

PARKING PALLET - PQ

Crosswise shifting



Technical data sheet

- ✓ CE certified
- ✓ Space saving
- ✓ Independent parking
- ✓ Low maintenance cost
- ✓ Flexible parking
- ✓ Low noise

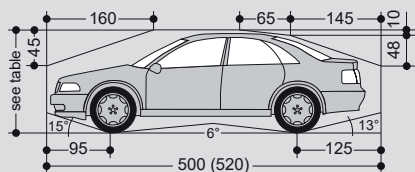
PP-PQ (PP-PQ-R)

► Parking pallet

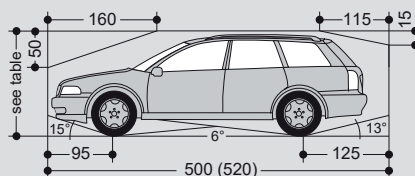
Dimensions

- All dimensions specified are the minimum, finished dimensions.
- Tolerances for the dimensions $^{+3}_{0}$ ①
- Dimensions are in cm.
- Evenness of the carriageway floor are strictly in accordance with DIN 18202, chart 3, line 3.

Standard passenger car (L)



Standard station wagon (K)



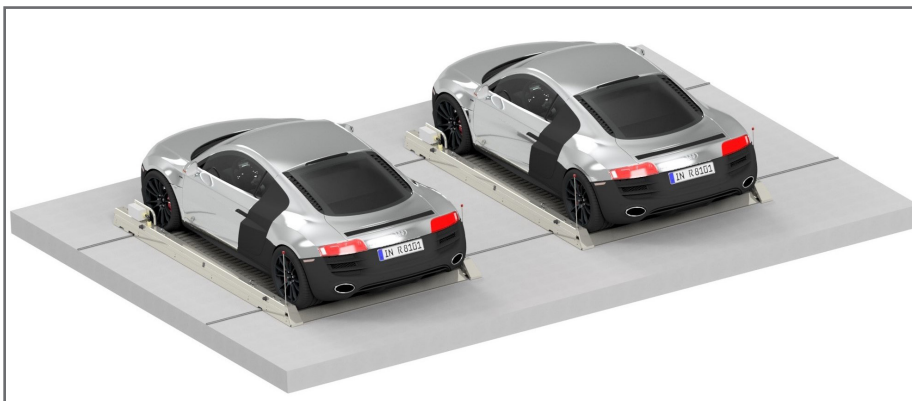
Standard passenger cars are vehicles without any sports options such as spoilers, low-profile tires, etc.

Parking possibilities

	Standard PP-PQ	Reinforced PP-PQ-R
Length in cm	500	500
Width in cm	258	258
Weight in kg	max. 2000	max. 2600
Wheel load in kg	max. 500	max. 650

► Notes

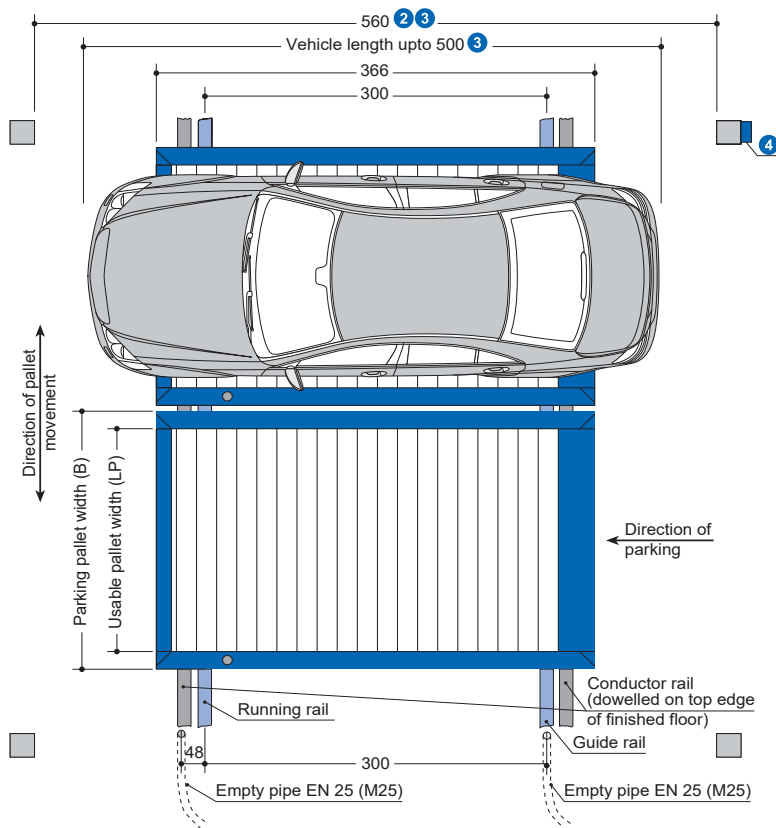
- ① To comply with the minimum finished dimensions, the tolerances according to VOB, Part C (DIN 18330 and 18331) and DIN 18202 must also be considered.
- ② 30 cm safety clearance as per DIN EN 14010, between the front or rear bumper of a car parked on the parking pallet and the fixed parts of the surroundings or another car.
- ③ At a max. vehicle length of 500 cm, the dimension between the columns should be 560 cm. The length dimension of 560 cm can only then be shortened if the max. vehicle or parking place length is reduced or light barriers are used.
- ④ The operating console must be mounted in such a way that the operator can see the entire system during operation and the motion sequences can be observed and monitored.
- ⑤ Do not walk or drive through the hazard area when the warning lights are blinking!



