

Data Sheet

WÖHR COMBIPARKER 560



Platform load options:

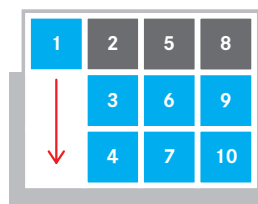
- max. 2000 kg, per 500 kg wheel load
- max. 2600 kg, per 650 kg wheel load **1**
- max. 3000 kg, per 750 kg wheel load **1**

Platform load can be increased later (also individual parking spaces)

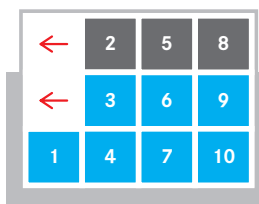
Platforms are in horizontal position to drive on

Grid arrangement:

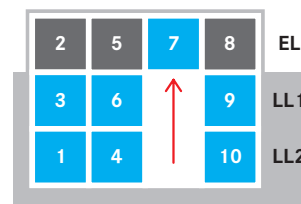
- minimum 2 grids to maximum 10 grids
- for 3 to 5 levels



The vehicle on parking space 7 is requested. Parking space 1 is lowered.

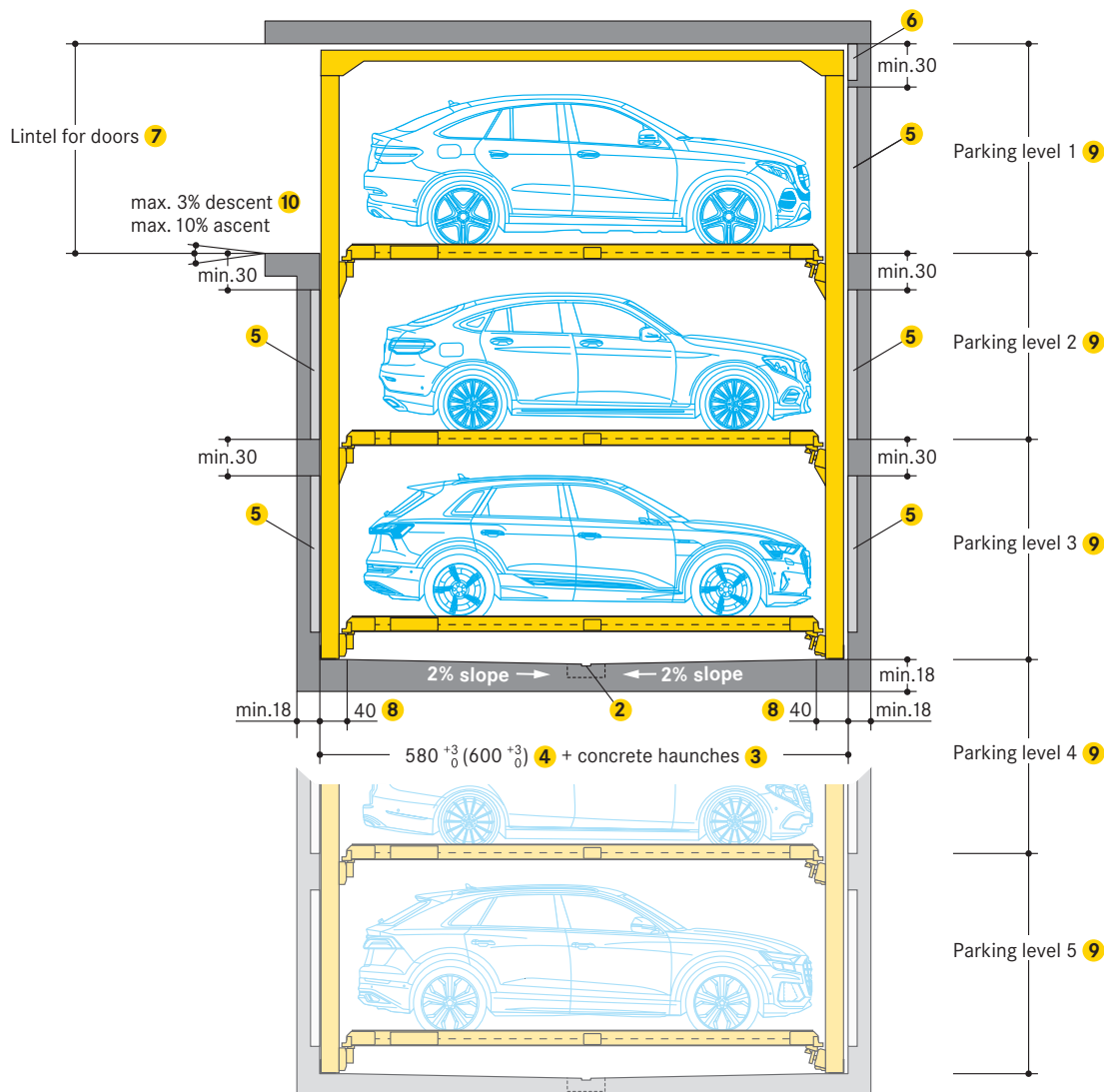


The parking spaces 2, 3, 5 and 6 are shifted to the left.



Parking space 7 is lifted up to the entrance level (EL), the vehicle is now ready for exit.

Length dimensions underground car park (height dimensions see page 3-6)



1 Extra platform load at additional cost (platform load of 3000 kg up to max. 270 cm platform width)

2 Drainage channels (on site/by the customer):
- 10 x 2 cm, with a 50 x 50 x 20 cm drainage pit
- when installing an on site sump pump, observe the dimensions of the drainage pit according to the manufacturer's specifications

3 Channels or undercuts/concrete haunches (on site/by the customer):
- should channels or undercuts be necessary, the pit needs to be wider and longer

4 500 cm vehicle length = 580 cm pit length
520 cm vehicle length = 600 cm pit length

5 Optional free space for on site/customer performed ventilation or sprinklers:
- please ask WÖHR for the dimension sheets

6 A recess of 5 cm depth is required in the area of the lifting actuator (consultation with WÖHR strongly recommended)

7 Doors (see page 8/9)

8 In this area, 0% of downward/upward slope in longitudinal and cross direction

9 Max. 5 parking levels in any above/below ground combination

10 For above ground garages with a slope, a drainage channel in the driveway is recommended

Dimensions

- all specified dimensions are minimum finished dimensions
- additionally, tolerances according to the DIN 18330 and 18331, as well as DIN 18202 should be observed
- all dimensions are given in cm

Decision support for the vehicle height

Choosing the right vehicle height for your project is essentially based on any building regulations, user expectations and building specifications. Criteria can include:

Residential buildings:

Different parking space heights are conceivable and can affect the sales price. For example, lower parking spaces could be provided for higher vehicles. This results in more convenient access to the vehicle. Less high vehicles in the upper parking spaces and thus reduced building height and less enclosed space. The ramp to the underground car park will be less steep or less long. To make it easier to sell parking spaces, we recommend that the vehicle heights be the same.

Office buildings:

For this parking concept, we recommend the same vehicle height for all parking spaces. If permanently assigned parking spaces are preferred for parking permittees, different parking space heights could be provided.

Hotels:

Whether city hotel, vacation hotel or vacation apartments: With changing occupancy, all parking spaces should have the same vehicle height. Maximum parking space heights should be selected to allow parking for vehicles with roof-mounted structures, if necessary.

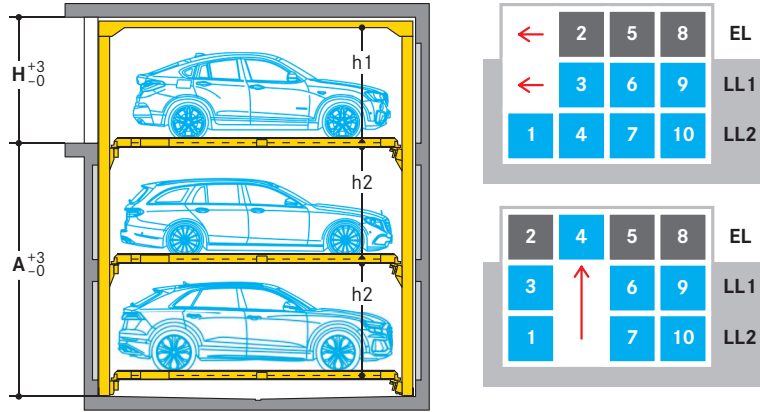
Vehicle heights

The following table is intended as a guide to help you select the platform distance and construction dimensions:

Aston-Martin DBX	168 cm	Dacia Duster	170 cm	Porsche Cayenne Coupé	168 cm
AUDI A6	151 cm	Ford Galaxy	175 cm	Porsche Macan	162 cm
AUDI Q4	163 cm	Ford Kuga	167 cm	Skoda Kodiak	168 cm
AUDI Q7	174 cm	Jaguar F-Pace	166 cm	Tesla Model X	168 cm
Bentley Bentayga	173 cm	Landrover Defender	198 cm	Toyota Highlander	173 cm
BMW iX	170 cm	Maserati Levante	169 cm	VW Sharan	174 cm
BMW X3	166 cm	Mercedes G-Class	195 cm	VW T 3	196 cm
BMW X5	176 cm	Mercedes GLE Coupé	173 cm	VW Tiguan	167 cm
BMW X6	176 cm	Mercedes V-Class	191 cm	VW Touareg	170 cm

All vehicle heights are non-binding, due to the wide range of model variants and the year of construction.

