



SUBLIFT H1W1-W2

Mechanical parking system for outdoor usage with require a pit.

DATA SHEET



EXPAND YOUR PARKING CAPACITY



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GENERAL DESCRIPTION

- Sublift is an independent parking system for an indoor or outdoor application and it allows 2, 3, 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.
- Sublift platforms moves vertically.
- The height, width and length of the platform can be customized according to the customer's request. (see "Height and Width Details", page 5 and 6).
- The lifting capacity of the platforms can be customized according to the customer's request. (see "Loads and Construction Details", page 8).

- The operating key is installed in front of the columns or on the outside.
- I Hot-dip galvanization is applied to the main construction.
- It is safe and secured with an automatic electromagnetic mechanic position locker.
- All dimensions are minimum and tolerance for dimensions +3/-0 cm.





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

Maximum vehicle length dimensions can be like the following table. In case of shorter and longer versions, please consult Sanpark.

SUBLIFT LENGTH DIMENSIONS

Maximum Vehicle Length	Platform Length (L5)	Required Space (L1)	Column Position (L2)	Gradient Free Space (L3)	Gradient Free Space (L4)
475 cm	485 cm	500 cm	330 cm	20 cm	95 cm
500 cm	510 cm	525 cm	360 cm	20 cm	95 cm
520 cm	530 cm	550 cm	380 cm	20 cm	95 cm

- The position of the (L4) is determined by the position of the column (L2).
- Ground level pit length is different from the length inside the pit due to drainage channels. Please see "Pit Construction Details", page 9
- Maintenance shaft length (L6) is recommended by Sanpark as a 100 cm.

Independent Parking

All parking spaces and vehicles n the system can be used vithout blocking one another.



VEHICLE DETAILS, CLEARANCE & DIMENSIONS



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Vehicle Length (VL)	see "Length Details", page 3	
vernele 201.gtn (v 2,		
Vehicle Height (VH)	see "Height Details", page 5	The overall vehicle height includir
Vehicle Width	see "Width Details", page 6	roof luggage rails and antenna mounts must not exceed the may
Vehicle Weight	see "Loads and Construction Details ", page 6	vehicle height dimensions specifi
Wheel Load	500 KG or 750 KG	
Vehicle Types	Saloon, Estate, SUV, Van	

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.







All dimensions are given in cm.

- The table below indicates vehicle heights (H1) and their corresponding operation height (H) and their relevant pit depth (D). Various versions are available upon request so please contact to have technical support if it is necessary.
- It is recommended that Vehicle Height (H1) should be higher than an average human height for drivers to conveniently get out of the vehicle.
- To have more details about the pit, please see "Pit Construction Details", page 9

SUBLIFT	HEIGHT	DIMENSIONS	
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Car Height (H1)	150 cm	155 cm	160 cm	165 cm	170 cm	175 cm	180 cm	185 cm	190 cm	195 cm	200 cm	205 cm
Height (H)	155 cm	160 cm	165 cm	170 cm	175 cm	180 cm	185 cm	190 cm	195 cm	200 cm	205 cm	210 cm
Pit Depth (D)	245 cm	250 cm	255 cm	260 cm	265 cm	270 cm	275 cm	280 cm	285 cm	290 cm	295 cm	300 cm





Sanpark

Gradient free area (GFA) (L3, L4 and W3) indicates a space where shall be no gradient or slope. Construction the pit in accordance with slope directions and gradient free area is performed by the customer.





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

SUBLIFT WIDTH DIMENSIONS

Pit Width (W1)	260 cm	270 cm	280 cm	290 cm
Platform Width (W2)	220 cm	230 cm	240 cm	250 cm
Gradient Free Space Width (W3)	30 cm	30 cm	30 cm	30 cm

SUBLIFT DOUBLE PLATFORM WIDTH DIMENSIONS

Pit Width (WD1)	500 cm	510 cm	520 cm	530 cm
Platform Width (WD2)	450 cm	460 cm	470 cm	480 cm
Gradient Free Space Width (W3)	30 cm	30 cm	30 cm	30 cm

- Ground level pit width is different from the width inside the pit due to drainage channels. Please see "Pit Construction Details", page 9.
- We recommend 250 centimeters platform width for mono platform and 500 centimeters platform width for double platform to park conveniently.
- While setting driving lane width, please check local regulations.