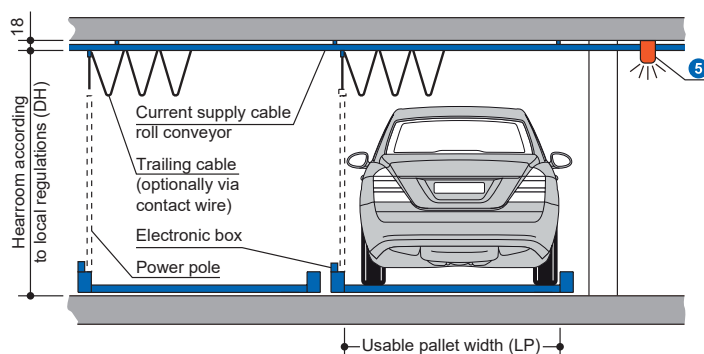
► Specification

- Crosswise shifting parking pallet
- Design variants with:
 - PQ-DC - power supply via rail
 - PQ-AC - power supply via trailing cable
- Independent parking
- Car length upto 500 cm
- Usable pallet width up to 258 cm
- PP-PQ (Standard) : Load capacity = 2000 kg per parking place
- PP-PQ-R (Reinforced) : Load capacity = 2600 kg per parking place

► PQ-DC - Power supply via rail on the ground



► PQ-AC - Power supply via trailing cable



Page 1
Sections,
dimensions,
car data

Page 2
Length
and Width
dimensions

Page 3
Arrangement,
Function

Page 4
Recess / Rail
system

Page 5
Electrical
installation

Page 6
Technical hint
/ Facilities
from
customer

Page 7
Description

Length dimensions

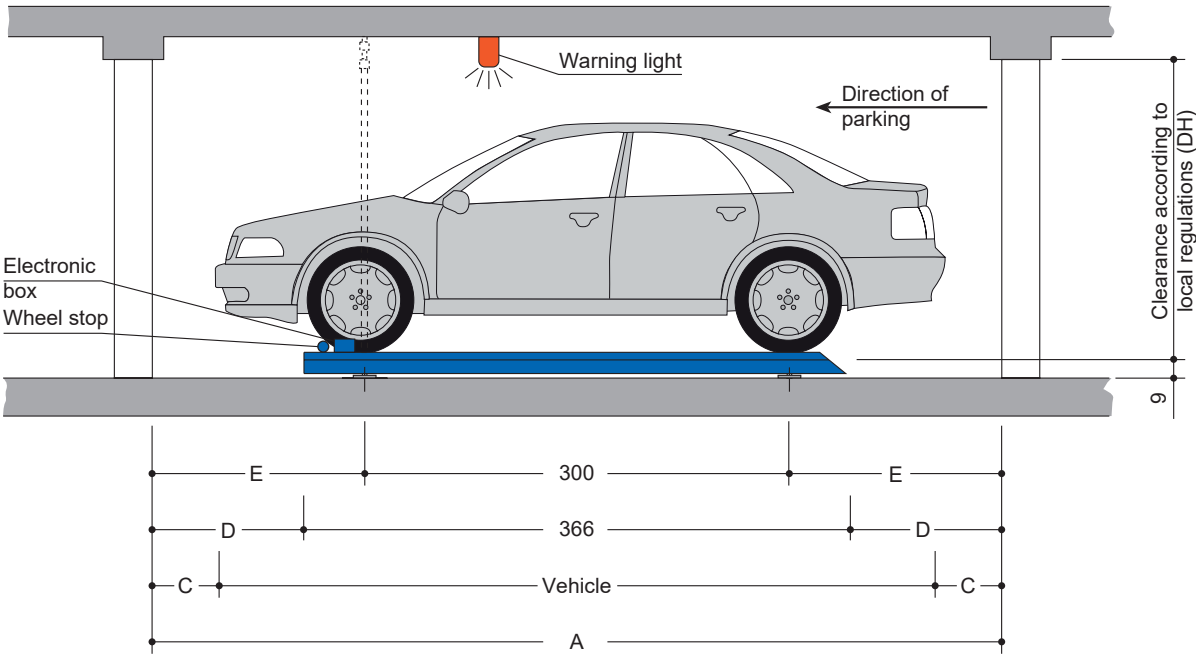


Table with 7 columns: A, Vehicle, C, D, E, Please note the following on parking space, DH. It provides specific dimension values and regulatory notes for different car sizes and pallet configurations.