Height dimensions COMBIPARKER 560 (1 up | 2 down)

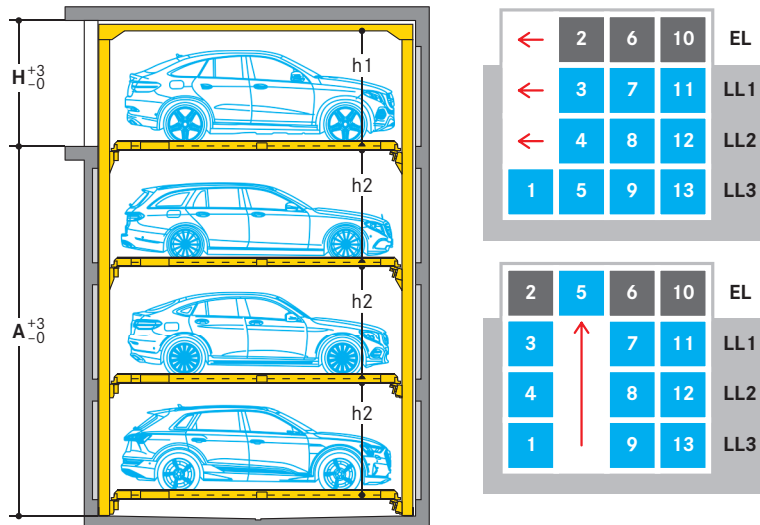


Combiparker 560 (1 up 2 down)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
EL	200	200	200	200	200	200	205	210
LL	175	180	185	190	195	200	205	210
Platform distance								
h1	205	205	205	205	205	205	210	215
h2	180	185	190	195	200	205	210	215
Clear installation dimensions								
H	235	235	235	235	235	235	240	245
A	415	425	435	445	455	465	475	485

EL = entrance level / LL = lower level

WÖHR recommends: max. 10 grids, 28 parking spaces

Height dimensions COMBIPARKER 560 (1 up | 3 down)

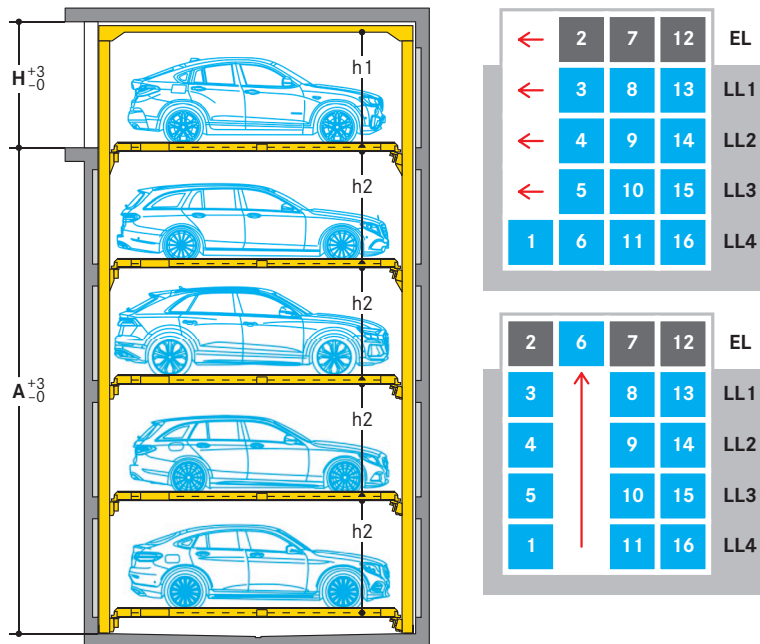


Combiparker 560 (1 up 3 down)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
EL	200	200	200	200	200	200	205	210
LL	175	180	185	190	195	200	205	210
Platform distance								
h1	205	205	205	205	205	205	210	215
h2	180	185	190	195	200	205	210	215
Clear installation dimensions								
H	235	235	235	235	235	235	240	245
A	605	620	635	650	665	680	695	710

EL = entrance level / LL = lower level

WÖHR recommends: max. 8 grids, 29 parking spaces

Height dimensions COMBIPARKER 560 (1 up | 4 down)

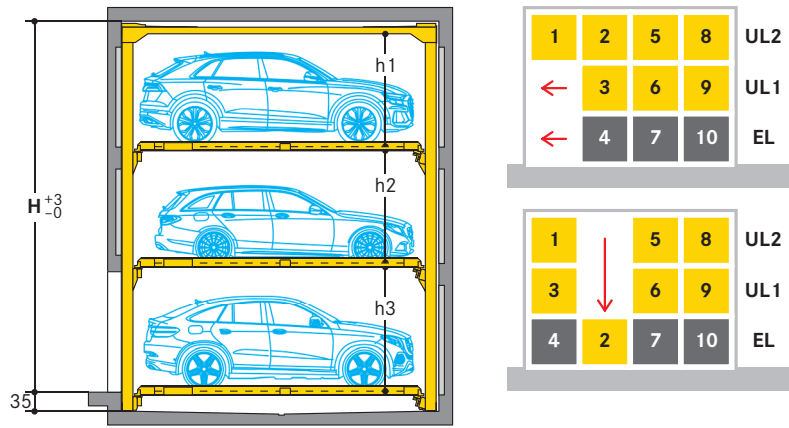


Combiparker 560 (1 up 4 down)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
EL	200	200	200	200	200	200	205	210
LL	175	180	185	190	195	200	205	210
Platform distance								
h1	205	205	205	205	205	205	210	215
h2	180	185	190	195	200	205	210	215
Clear installation dimensions								
H	235	235	235	235	235	235	240	245
A	795	815	835	855	875	895	915	935

EL = entrance level / LL = lower level

WÖHR recommends: max. 7 grids, 31 parking spaces

Height dimensions COMBIPARKER 560 (3 up)

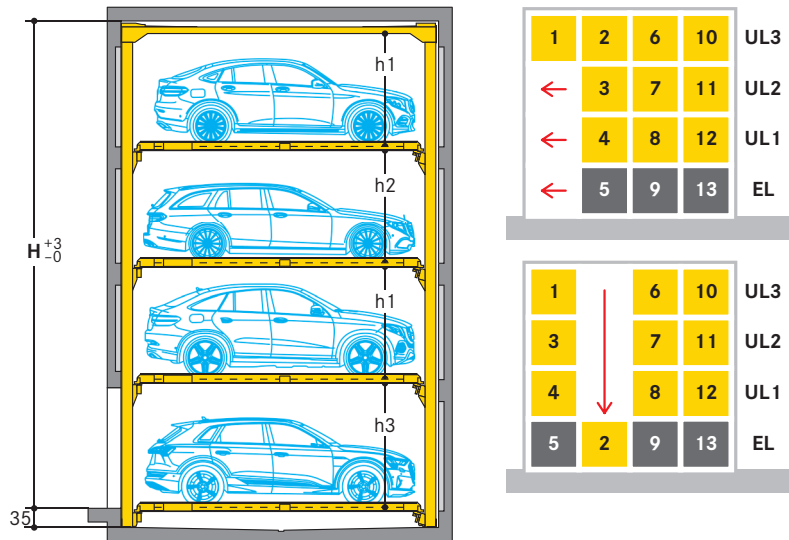


Combiparker 560 (3 up)								
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Vehicle height								
UL	175	180	185	190	195	200	205	210
EL	175	180	185	190	195	200	205	210
Platform distance								
h1	180	185	190	195	200	205	210	215
h2	185	190	195	200	205	210	215	220
h3	200	205	210	215	220	225	230	235
Clear installation dimensions								
H	610	625	640	655	670	685	700	715

UL= upper level / EL = entrance level

WÖHR recommends: max. 10 grids, 28 parking spaces

Height dimensions COMBIPARKER 560 (4 up)

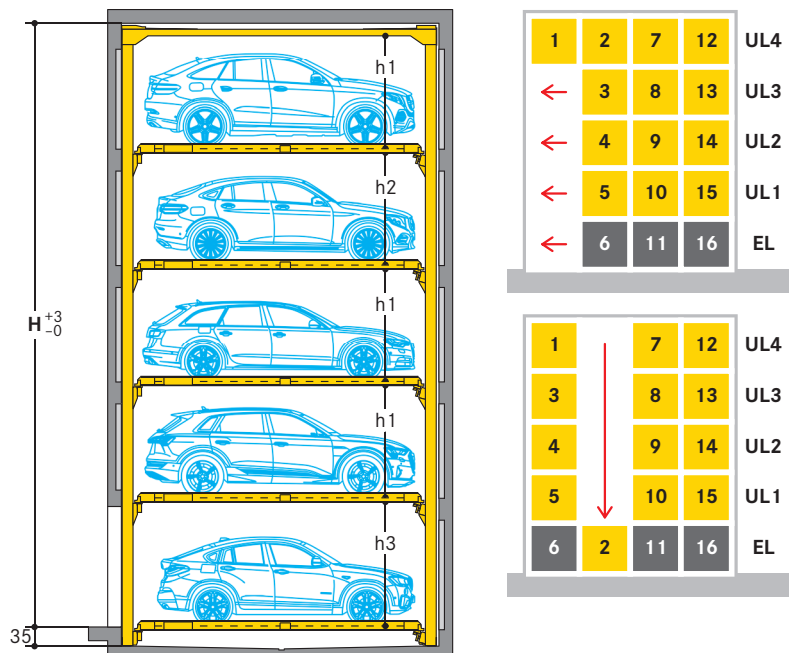


Combiparker 560 (4 up)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
UL	175	180	185	190	195	200	205	210
EL	175	180	185	190	195	200	205	210
Platform distance								
h1	180	185	190	195	200	205	210	215
h2	185	190	195	200	205	210	215	220
h3	200	205	210	215	220	225	230	235
Clear installation dimensions								
H	800	820	840	860	880	900	920	940