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

- There must be no gradient or slope at Gradient Free Space Width (W3) to install the machine properly.
- The roof also can support one car but it cannot be operated with it for a standard machine. It is possible to operate the machine with the vehicle on the roof with a special design and please consult Sanpark in such cases.



------ 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.

ELECTRIC	ELECTRICAL DETAILS (In the customer responsibility)									
NUMBER	QUANTITY	DEFINITION	POSITION	FREQUENCY						
1	1	Electricity meter	in the supply cable							
2	1	3x Safety fuse 32 & Circuit Breaker 3x 40A (Trip Caharacteristic C)	in the supply cable	1x per unit						
3	1	Supply cable 5x4 mm² (3 PH+PE) or PLC type (3PH+N+PE) with marked wires and protective earth	supply cables to the main switch	1 x per unit						
4	Every 10 m	Foundation Earth Connection	Corner or middle of pit floor							
5	1	Equipotential bonding in accordance with DIN EN 60204 grounding from foundation earth connection to system		1 x per system						
6	1	Empty pipe EN 40 (M40) with taut wire	from pit floor to operating device	1 x per unit						
7	1	Empty pipe EN 50 (M50) with taut wire	supply cable to hydraulic unit							
8	1	Operation Device Base								
9	1	Separate supply cable 230V with ligthing and socket	from the electricity meter in the maintenance shaft							

ELECTRIC	ELECTRICAL DETAILS (In Sanpark responsibility)				
NUMBER	DEFINITION				
10	Hydraulic Unit 5.5 Kw, 3 Phase current,230/400V 50HZ				
11	Switch cabinet with lockable master switch				
12	Control cable 4x2.5 mm ² with marked wires and protective earth				
13	Control cable 2x0.75 mm ² with marked wires and protective earth				
14	Control cable 7x1 mm ² with marked wires and protective earth				
15	Operating Device				

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+ LOADS AND CONSTRUCTION DETAILS

- The systems are anchored into the ground. The drill hole depth in the floor plate is approx. 14 cm, in the walls approx. 10 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. C20/25 to anchor the system.

		MONO PLATFORM STRUCTURAL FORCES (kN)								
		P1 P2 P3 P4 P5								
CAR /EIGHT	2000 KG	± 39	± 7	±12	±18	± 8				
	2600 KG	± 45	± 8	±14	± 21	± 9				
3	300 KG	± 52	± 9	±15	± 22	±10				





- The systems are anchored into the ground. The drill hole depth in the floor plate is approx. 15 cm, in the walls approx. 12 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.
- Standard lifting capacity is 2000 kg but it is also possible to increase the capacity to 2600 kg and 3000 kg. In case of further capacity, please consult Sanpark.
- 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.

		DUO PLATFORM STRUCTURAL FORCES (kN)										
		P1 P2 P3 P4 P5										
CAR WEIGHT	2000 KG	± 75	±13	± 23	± 34	±15						
	2600 KG	± 86	±15	± 25	± 35	±16						
	3000 KG	± 99	±17	± 27	± 37	±17						



PIT CONSTRUCTION DETAILS





κD

/ Sublift drainage channel

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Sump

11/11

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Mono Platform

 $N \triangleright$



Surrounding drainage channel

GFA

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Duo Platform



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- Gradient free area (GFA) (L3, L4 and W3) indicates a space where shall be no gradient or slope. Construction the pit in accordance with slope directions and gradient free area is performed by the customer.
- Pit construction details (Detail A, Detail B, Detail C, Detail D, Detail E) are different from each other. Please check proper detail sections above before designing the pit. To have further information, please see "Sublift Drainage Details", page 11.
- Hydraulic unit is placed in the maintenance shaft. The access to pit, shaft ladder and shaft cover have to be performed by the customer. The safety precautions to the access pit have to be conducted by the customer.
- Door between the maintenance shaft and the Sublift's pit to be installed by the customer.
- Surrounding drainage system and sewerage system are executed by the customer.
- Dimensions for the drainage channel with grating in the pit are 10 x 2 cm with sump 50 x 50 x 50 cm. The drainage channel must be connected to the sewerage system or the

water must be drained away by a pump provided by the customer. For sump pump's dimensions please consult its manufacturer.

