clear platform width.

MULTILEVEL 4K MODULES AND REQUIRED WIDTHS (W)

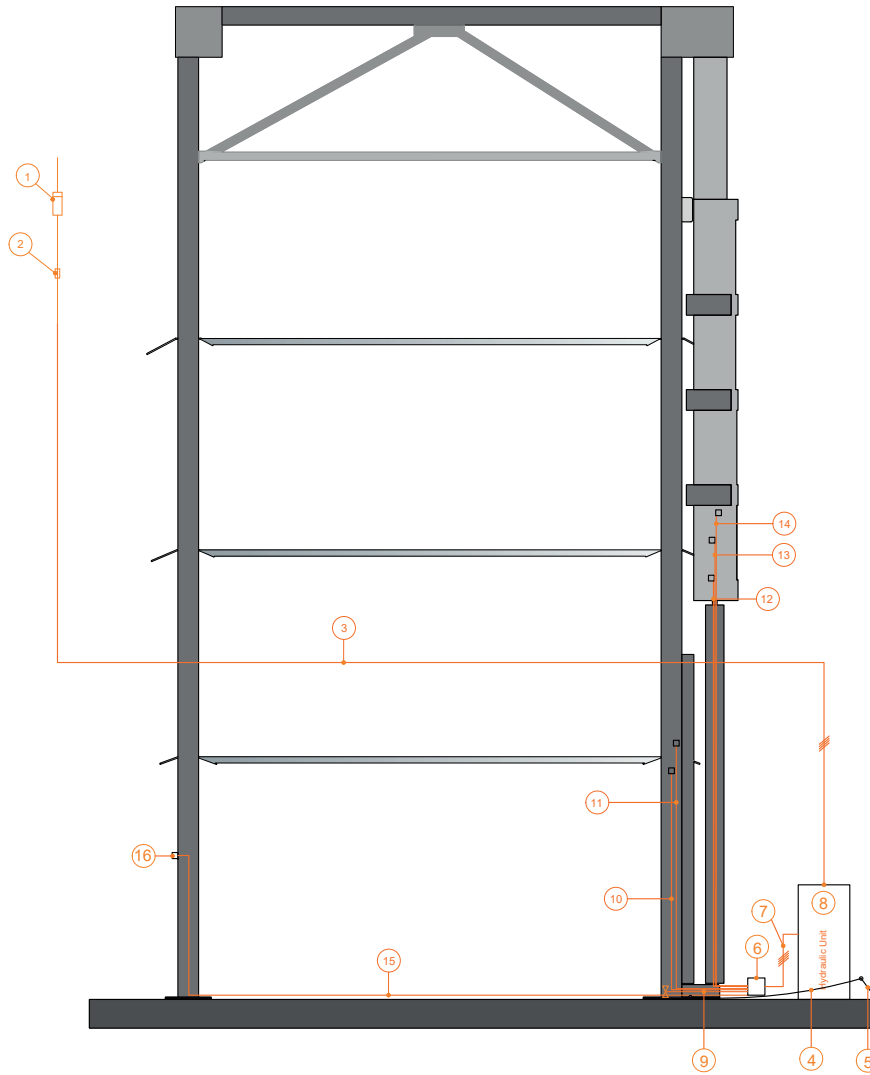
1 MODULES	2 MODULES	3 MODULES	4 MODULES	5 MODULES	6 MODULES	7 MODULES	8 MODULES	9 MODULES	10 MODULES
315 cm	565 cm	815 cm	1060 cm	1310 cm	1555 cm	1805 cm	2055 cm	2300 cm	2550 cm

MULTILEVEL 4K MODULES AND THEIR CORRESPONDING VEHICLE CAPACITIES

MODULES	2 MODULES	3 MODULES	4 MODULES	5 MODULES	6 MODULES	7 MODULES	8 MODULES	9 MODULES	10 MODULES
CAR	8 VEHICLES	12 VEHICLES	16 VEHICLES	20 VEHICLES	24 VEHICLES	28 VEHICLES	32 VEHICLES	36 VEHICLES	40 VEHICLES



## ELECTRICITY INSTALLATION DIAGRAM



- During installation, it is required to appropriately connect electrical components with the wiring diagram supplied by the manufacturer in accordance with local regulations.