UL= upper level / EL = entrance level

WÖHR recommends: max. 8 grids, 29 parking spaces

Height dimensions COMBIPARKER 560 (5 up)

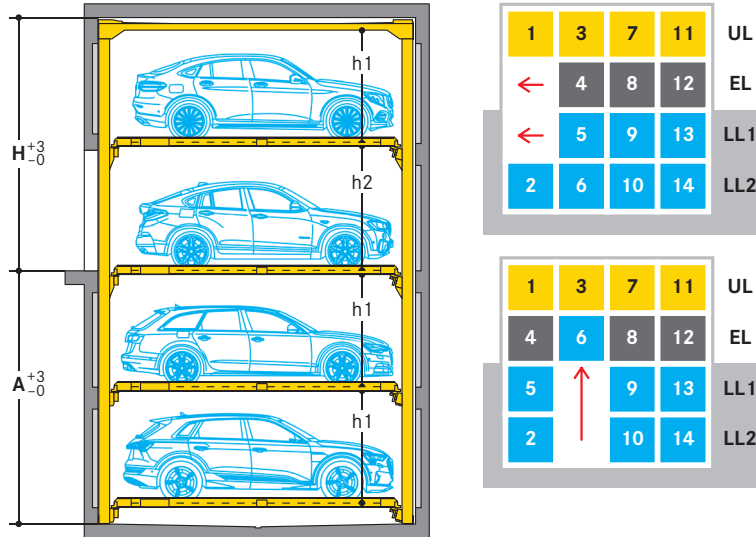


Combiparker 560 (5 up)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
UL	175	180	185	190	195	200	205	210
EL	175	180	185	190	195	200	205	210
Platform distance								
h1	180	185	190	195	200	205	210	215
h2	185	190	195	200	205	210	215	220
h3	200	205	210	215	220	225	230	235
Clear installation dimensions								
H	990	1015	1040	1065	1090	1115	1140	1165

UL= upper level / EL = entrance level

WÖHR recommends: max. 7 grids, 31 parking spaces

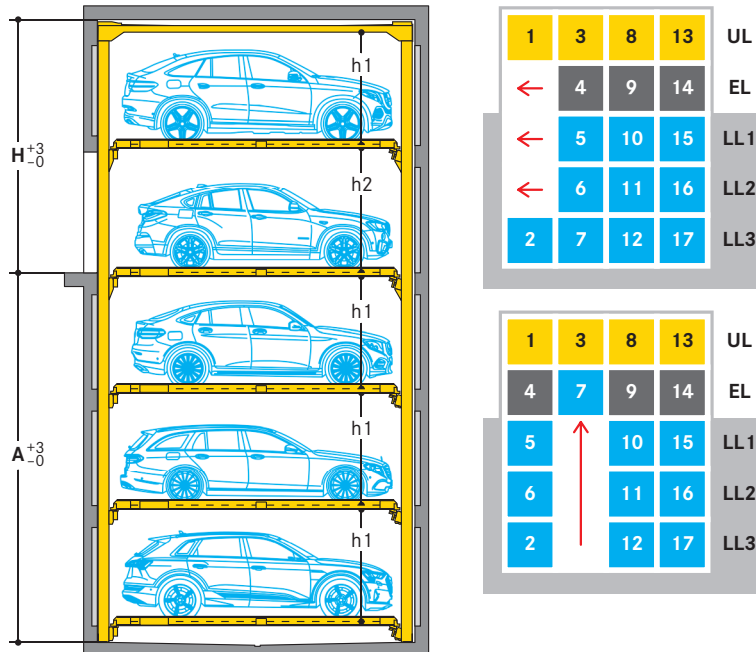
Height dimensions COMBIPARKER 560 (2 up | 2 down)



Combiparker 560 (2 up 2 down)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
UL	175	180	185	190	195	200	205	210
EL	175	180	185	190	195	200	205	210
LL	175	180	185	190	195	200	205	210
Platform distance								
h1	180	185	190	195	200	205	210	215
h2	200	205	210	215	220	225	230	235
Clear installation dimensions								
H	415	425	435	445	455	465	475	485
A	415	425	435	445	455	465	475	485

UL= upper level / EL = entrance level / LL = lower level
 WÖHR recommends: max. 8 grids, 30 parking spaces

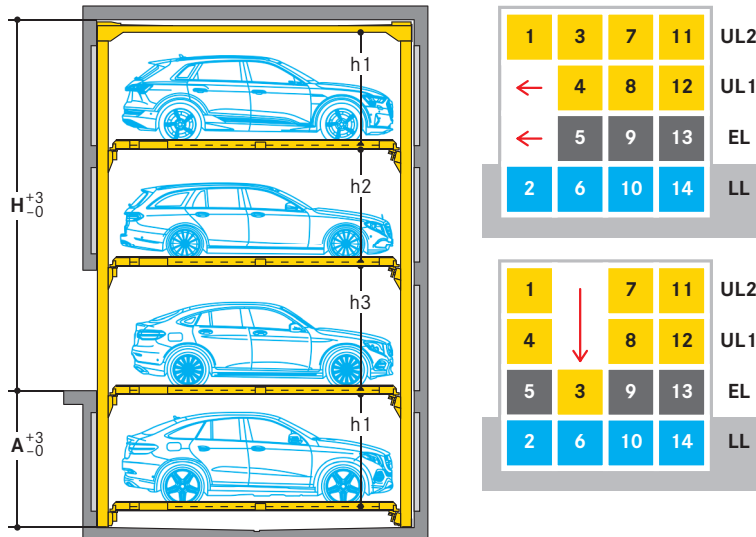
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Clear installation dimensions								
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UL= upper level / EL = entrance level / LL = lower level
 WÖHR recommends: max. 7 grids, 32 parking spaces

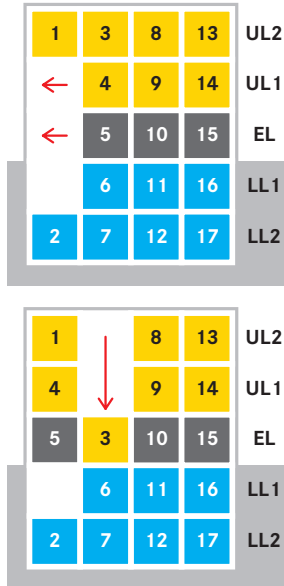
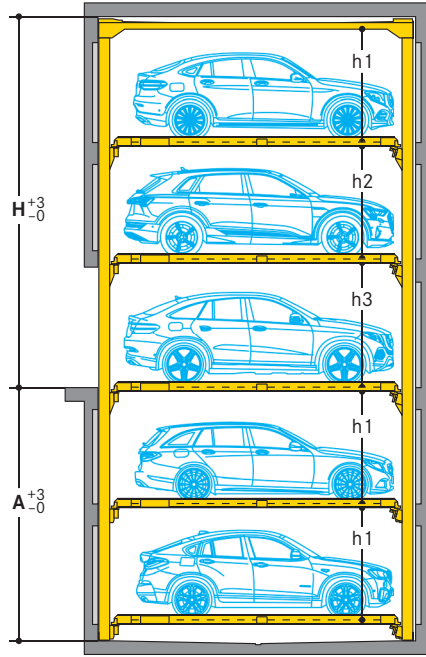
Height dimensions COMBIPARKER 560 (3 up | 1 down)



Combiparker 560 (3 up 1 down)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
UL	175	180	185	190	195	200	205	210
EL	175	180	185	190	195	200	205	210
LL	175	180	185	190	195	200	205	210
Platform distance								
h1	180	185	190	195	200	205	210	215
h2	185	190	195	200	205	210	215	220
h3	200	205	210	215	220	225	230	235
Clear installation dimensions								
H	610	625	640	655	670	685	700	715
A	225	230	235	240	245	250	255	260

UL= upper level / EL = entrance level / LL = lower level
 WÖHR recommends: max. 8 grids, 30 parking spaces