- SSL (Structural Slab Level) describes the floor level prior to the addition of surface finishing items such as screed, underlay and flooring. FFL (Finish floor level) refers to the uppermost surface of a floor once construction has been completed with tiles, marble, stone, or different means. Surface finishing is to be provided by the customer.
- It is possible to apply the surface finishing on top of Sublift's roof. In such case, please consult Sanpark.
- Any waterproofing work shall be carried by the customer.
- Maintenance shaft beam must be minimum 50 cm.
- Maximum entrance gradient (%2) and slope (%4) details are specified in the illustrations of the sideview at page 10. Improper layout causes extreme difficulties and Sanpark does not accept any responsibilities.



SUBLIFT DRAINAGE DETAILS +



TECHNICAL INFORMATION



Installation

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

The heaviest part is 300 kg so please consult local companies to hire proper crane and forklift. Please request a consultation for more detail about Sublift.

Hydraulic Unit

Up to 3 Sublift 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 $+40^{\circ}$ 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.



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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= 57 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 soundabsorbing methods are in the customer's responsibility.

- 2 Steel columns with base plates. 2 Mechanical Locking devices 2 Platforms

- Anchors, screws, connectors, bolts, etc. 1 Mechanical synchronization system.

Platform Components

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

Hydraulic System Components Hydraulic cylinders Solenoid valve

Safety valve Screwed joints High-pressure hoses Attachments

Electrical System Components

Emergency stop Electrohydraulic lock Electro mechanic lock Distributor board Junction box 1 Master key for each Majortrio.

Hydraulic Unit Component

Hydraulic power unit Hydraulic oil reservoir Oil filling Internal gear Pump Pump holder Coupling 3 phase AC motor (5.5 kW, 380 V, 50 Hz) Contactor Pressure relief valve Hydraulic hoses

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 stipes to indicate the operation area by the purchaser to point out the dangerous area.

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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.

-1	
5	
Sector 1	

Drainage

For environmental protection, we advise applying 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, the customer must install a water collection channel around the system.





------ CERTIFICATES +





Sanpark

SUBLIFT H2W1-W2





SUBLIFT H2W1-W2

Mechanical parking system for outdoor usage with require a pit.

DATA SHEET



EXPAND YOUR PARKING CAPACITY



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GENERAL DESCRIPTION

- Sublift is an independent parking system for an indoor or outdoor application and it allows 2, 3, 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 condition.
- The vehicle capacity of the Sublift H2W1 system is 2 and Sublift H2W2 is 4.
- Sublift platforms moves vertically.
- The height, width and length of the platform can be customized according to the customer's request. (see "Height and Width Details", page 5-6).
- 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 or on the outside.
- Hot-dip galvanization is applied to the main construction.
- It is safe and secured with an automatic electromagnetic mechanic position locker.
- All dimensions are minimum and tolerance for dimensions +3/-0 cm.



→ LENGTH DETAILS

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Maximum vehicle length dimensions can be like the following table. In case of shorter and longer versions, please consult Sanpark. Operation With the help of "Hold-to-Run" device which automatically returns to the "off" position after release, Sublift's users securely operate the system.

SUBLIFT LENGTH DIMENSIONS

Maximum Vehicle Length	Platform Length (L5)	Required Space (L1)	Column Position (L2)	Gradient Free Space (L3)	Gradient Free Space (L4)
475 cm	485 cm	500 cm	330 cm	20 cm	95 cm
500 cm	510 cm	525 cm	360 cm	20 cm	95 cm
520 cm	530 cm	550 cm	380 cm	20 cm	95 cm

- Gradient free space (L3 and L4) indicates a space where shall be no gradient or slope.
- The position of the (L4) is determined by the position of the column (L2).
- Length of maintenance pit (L6) is 100 cm.

Independent Parking All parking spaces and vehicles

All parking spaces and vehicles in the system can be used without blocking one another.