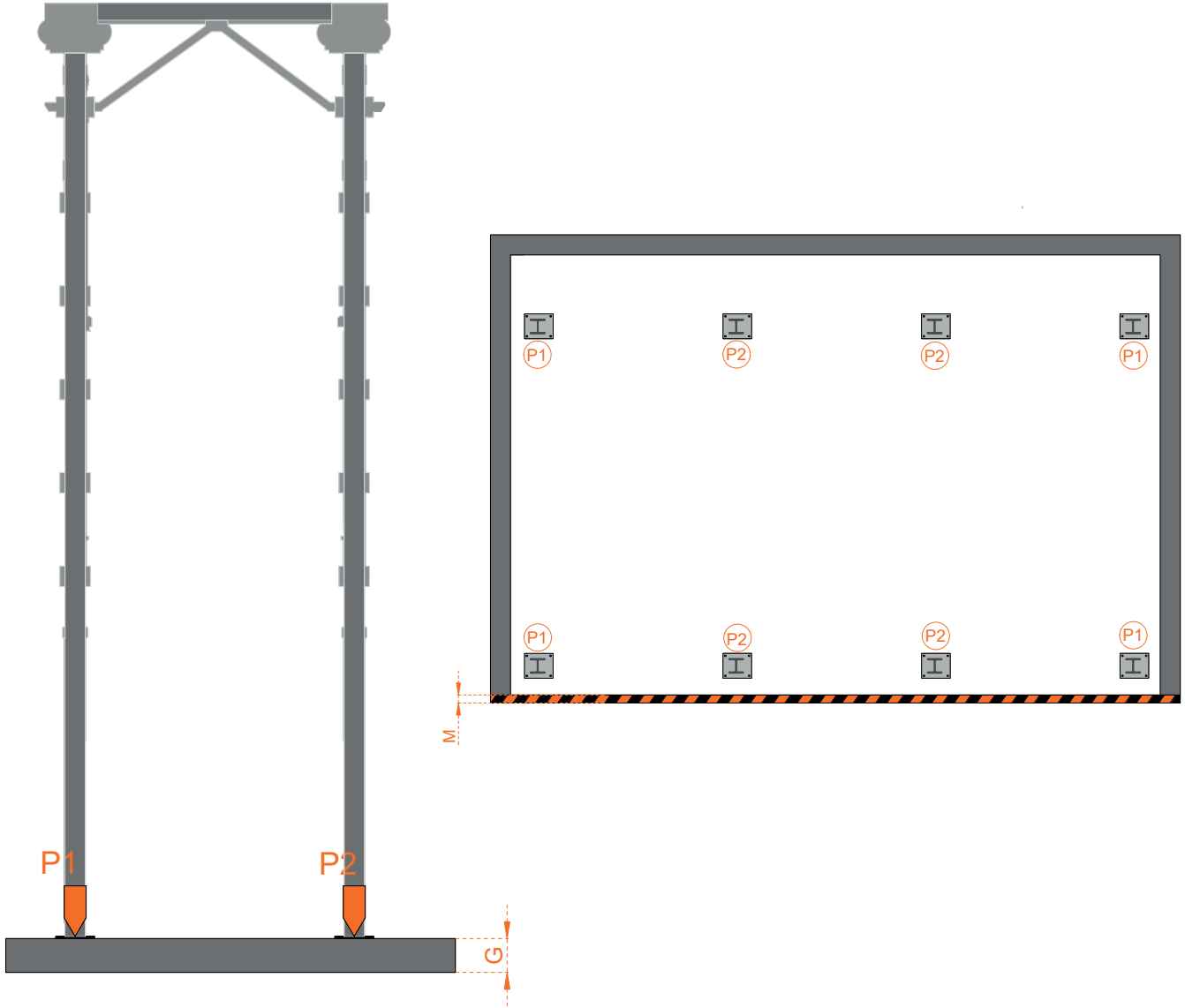
**ELECTRICAL DETAILS (In the customer responsibility)**

NUMBER	QUANTITY	DEFINITION	POSITION	FREQUENCY
1	1	Electricity meter		
2	1	3x Safety fuse 40A circuit breaker 3x 40 A	1x per unit	1x per unit
3	1	Supply line 5X4 mm <sup>2</sup> with marked wire and protective conductor	1 x per unit	1 x per unit
4	1	Foundation Earth Connection (distance between grounding max. 10m)		
5	1	Equipotential bonding in accordance with DIN EN 60204 grounding of the steel structure is necessary, provided by the customer	1 x per system	1 x per system