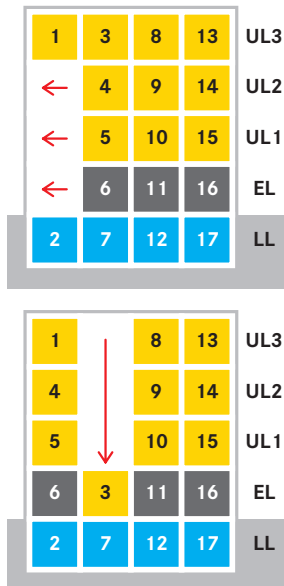
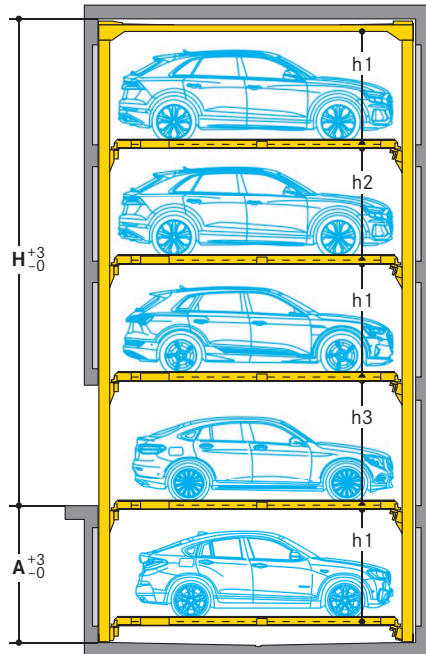
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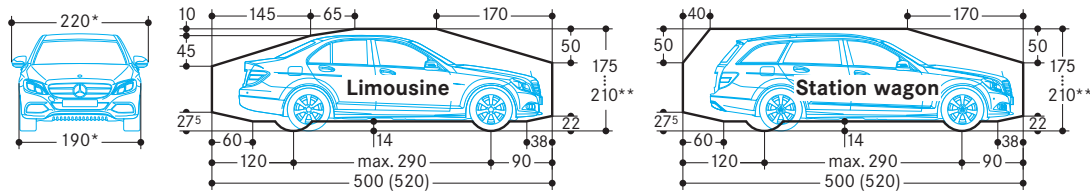
Height dimensions COMBIPARKER 560 (4 up | 1 down)



Combiparker 560 (4 up 1 down)								
Typ	175	180	185	190	195	200	205	210
Vehicle height								
UL	175	180	185	190	195	200	205	210
EL	175	180	185	190	195	200	205	210
LL	175	180	185	190	195	200	205	210
Platform distance								
h1	180	185	190	195	200	205	210	215
h2	185	190	195	200	205	210	215	220
h3	200	205	210	215	220	225	230	235
Clear installation dimensions								
H	800	820	840	860	880	900	920	940
A	225	230	235	240	245	250	255	260

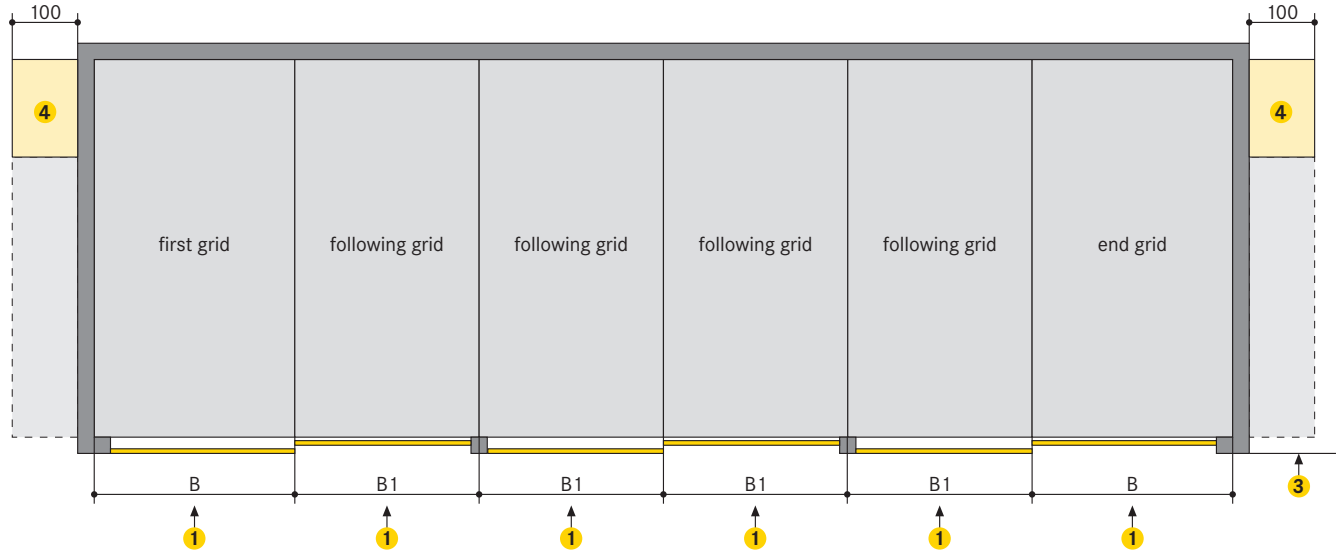
UL = upper level / EL = entrance level / LL = lower level
 WÖHR recommends: max. 7 grids, 32 parking spaces

Clearance profile (for standard vehicles)



* for a 250 cm platform width
 ** The overall vehicle height including roof rails and antenna mounts must not exceed the specified max. vehicle height dimensions

Width dimensions (underground car park)



space requirements		clear platform width 2
B	B1	
285	270	250
295	280	260
305	290	270

Platform widths:

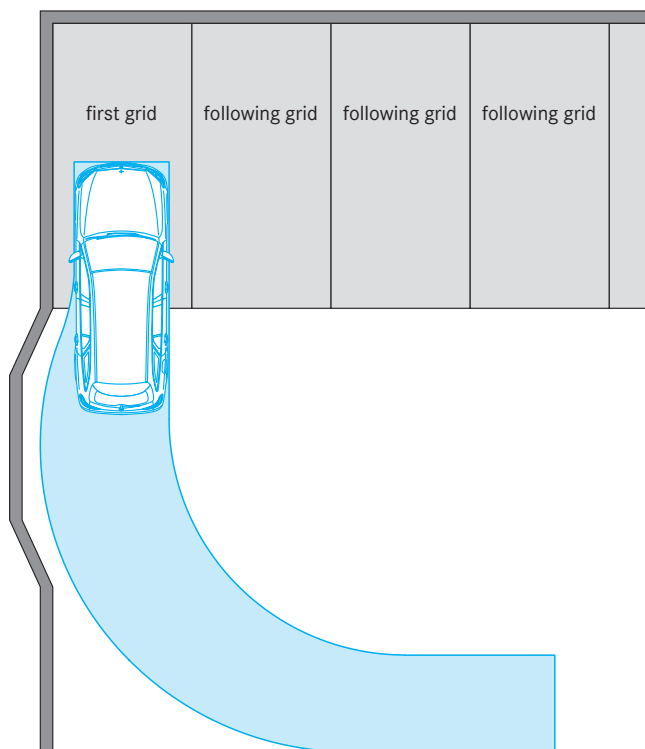
- 250 cm:
- for 190 cm vehicle width (without exterior mirror)
- 260-270 cm:
- for vehicles wider than 190 cm (without exterior mirror)
- 270 cm:
- recommended for systems at the end of the driving aisle

For convenient parking and an easy entry and exit, platform widths of 270 cm are recommended.

If the platform widths are less than specified widths, parking process may be restricted. Narrower platform widths are not recommended due to inconvenience.

- 1 At each grid, an entry/exit is required at entrance level (EL) to reach the requested parking space
- 2 Smaller platform widths are possible but not recommended (please contact WÖHR)
- 3 The driving aisle width must comply with local regulations
- 4 Maintenance access see page 9

Wall recess



For parking spaces that are arranged at the end of the drive aisle at an angle of 90°, the entrance width must be at least 275 cm. WÖHR recommends to provide a wall recess at the end of the drive aisle, if technically possible.

Doors

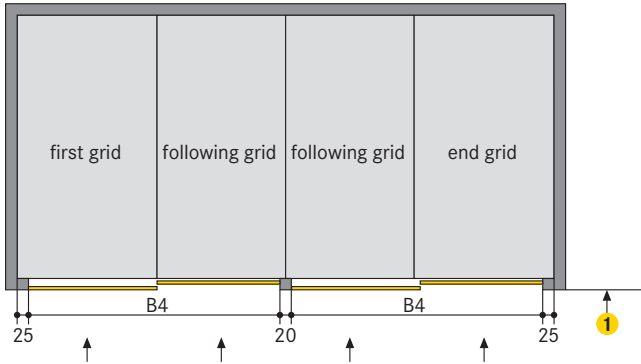
According to DIN EN 14010 doors are required.

Automatic sliding doors:

- electrical drive
- controls are integrated in the overall system
- electro-mechanically interlocked
- can only be opened when the selected parking place has reached the entry/exit position
- any crash openings are closed in the entrance area

Local requirements for electrical doors regarding the technology, maintenance and revision are not subject of our delivery. These matters have to be observed and carried out by the customer, according to the local regulations.