Vehicle Length (VL)	see "Length Details", page 3	
Vehicle Height (VH)	see "Height Details", page 5	The overall vehicle height including
Vehicle Width	see "Width Details", page 6	roof luggage rails and antenna mounts must not exceed the max.
Vehicle Weight	see "Loads and Construction Details ", page 9	vehicle height dimensions specified
Wheel Load	500 KG	
Vehicle Types	Saloon, Estate, SUV, Van	

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.



- The table below indicates vehicle heights (H1) and their corresponding operation height (H) and their relevant pit depth (D). Various versions are available upon request so please contact to have technical support if it is necessary.
- It is recommended that Vehicle Height (H1) should be higher than an average human height for drivers to conveniently get out of the vehicle.
- Maintenance shaft beam is supposed to be minimum 50 cm.

SUBLIFT H2W1 HEIGHT DIMENSIONS

Car Height (H1)	150	155	160	165	170	175	180	185	190	195	200	205
Height (H)	320	330	340	350	360	370	380	390	400	410	420	430
Pit Depth (D)	420	430	440	450	460	470	480	490	500	510	520	530

SUDLIFI HZWZ HEICHI DIMENSIONS												
Car Height (H1)	150	155	160	165	170	175	180	185	190	195	200	205
Height (H)	320	330	340	350	360	370	380	390	400	410	420	430
Pit Depth (D)	440	450	460	470	480	490	500	510	520	530	540	550

SUBLIFT H2W2 HEIGHT DIMENSIONS

All dimensions are given in cm.

For Sublift H2W1



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

SUBLIFT MONO WIDTH

Pit Width (W1)	260 cm	270 cm	280 cm	290 cm
Platform Width (W2)	220 cm	230 cm	240 cm	250 cm
Gradient Free Space Width (W3)	30 cm	30 cm	30 cm	30 cm

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





For Sublift H2W2



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

SUBLIFT DOUBLE PLATFORM WIDTH

Pit Width (WD1)	500 cm	510 cm	520 cm	530 cm
Platform Width (WD2)	450 cm	460 cm	470 cm	480 cm
Gradient Free Space Width (W3)	30 cm	30 cm	30 cm	30 cm

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

- Ground level pit width is different from the width inside the pit due to drainage channels. Please see "Pit Construction Details", page 9 for more detail.
- We recommend 250 centimeters platform width for convenient parking.
- While setting driving lane width, please check local regulations.
- There must be no gradient or slope at Gradient Free Space Width (W3) to install the machine properly.
- The roof also can support one car but the system cannot be operated with it for a standard machine. It is possible to operate the machine with the vehicle on the roof with a special design and please consult Sanpark in such cases.

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------ 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	in the supply cable	
2	1	3x Safety fuse 40 & Circuit breaker 3x 40 A (Trip Characteristic C)	in the supply cable	1x per unit
3	1	Supply cable 5x4 mm² (3 PH+PE) or PLC type (3 PH+N+PE) with marked wires and protective earth	supply cables to the main switch	1 x per unit
4	Every 10 m	Foundation earth connection	corner or middle of pit floor	
5	1	Equipontential bonding in accordance with DIN EN 60204 from foundation earth connection to system		1 x per system
6	1	Emty pipe EN 40 (M40) with taut wire	from pit floor to operating device	1 x per sytem
7	1	Emty pipe EN 50 (M50) with taut wire	supply cable to hydraulic unit	1 x per unit
8	1	Operation device base		1 x per system
9	1	Separate supply cable 230 V with lighting and socket	from the electricity meter in the maintenance shaft	1 x per system

ELECTRICAL DETAILS (In Sanpark responsibility)			
NUMBER	DEFINITION		
10	Hydraulic unit 7.5 kW, three-phase current 230/400 V 50 Hz		
11	Switch cabinet with lockable master switch		
12	Control cable 4x4 mm ² with marked wires and protective earth		
13	Control cable 2x0.75 mm ² with marked wires and protective earth		
14	Control cable 7x1 mm ² with marked wires and protective earth		
15	Operating device		

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+ LOADS AND CONSTRUCTION DETAILS

For Sublift H2W1

- The systems are anchored into the ground. The drill hole depth in the floor plate is approx. 14 cm, in the walls approx. 10 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. C20/25 to anchor the system.