**ELECTRICAL DETAILS (In Sanpark responsibility)**

NUMBER	DEFINITION
6	Branch Connector
7	Control line 12x1 mm <sup>2</sup> +2x1.5 mm <sup>2</sup> with marked wire and protective conductor
8	Hydraulic Unit 7.5 kW, 3 Phase current, 380 V 50 HZ with lockable main switch
9	Control line 2x0.75 mm <sup>2</sup> with marked wire and protective conductor
10	Control line 3x0.75 mm <sup>2</sup> with marked wire and protective conductor
11	Control line 2x0.75 mm <sup>2</sup> with marked wire and protective conductor
12	Control line 2x0.75 mm <sup>2</sup> with marked wire and protective conductor
13	Control line 2x1.5 mm <sup>2</sup> with marked wire and protective conductor
14	Control line 2x0.75 mm <sup>2</sup> with marked wire and protective conductor
15	Control line 4x0.75 mm <sup>2</sup> with marked wire and protective conductor
16	Operating Device

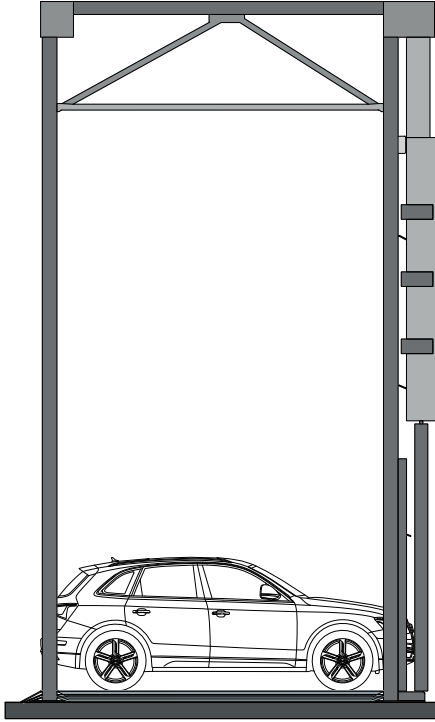
## LOADS AND CONSTRUCTION DETAILS



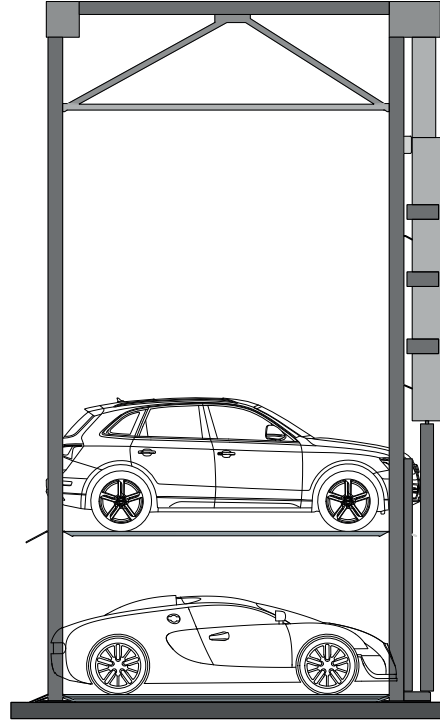
		STRUCTURAL FORCES (kN)	
		P1	P2
CAR WEIGHT	2000 KG	± 29,67	± 55,43
	3000 KG	± 37,02	± 69,50

- The systems are anchored into the ground. The drill hole depth in the floor plate is approx. 16 cm. If the precise figures are required, please consult Sanpark.
- Concrete quality according to the static requirements of the building. However, we require a slab thickness (**G**) minimum of 20 cm and a concrete quality of min. C25/30 to anchor the system.
- According to DIN EN 14010, the floor has to be marked with 10 cm wide yellow-black stripes (**M**) to point out the dangerous area. The marking must comply with ISO 3864.