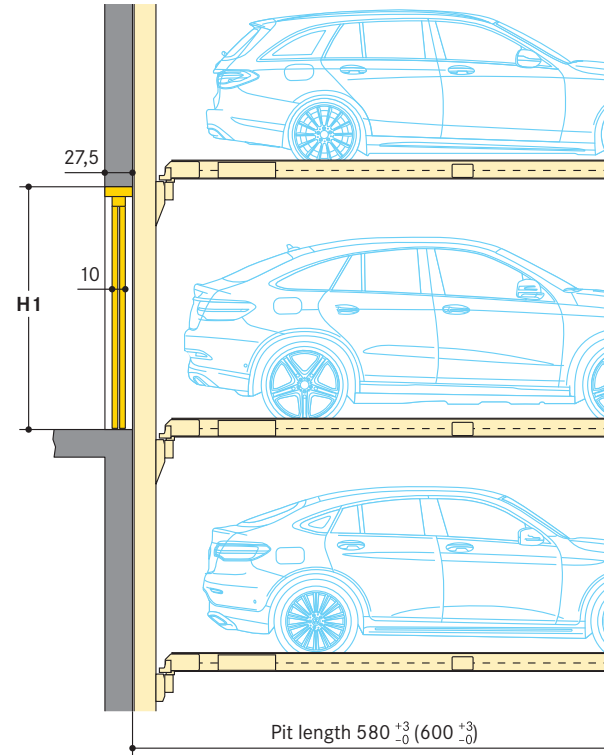
Sliding doors under the lintel, between the building pillars



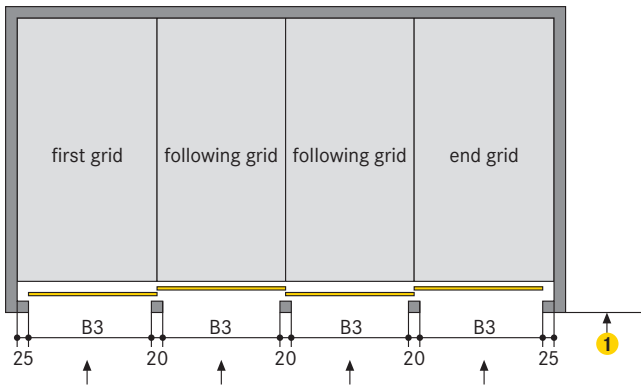
space requirements B4	clear platform width
520	250
540	260
560	270

Vehicle height	
	175 180 185 190 195 200 205 210
H1	220 220 220 220 220 220 220 225

1 The driving aisle width must comply with local regulations



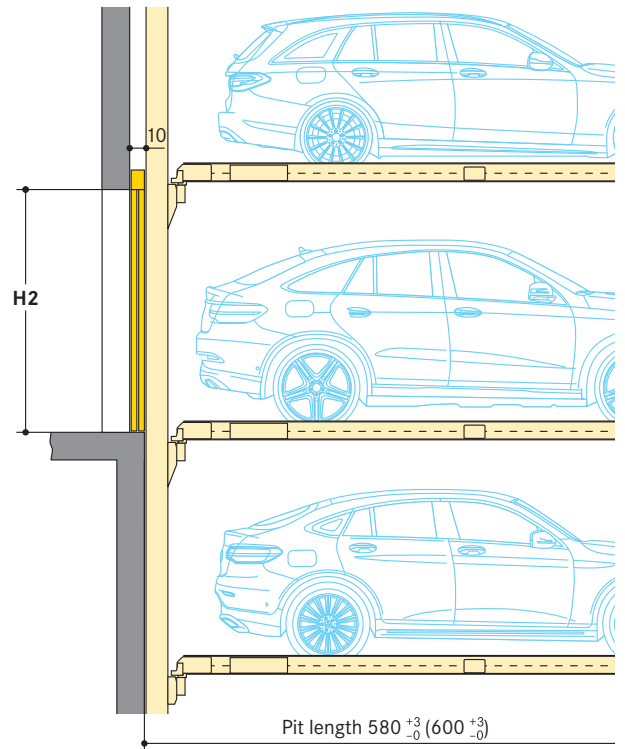
Sliding doors behind the building pillars with door offset



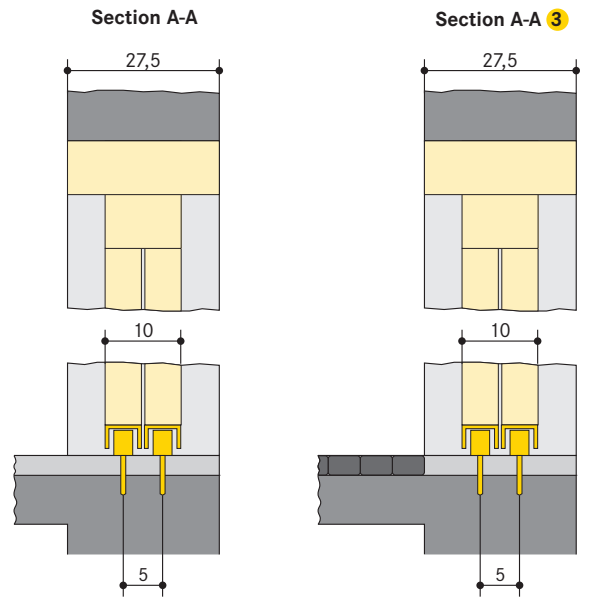
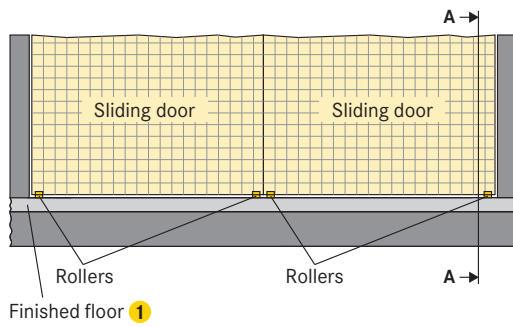
space requirements B4	clear platform width
250	250
260	260
270	270

Vehicle height	
	175 180 185 190 195 200 205 210
H2	220 220 220 220 220 220 220 220

1 The driving aisle width must comply with local regulations

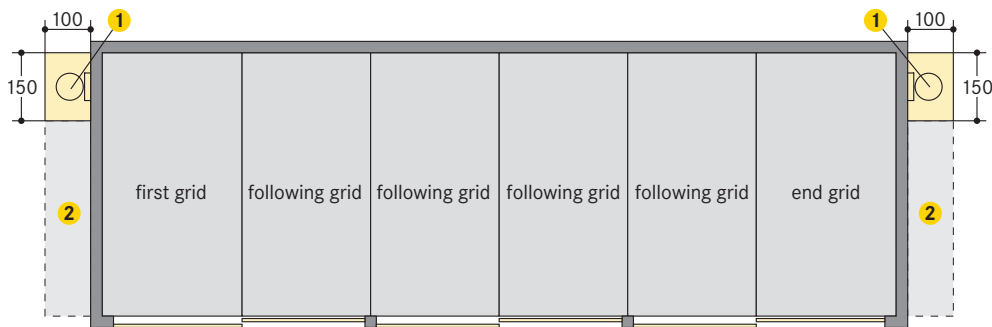


Sliding door floor guides



- 1** Finished floor:
 - compliant to DIN 18353,
 - floor evenness compliant to DIN 18202, table 3, line 3
- 2** Floor guide section:
 - base plate with plastic rollers
 - fixed on the floor with adhesive anchor (M8 internal screw thread)
 - borehole depth approx. 9 cm
 - in the event that floor filling needs to be laid into the door section to the purpose of reaching the required floor evenness, the borehole depth needs to be increased by the thickness of the floor fill (max. 4 cm)
- 3** If the driving aisle is made of concrete blocks, asphalt etc., the concrete slab of the pit edge in the door area must be min. 27,5 cm wide

Maintenance access



- 1** For maintenance of the system, a maintenance access with access via stairs or ladders to all levels must be provided on site/by the customer. Safeguard of access with a door to be performed by the customer.
Service and maintenance access preferably on both sides. Regional-specific prescriptions are to be observed for all on-site works.
- 2** Alternative position of the maintenance access

■ Static calculations and construction (height dimensions and forces see page 11–14)

Transfer of bearing forces to the floor:

- base plates (approx. 350 cm²)
- fixing with adhesive anchors
- drill hole depth 12–14 cm
- base plate in concrete
- floor slab thickness min. 18 cm

Transfer of the bearing forces to the walls:

- wall plates (approx. 30 cm²)
- fixing with adhesive anchors
- entry side and rear wall in concrete, perfectly even walls
- without protruding parts such as border edgings, edge trim, pipes, tubes, etc.
- walls min. 18 cm thick

Concrete quality:

- according to static requirements of the construction
- min. C20/25 grade (for dowel fastening)

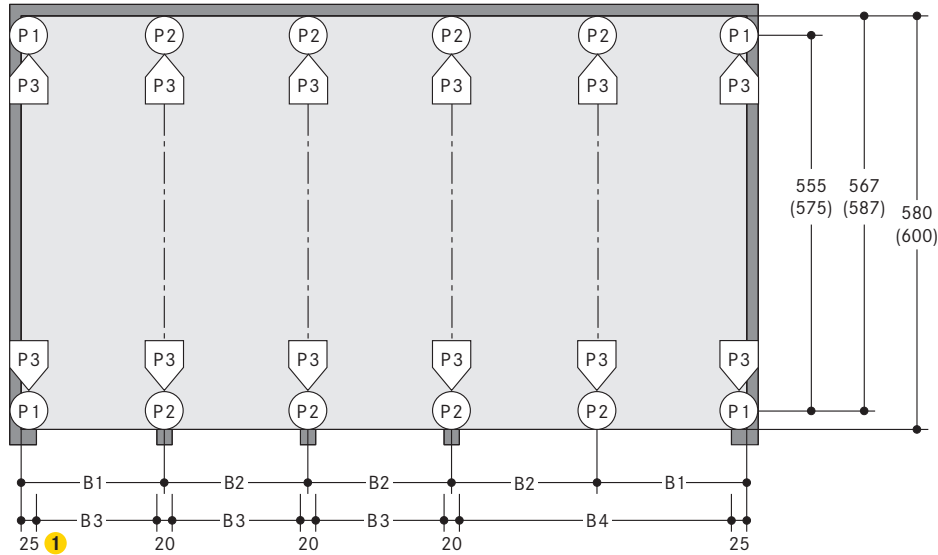
Support points:

- lengths are averaged

Door and widths of columns:

- coordinate with WÖHR
- axle dimensions (270/280/290) must be complied with

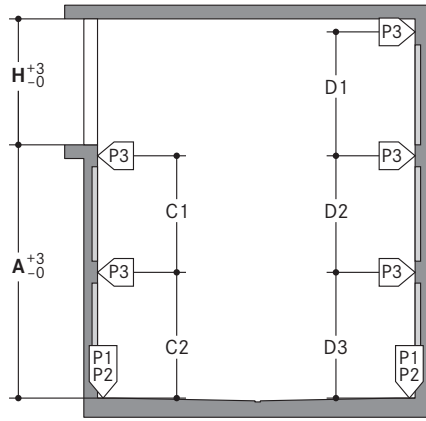
Ground plan



space requirements				clear platform width
B1	B2	B3	B4	
285	270	250	520	250
295	280	260	540	260
305	290	270	560	270

1 For column widths greater than 20/25 cm, the clear passage width is reduced accordingly. Coordination with WÖHR is required.

■ Static calculations and construction COMBIPARKER 560 (1 up | 2 down)



Combiparker 560 (1 up 2 down)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	235	235	235	235	235	235	240	245
A	415	425	435	445	455	465	475	485
Clear installation dimensions (forces on entry side)								
C1	190	195	200	205	210	215	220	225
C2	195	200	205	210	215	220	225	230
Clear installation dimensions (forces on rear wall)								
D1	225	225	225	225	225	225	230	235
D2	190	195	200	205	210	215	220	225
D3	195	200	205	210	215	220	225	230

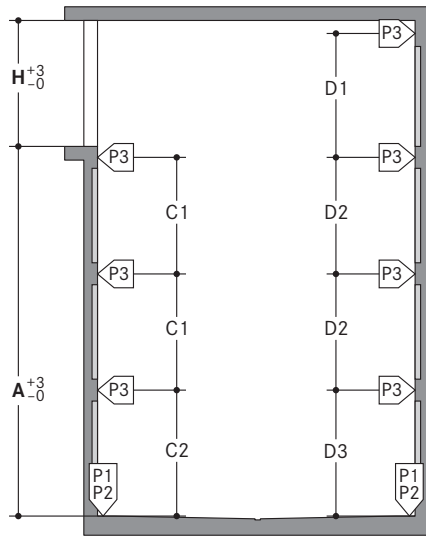
2000 kg	
P1	+ 23,0 kN*
P2	+ 46,0 kN
P3	± 5,0 kN

2600 kg	
P1	+ 28,0 kN*
P2	+ 55,0 kN
P3	± 5,0 kN

3000 kg	
P1	+ 30,5 kN*
P2	+ 61,0 kN
P3	± 5,0 kN

* all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (1 up | 3 down)



Combiparker 560 (1 up 3 down)								
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A	605	620	635	650	665	680	695	710
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Clear installation dimensions (forces on rear wall)								
D1	225	225	225	225	225	225	230	235
D2	190	195	200	205	210	215	220	225
D3	195	200	205	210	215	220	225	230

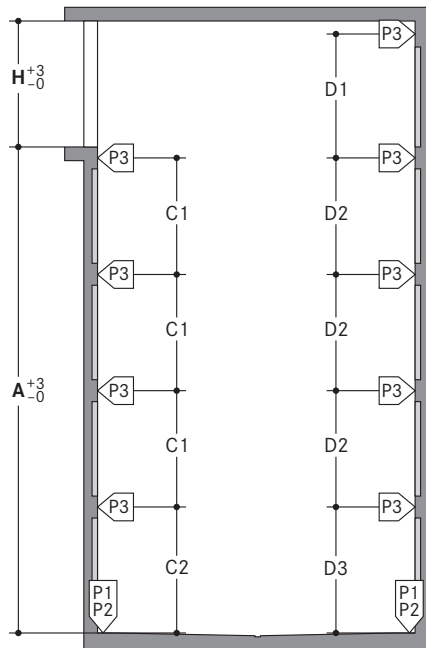
2000 kg	
P1	+ 30,0 kN*
P2	+ 60,0 kN
P3	± 5,0 kN

2600 kg	
P1	+ 35,5 kN*
P2	+ 71,0 kN
P3	± 5,0 kN

3000 kg	
P1	+ 37,0 kN*
P2	+ 73,5 kN
P3	± 5,0 kN

* all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (1 up | 4 down)



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Clear installation dimensions (forces on entry side)								
C1	190	195	200	205	210	215	220	225
C2	195	200	205	210	215	220	225	230
Clear installation dimensions (forces on rear wall)								
D1	225	225	225	225	225	225	230	235
D2	190	195	200	205	210	215	220	225
D3	195	200	205	210	215	220	225	230

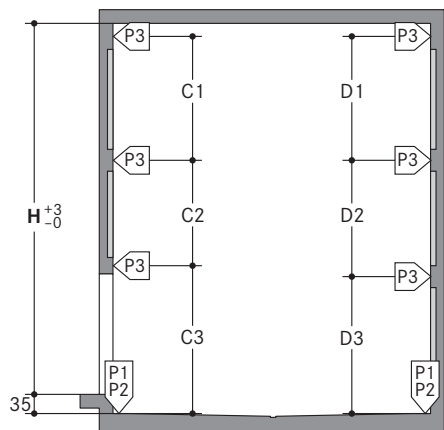
2000 kg	
P1	+ 36,0 kN*
P2	+ 71,5 kN
P3	± 5,0 kN

2600 kg	
P1	+ 43,5 kN*
P2	+ 87,0 kN
P3	± 5,0 kN

3000 kg	
P1	+ 46,5 kN*
P2	+ 93,0 kN
P3	± 5,0 kN

* all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (3 up)

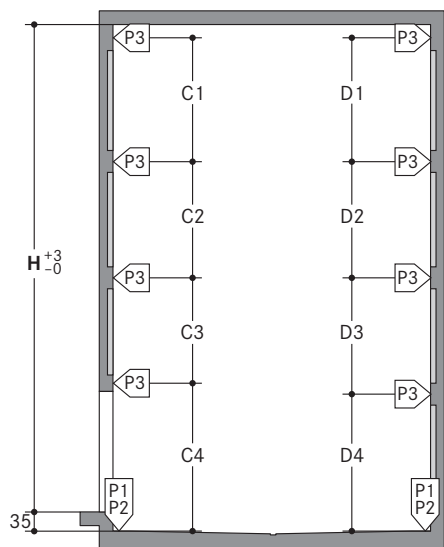


Combiparker 560 (3 up)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	610	625	640	655	670	685	700	715
Clear installation dimensions (forces on entry side)								
C1	200	205	210	215	220	225	230	235
C2	135	145	155	165	175	185	190	195
C3	275	275	275	275	275	275	280	285
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	195	200	205	210	215	220	225	230
D3	215	220	225	230	235	240	245	250

2000 kg		2600 kg		3000 kg	
P1	+ 23,0 kN*	P1	+ 28,0 kN*	P1	+ 30,5 kN*
P2	+ 46,0 kN	P2	+ 55,0 kN	P2	+ 61,0 kN
P3	± 5,0 kN	P3	± 5,0 kN	P3	± 5,0 kN

*all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (4 up)

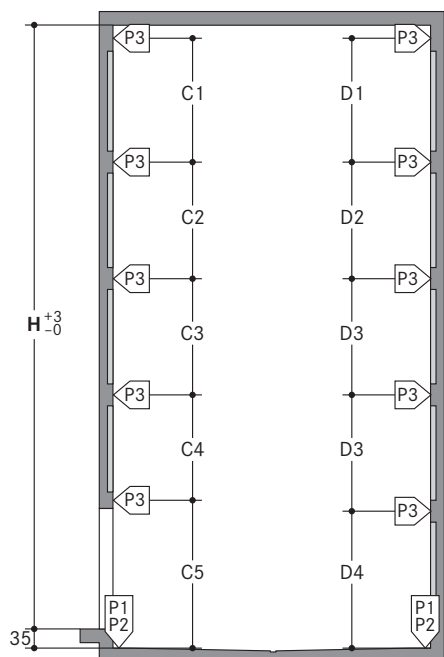


Combiparker 560 (4 up)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	800	820	840	860	880	900	920	940
Clear installation dimensions (forces on entry side)								
C1	200	205	210	215	220	225	230	235
C2	195	200	205	210	215	220	225	230
C3	130	140	150	160	170	180	185	190
C4	275	275	275	275	275	275	280	285
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	195	200	205	210	215	220	225	230
D3	190	195	200	205	210	215	220	225
D4	215	220	225	230	235	240	245	250

2000 kg		2600 kg		3000 kg	
P1	+ 30,0 kN*	P1	+ 35,5 kN*	P1	+ 37,0 kN*
P2	+ 60,0 kN	P2	+ 71,0 kN	P2	+ 73,5 kN
P3	± 5,0 kN	P3	± 5,0 kN	P3	± 5,0 kN