±13

±14

±16

P1

± 70

± 82

± 95

2000 KG

2600 KG

300 KG

CAR

MONO PLATFORM STRUCTURAL FORCES (kN)

± 22

±26

±29

± 35

± 41

± 43

±14

±16

±17

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For Sublift H2W2

- The systems are anchored into the ground. The drill hole depth in the floor plate is approx. 15 cm, in the walls approx. 12 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.
- Standard lifting capacity is 2000 kg but it is also possible to increase the capacity to 2600 kg and 3000 kg. In case of further capacity, please consult Sanpark.
- 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.

		DOUBLE PLATFORM STRUCTURAL FORCES (kN)				
		P1 P2 P3 P4 P5				P5
F	2000 KG	± 90	± 24	± 41	± 67	± 27
CAR EIGH	2600 KG	± 99	± 29	± 49	± 80	± 29
3	3000 KG	±116	± 29	± 53	± 64	± 32



Sanpark

PIT CONSTRUCTION DETAILS



N-N DETAIL

Front Maintenance Shaft



K-K DETAIL



For Sublift H2W2





- Gradient free area (GFA) (L3, L4 and W3) indicates a space where shall be no gradient or slope. Construction the pit in accordance with slope directions and gradient free area is performed by the customer.
- Pit construction details (Detail A, Detail B, Detail C, Detail D, Detail E) are different from each other. Please check proper detail sections above before designing the pit. To have further information, please see "Sublift Drainage Details", page 12.
- Hydraulic unit is placed in the maintenance shaft. The access to pit, shaft ladder and shaft cover have to be performed by the customer. The safety precautions to the access pit have to be conducted by the customer.
- Door between the maintenance shaft and the Sublift's pit to be installed by the customer.
- Surrounding drainage system and sewerage system are executed by the customer.

- Dimensions for the drainage channel with grating in the pit are 10 x 2 cm with sump 50 x 50 x 50 cm. The drainage channel must be connected to the sewerage system or the water must be drained away by a pump provided by the customer. For sump pump's dimensions please consult its manufacturer.
- SSL (Structural Slab Level) describes the floor level prior to the addition of surface finishing items such as screed, underlay and flooring. FFL (Finish floor level) refers to the uppermost surface of a floor once construction has been completed with tiles, marble, stone, or different means. Surface finishing is to be provided by the customer.
- It is possible to apply the surface finishing on top of Sublift's roof. In such case, please consult Sanpark.
- Any waterproofing work shall be carried by the customer. Maintenance shaft beam must be minimum 50 cm.
- Maximum entrance gradient (%2) and slope (%4) details are specified in the illustrations of the sideview at page 10. Improper layout causes extreme difficulties and Sanpark does not accept any responsibilities.





TECHNICAL INFORMATION



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 vale for operation conveniently. Please request a consultation if required.

Hydraulic Unit

Up to Sublift 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 $+40^{\circ}$ 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.



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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= 57 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 soundabsorbing methods are in the customer's responsibility.

- 2 Steel columns with base plates. 2 Mechanical Locking devices 2 Platforms

- Anchors, screws, connectors, bolts, etc. 1 Mechanical synchronization system.

Platform Components

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

Hydraulic System Components Hydraulic cylinders Solenoid valve

Safety valve Screwed joints High-pressure hoses Attachments

Electrical System Components

Emergency stop Electrohydraulic lock Electro mechanic lock Distributor board Junction box 1 Master key for each Sublift

Hydraulic Unit Component

Hydraulic power unit Hydraulic oil reservoir Oil filling Internal gear Pump Pump holder Coupling 3 phase AC motor (2.6 kW, 380 V, 50 Hz) Contactor Pressure relief valve Hydraulic hoses

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 stipes to indicate the operation area by the purchaser to point out the dangerous area.

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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.

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Drainage

For environmental protection, we advise applying 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, the customer must install a water collection channel around the system.



------ CERTIFICATES +





Sanpark