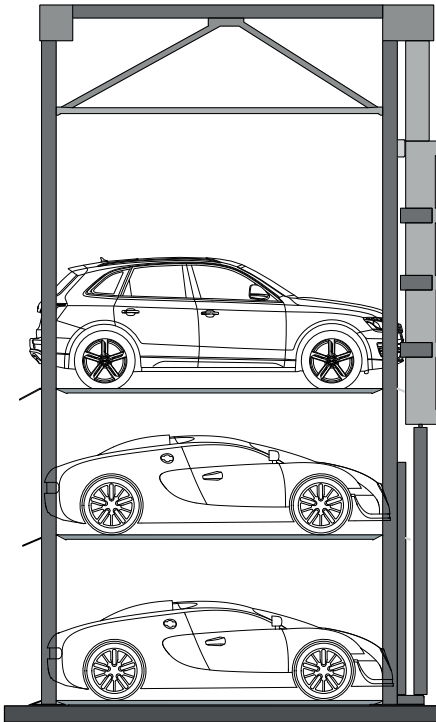
## FUNCTION



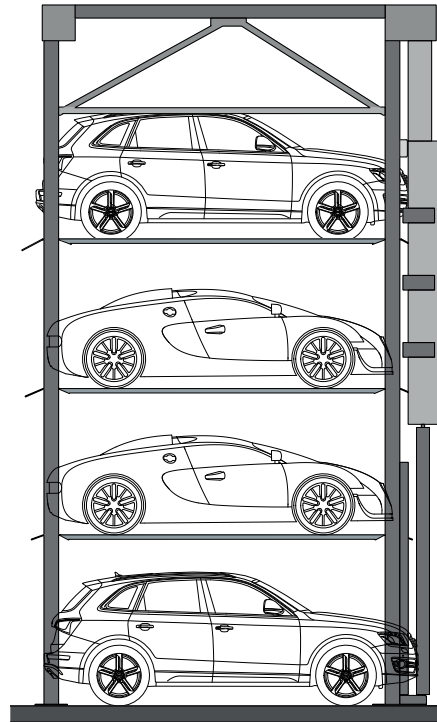
1. Lower all platforms to the ground level and park the first vehicle



2. Raise the 3th platform to the 1th platform level and park the second vehicle



3. Raise the 3th platform and the 2th platform and park the third vehicle



4. Raise all platforms and park the fourth vehicle

## TECHNICAL INFORMATION



### Installation

Multilevel requires crane and forklift for installation. It is under customer's responsibility to provide these vehicles.

The heaviest part is 1500 kg so please consult local companies to hire proper crane and forklift. Please request a consultant for more detail about Multilevel.



### Usage Area

In order to park in or out of the vehicle at the upper level, the vehicle on the ground floor must be parked out first, which is why this system is advised to be used by permanent users. In case of short-time users (e.g. hotel, office, commercial building) we recommend the appointment of a valet for operation conveniently. Please request a consultation if required.



### Hydraulic Unit

Up to 3 IdeaLift can be grouped as one so they can share the common hydraulic unit to reduce the overall price. In such a case, each group of systems cannot be operated separately. A separate power unit is recommended to reduce dependency. Please request a consultation for planning the project.



### Temperature

Majortrio is designed to operate between -15° and +40°C at atmospheric humidity of 50 percent. If the local temperature is different from the above, please consult Sanpark.



### Conformity Test

All our systems comply with EC machinery directive 2006/42/EC and TS/EN 14010:2009 +A1:2009.



### Building application documents

All our systems generally require local approval. Please observe local regulations.



### Maintenance

Regular maintenance by qualified personnel can be provided by an Annual Service Contract.



### Care and Corrosion Protection

Due to the corrosion danger, apart from regular maintenance, all our galvanized equipment and platforms must be regularly cleaned up salt water, dirt, leak, any chemical substance, and sand. The garage and pits must be always ventilated well.



### Railings

If passageways are directly next to the systems, railings have to be provided according to TS EN ISO 13857 by the client according to local requirements, height min. 200 cm.



### Fire Safety

All fire safety requirement(s) and all possible mandatory item(s) and equipment(s) must comply with local regulations and must be provided by the customer.



### Noise Protection

In compliance with DIN 4109-1 Noise protection: Maximum sound pressure level in living and sleeping areas 30 dB (A).

User noise like accessing the platform, the slamming of vehicle doors, the vehicle's engine, and brake noise are not subject to the requirements.

In order to provide 30 dB (A) in rooms the following conditions are required;

Additional Sanpark noise protection package according to quote.

Insulation figure of the construction of min R'w= 65 dB (in the customer's responsibility)

Walls that are close to the parking systems must be done as a single wall and deflection resistant with min. m'= 300 kg/m2 (in the customer's responsibility)

The solid ceiling above the parking systems with min. m'= 400 kg/m2 (in the customer's responsibility)

At differing constructional conditions, additional sound-absorbing methods are in the customer's responsibility.

## COMPONENTS

## MULTILEVEL PARKING SYSTEM COMPONENTS

4 Steel columns with base plates.  
 3 Mechanical Locking devices  
 3 Platforms  
 1 Hydraulic cylinder  
 Anchors, screws, connectors, bolt, etc.  
 1 Mechanical synchronization system.

## Platform Components

Platform profiles  
 Side beams  
 Adjustable positioning aid  
 Platform base sections  
 Chamfered ramp  
 Screws, nuts, washers, spacers, etc.

## Electrical System Components

Emergency stop  
 Electrohydraulic lock  
 Electro mechanic lock  
 Distributor board  
 Junction box  
 3 Master key for each MULTILEVEL

## Hydraulic System Components

Hydraulic cylinders  
 Solenoid valve  
 Safety valve  
 Screwed joints  
 High-pressure hoses  
 Attachments

## Hydraulic Unit Component

Hydraulic power unit  
 Hydraulic oil reservoir  
 Oil filling  
 Internal gear Pump  
 Pump holder  
 Coupling  
 3 phase AC motor (7.5 kW, 380 V, 50 Hz)  
 Contactor  
 Pressure relief valve  
 Hydraulic hoses

Sanpark's engineering department is constantly challenging itself to improve its systems. In the event of technological advancement, Sanpark can adopt newer or different technologies, systems, or standards to improve overall quality.