*all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (5 up)

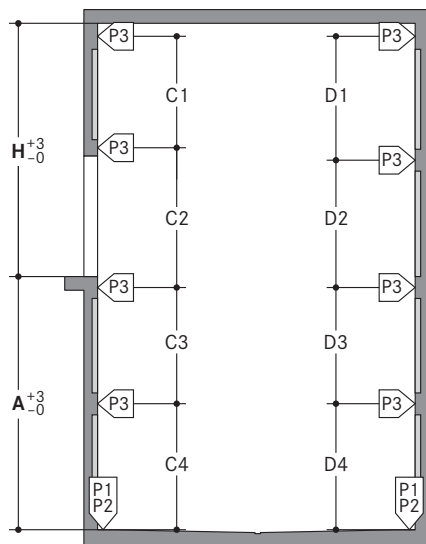


Combiparker 560 (5 up)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	990	1015	1040	1065	1090	1115	1140	1165
Clear installation dimensions (forces on entry side)								
C1	200	205	210	215	220	225	230	235
C2	195	200	205	210	215	220	225	230
C3	190	195	200	205	210	215	220	225
C4	130	140	150	160	170	180	185	190
C5	275	275	275	275	275	275	280	285
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	195	200	205	210	215	220	225	230
D3	190	195	200	205	210	215	220	225
D4	215	220	225	230	235	240	245	250

2000 kg		2600 kg		3000 kg	
P1	+ 36,0 kN*	P1	+ 43,5 kN*	P1	+ 46,5 kN*
P2	+ 71,5 kN	P2	+ 87,0 kN	P2	+ 93,0 kN
P3	± 5,0 kN	P3	± 5,0 kN	P3	± 5,0 kN

*all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (2 up | 2 down)

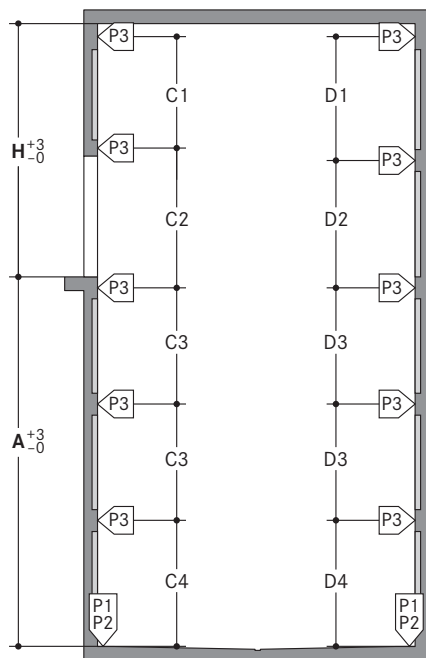


Combiparker 560 (2 up 2 down)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	415	425	435	445	455	465	475	485
A	415	425	435	445	455	465	475	485
Clear installation dimensions (forces on entry side)								
C1	140	150	160	170	180	190	195	200
C2	270	270	270	270	270	270	275	280
C3	190	195	200	205	210	215	220	225
C4	195	200	205	210	215	220	225	230
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	210	215	220	225	230	235	240	245
D3	190	195	200	205	210	215	220	225
D4	195	200	205	210	215	220	225	230

2000 kg		2600 kg		3000 kg	
P1	+ 30,0 kN*	P1	+ 35,5 kN*	P1	+ 37,0 kN*
P2	+ 60,0 kN	P2	+ 71,0 kN	P2	+ 73,5 kN
P3	± 5,0 kN	P3	± 5,0 kN	P3	± 5,0 kN

*all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (2 up | 3 down)

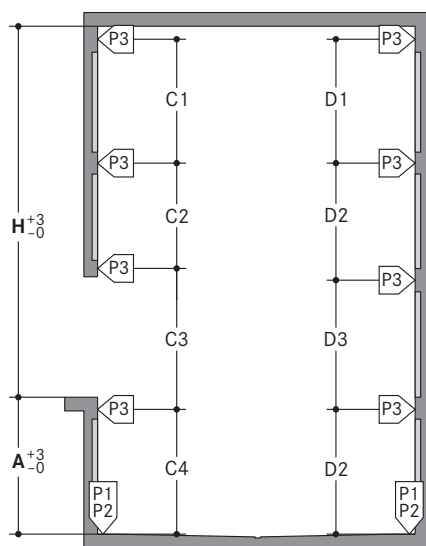


Combiparker 560 (2 up 3 down)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	415	425	435	445	455	465	475	485
A	605	620	635	650	665	680	695	710
Clear installation dimensions (forces on entry side)								
C1	140	150	160	170	180	190	195	200
C2	270	270	270	270	270	270	275	280
C3	190	195	200	205	210	215	220	225
C4	195	200	205	210	215	220	225	230
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	210	215	220	225	230	235	240	245
D3	190	195	200	205	210	215	220	225
D4	195	200	205	210	215	220	225	230

2000 kg		2600 kg		3000 kg	
P1	+ 36,0 kN*	P1	+ 43,5 kN*	P1	+ 46,5 kN*
P2	+ 71,5 kN	P2	+ 87,0 kN	P2	+ 93,0 kN
P3	± 5,0 kN	P3	± 5,0 kN	P3	± 5,0 kN

*all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (3 up | 1 down)

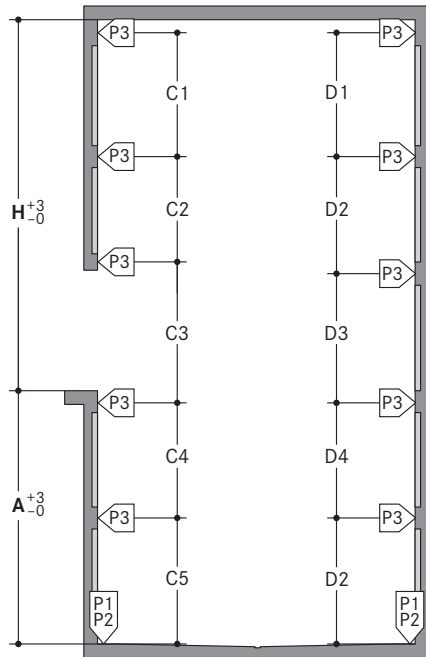


Combiparker 560 (3 up 1 down)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	610	625	640	655	670	685	700	715
A	225	230	235	240	245	250	255	260
Clear installation dimensions (forces on entry side)								
C1	200	205	210	215	220	225	230	235
C2	135	145	155	165	175	185	190	195
C3	270	270	270	270	270	270	275	280
C4	195	200	205	210	215	220	225	230
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	195	200	205	210	215	220	225	230
D3	210	215	220	225	230	235	240	245

2000 kg		2600 kg		3000 kg	
P1	+ 30,0 kN*	P1	+ 35,5 kN*	P1	+ 37,0 kN*
P2	+ 60,0 kN	P2	+ 71,0 kN	P2	+ 73,5 kN
P3	± 5,0 kN	P3	± 5,0 kN	P3	± 5,0 kN

*all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (3 up | 2 down)



Combiparker 560 (3 up 2 down)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	610	625	640	655	670	685	700	715
A	415	425	435	445	455	465	475	485
Clear installation dimensions (forces on entry side)								
C1	200	205	210	215	220	225	230	235
C2	135	145	155	165	175	185	190	195
C3	270	270	270	270	270	270	275	280
C4	190	195	200	205	210	215	220	225
C5	195	200	205	210	215	220	225	230
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	195	200	205	210	215	220	225	230
D3	210	215	220	225	230	235	240	245
D4	190	195	200	205	210	215	220	225

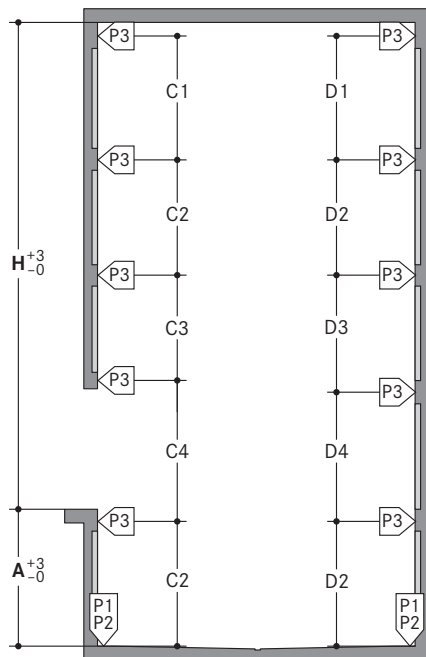
2000 kg	
P1	+ 36,0 kN*
P2	+ 71,5 kN
P3	± 5,0 kN

2600 kg	
P1	+ 43,5 kN*
P2	+ 87,0 kN
P3	± 5,0 kN

3000 kg	
P1	+ 46,5 kN*
P2	+ 93,0 kN
P3	± 5,0 kN

*all forces including vehicle weight

■ Static calculations and construction COMBIPARKER 560 (4 up | 1 down)