## SERVICES TO BE PROVIDED BY THE CUSTOMER

**Warning Marking**

According to DIN EN 14010, the floor has to be marked with 10 cm wide yellow-black stripes to indicate the operation area by the purchaser to point out the dangerous area.

**Barriers**

In accordance with DIN EN 13857, barriers may be required in case of passageways in front of, behind, or next to the systems.

**Parking Space Numbering**

Numbering the parking spaces.

**Lighting**

It is in the customer's responsibility to check local regulations regarding the illumination of parking spaces.

**Conduits and Wall Openings**

Any conduit and wall opening work belongs to the customer, yet Sanpark can assist during the planning phase in such cases. Please consult Sanpark if necessary.

**Supply Cable to Master Switch**

The customer must run the supply cable to the master switch during assembly.

**Earth Foundation**

The customer must earth the steel structure with a foundation earth connection and lay equipotential bonding according to local regulations.

## CERTIFICATES

**avacert**  
International

**UYGUNLUK ONAYI**  
**ATTESTATION OF CONFORMITY**

Sertifika Numarası / Certificate Number: AVA-CE/031125.12.2022

Üretici / Manufacturer : ŞANMAK MAKİNA SANAYİ VE TİCARET ANONİM ŞİRKETİ

Üretici Adresi / Manufacturer Address : ÇALI SANAYİ BÖLGESİ 6. SK. NO:6-B-10  
NİLÜFER / BURSA / TÜRKİYE

Ürün Tanımı / Product Description : MULTI LAYER HYDRAULIC POWERED MECHANICAL PARKING SYSTEM  
ÇOK KATLI HİDROLİK TAHRİKLİ MEKANİK OTOPARK SİSTEMİ

Tip/Model / Type/Model : MAJÖR, MAJÖR DİAÖ, MAJÖR TRİO, MAKROKLADRO, OPTİF, MULTİLEVEL,  
SUBLİFT H2W1, SUBLİFT H2W1, SUBLİFT H2W1, SUBLİFT H2W1, SUBLİFT H2W2,  
SUBLİFT H2W2, SUBLİFT H2W2, SUBLİFT H2W2, IDEA H2W1, IDEA H3W1, IDEA H1W1,  
IDEA H2W2, IDEA H3W2, IDEA H4W2

İlgili Yönetmelikler / Related Directives : MAKİNE EMMNİYETİ YÖNETMELİĞİ 2006/42/AT EK VIII  
MACHINE SAFETY DIRECTIVE 2006/42/EC Annex VIII



İlgili Standartlar / Related Standards : EN ISO 22100, EN ISO 4413, EN ISO 14120, EN ISO 13849-1,  
EN 60204-1, EN 34201-A1

Test Raporu / Test Report : ST.1039.02

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Yayın Tarihi / Issue Date : 30.12.2022  
Geçerlilik Tarihi / Validity Date : 29.12.2023

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**CERTIFICATE**

  
**ŞANMAK MAKİNA**  
**SAN. VE TİC. A.Ş.**

ÇALI SANAYİ BÖLGESİ 6. SOK. NO:8  
NİLÜFER / BURSA / TÜRKİYE

*Has been assessed and found to Comply with the Requirements of:*  
**Denetlenmiş ve aşağıdaki standartların gerekliliklerine uygunluğu görülmüştür:**

**ISO 9001:2015**

*The Quality Management System is applicable to:*  
*Kalite Yönetim Sistemi:*

**DESIGN, PRODUCTION AND SERVICE SERVICES OF MACHINES  
FOR VEHICLE, LOAD LIFTING AND TRANSPORT**

**TAŞIT, YÜK KALDIRMA VE TAŞIMA AMAÇLI MAKİNALARIN  
TASARIMI, ÜRETİMİ VE SERVİS HİZMETLERİ**

Certificate Number: QMS-05807 Initial Certification Date: 15.12.2021  
Belge Numarası: QMS-05807 İlk Belgelendirme Tarihi: 15.12.2021

Certification Period: 3 Years Certificate Validity Date: 14.12.2022  
Belgelendirme Periyodu: 3 Yıl Belge Geçerlilik Tarihi: 14.12.2022

ACCREDITED  
Management Systems  
Certification Body  
MSCB-135

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