Combiparker 560 (4 up 1 down)								
Typ	175	180	185	190	195	200	205	210
Clear installation dimensions								
H	800	820	840	860	880	900	920	940
A	225	230	235	240	245	250	255	260
Clear installation dimensions (forces on entry side)								
C1	200	205	210	215	220	225	230	235
C2	195	200	205	210	215	220	225	230
C3	130	140	150	160	170	180	185	190
C4	270	270	270	270	270	270	275	280
Clear installation dimensions (forces on rear wall)								
D1	200	205	210	215	220	225	230	235
D2	195	200	205	210	215	220	225	230
D3	190	195	200	205	210	215	220	225
D4	210	215	220	225	230	235	240	245

2000 kg	
P1	+ 36,0 kN*
P2	+ 71,5 kN
P3	± 5,0 kN

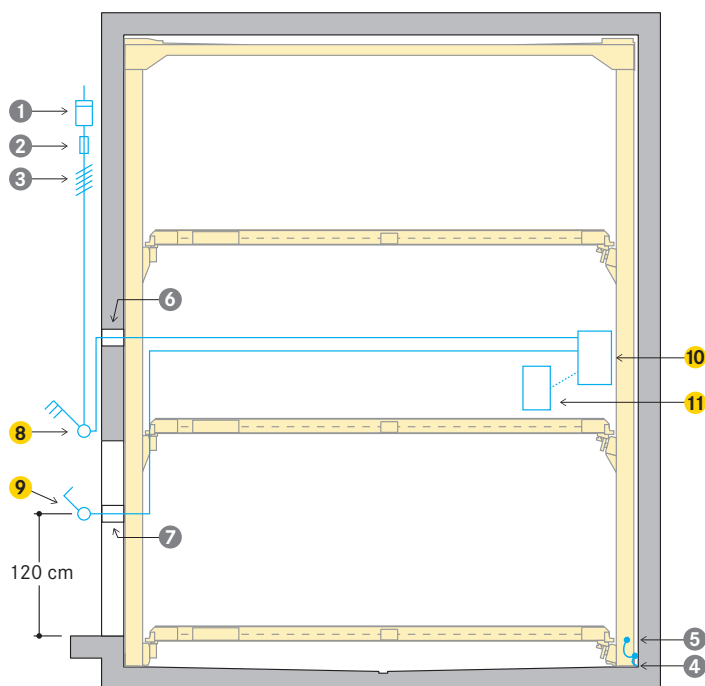
2600 kg	
P1	+ 43,5 kN*
P2	+ 87,0 kN
P3	± 5,0 kN

3000 kg	
P1	+ 46,5 kN*
P2	+ 93,0 kN
P3	± 5,0 kN

*all forces including vehicle weight

Electrical specifications

Installation diagram



Cabling preparation to be performed by the customer:

- up to the main switch to be in place prior to starting the installation operations
- connection to the main switch during installation
- system functional check testing can be performed by WÖHR together with the electrician provided by the customer
- if requested at a later date, functional check testing can be performed by WÖHR at extra-cost

Grounding and potential equalisation:

- to be performed by the customer compliant to DIN EN 60204
- connections required every 10 metres

To be performed by the customer

Item	Quantity	Description	Position	Recurrence
1	1 piece	power meter	in the feed cable	
2	1 piece	fuse protection or automatic circuit breaker compliant to DIN VDE 0100 part 430: - up to 20 parking spaces: 3 x 25 A slow blow - more than 20 parking spaces: 3 x 40 A slow blow - fault current fuse protection according to VDE 0160 for the connection of frequency converter	in the feed cable	1 x per system
3	based on site conditions	compliant to local power supply regulations 3 phases + N + PE* 230/400 V, 50 Hz	feed cables to main switch including connection	1 x per system
4	every 10 m	grounding and potential equalisation lead-out connection	along pit floor edges/rear wall	
5	1 piece	grounding and potential equalisation compliant to DIN EN 60204	from lead-out connection to system	1 x per system
6	1 piece	empty pipe M32	from the position of the main switch to the system area	1 x per system
7	1 piece	empty pipe M32	on a pillar in the middle area	1 x per system

* to DIN VDE 0100 sections 410 and 430 (no permanent load) 3 phases + N+ PE (three phase current)

Scope of delivery by WÖHR (unless otherwise specified in the order)

Item	Description
8	Lockable main switch
9	Operating device
10	Main switch cabinet (in the left grid)
11	Extra switch cabinet (1 x per grid)

Notes

Area of application

- suitable for residential buildings, office and commercial buildings, hotels
- only for instructed, constant, long-term users
- for frequently changing users (e.g. for office, hotel, commercial buildings or similar):
 - constructive adaptations of the system are necessary
 - please consult with WÖHR

Function

- one empty space per unit on entry level
- platforms on entry level are moved laterally
- if there is more than one upper (UL) or lower level (LL), one additional further empty space is required per each level
- platforms on the uppermost or lowermost upper level or underground level are raised or lowered to the empty space on the entry level
- if there is more than one upper and lower level, these levels are also shifted laterally as well

Parking space numbering

- empty space on the entry level on the left.
If there is more than one upper or lower level, one additional further empty space per level
- numbering (example):

EL	1	2	5	8	11
LL 1		3	6	9	12
LL 2		4	7	10	13

- each unit starts with the numbering at 1
- different bay numbering at an extra cost (software modification necessary)

Switch cabinet

- Arrangement of the switch cabinet:
- within the unit

Noise protection

Basis is the German DIN 4109 "Noise protection in buildings".

With the following conditions required 30 dB (A) in rooms can be provided:

- noise protection package from our accessory
- insulation figure of the construction of min. $R'_w = 57$ dB
- walls which are bordering the parking systems must be done as single wall and deflection resistant with min. $m' = 300$ kg/m²
- solid ceiling above the parking systems with min. $m' = 400$ kg/m²

At differing constructional conditions additional sound absorbing measures are to be provided by the customer.

The best results are reached by separated sole plates from the construction.

Increased sound insulation (separate agreement):

It is based on VDI 4100 „Sound insulation in building construction“ Assessment and proposals for increased sound insulation.

Under the following conditions, 25 dB (A) can be complied with in living spaces and bedrooms:

- sound insulation package according to offer/order
- Sound insulation value of the building structure of min. $R'_w = 62$ dB (to be performed by the customer)

Note:

User noises are not subject to the requirements (see VDI 4100, Scope - Notes). User noises are basically noises that can be individually influenced by the user of the parking systems (e.g. driving on the platform, closing of vehicle doors, engine and brake noises).

Empty pipes

Empty pipe:

- recommended for the supply line to the control panel
- especially for above-ground garages
- on a pillar in the middle area
- height 120 cm above entry level
- consultation with WÖHR strongly recommended

Declaration of conformity



The parking systems correspond to:

- EC Machinery Directive 2006/42/EC
- DIN EN 14010

Lighting

- sufficient lighting of the driveways and parking spaces on site/by the customer
- In the system area at least 50 lux

Rails

If traffic routes are arranged directly next to or behind the Combiparker on-site barriers or guardrails according to DIN EN ISO 13857 / local regulations are required. This also applies during the construction phase.

Drainage

Water leaks into the pit:

- in the winter, up to 40 litres of snow water can possibly come with the wheel housings in just one parking process

Drainage channels:

- along the middle section of the pit
- connecting to a floor drain or drainage pit (50 x 50 x 20 cm)
- with manual emptying out of the drainage pit
- alternatively installation of a pump or drainage channel into the sewerage system, to be performed by the customer

Sideways slope drainage:

- only into a gutter
- not possible in the remaining pit section

Lengthways slope drainage:

- provided according to specified construction dimensions

Environmental safety:

- coating of the pit flooring is recommended
- installation of an oil and/or petrol separator unit between the drainage connection and the main sewerage system is recommended

Temperature

- system operating range: +5° bis +40°C
- humidity: 50 % at +40° C
- if use in deviating temperature ranges is planned, constructive adjustments may be necessary (please consult with WÖHR)


Fire protection

- all fire protection requirements and all mandatory equipment (fire extinguishing system, fire alarm systems, etc.) to be carried out by the customer
- WÖHR will provide documents on attachment points and clearances for sprinklers on request
- consultation with WÖHR strongly recommended


Maintenance

- WÖHR and its foreign partners have an installation and customer service network
- regular, annual maintenance is provided conclusion of a maintenance contract
- the local requirements for commissioning, testing and annual maintenance and inspections on electric doors are not the subject of our delivery. These types of inspections and tests in accordance with local regulations are to be observed and carried out by the customer


Prevention of corrosion damage

- all operations listed in the WÖHR cleaning and maintenance instructions are to be carried out regularly (independent of maintenance) 
- galvanised parts, components and platforms have to be cleaned from dirt, road-salt as well as any other debris (danger of corrosion)
- always keep the garage well ventilated and deaerated

Surface protection

- please refer to the information sheet on surface protection! 

Tender specification

- please refer to the specifications! 

Notes

Parking Space-Profile

- please refer to the product information on parking space-profile!



Electromobility

- please refer to the product information on e-charging!
- charging points possible per level or in the entire system
- depending on the position of the charging point on the electric vehicle, there may be points of collision with protruding plugs and charging cables
- consultation with WÖHR strongly recommended



Sliding doors and Operating concepts

- please refer to the product information on sliding doors and operating concepts!



Construction documents

- WÖHR can provide documentation for planning permission/building permit on request
- for projects abroad, the same documentation is available as for projects in Germany

Design changes

- we reserve the right to make design changes and modifications
- we reserve the right to make changes to design details, procedures and standards due to technical progress and environmental requirements