Width dimensions

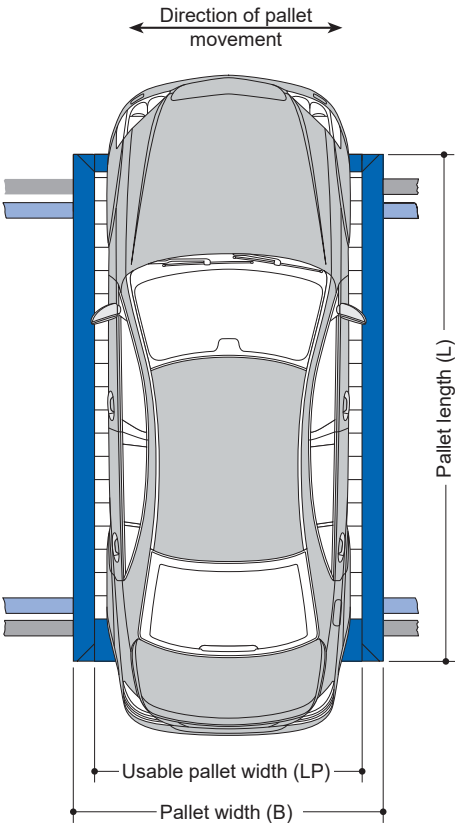


Table with 5 columns: Type, Pallet length (L), Pallet width (B), Usable pallet width (LP), Car width. It lists various pallet models (PQ-210 to PQ-288) and their corresponding dimensions.

HINT : Parking on smaller width pallets with large vehicles is difficult. This depends on the type of vehicle, approach and above all on the individual driver's skill. For maximum comfort, we generally recommend our maximum pallet widths of 258 cm (PQ-288).

Page 1
Sections,
dimensions,
car data

Page 2
Length
and Width
dimensions

Page 3
Arrangement,
Function

Page 4
Recess / Rail
system

Page 5
Electrical
installation

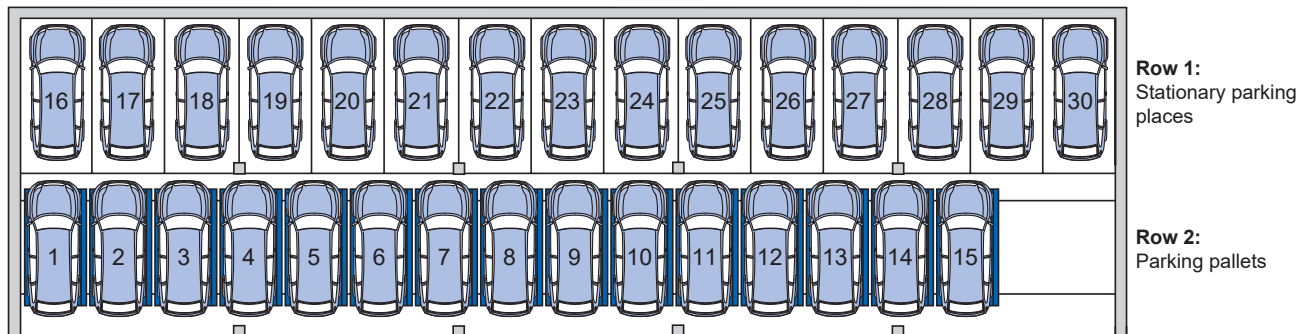
Page 6
Technical hint
/ Facilities
from
customer

Page 7
Description

► Arrangement possibilities

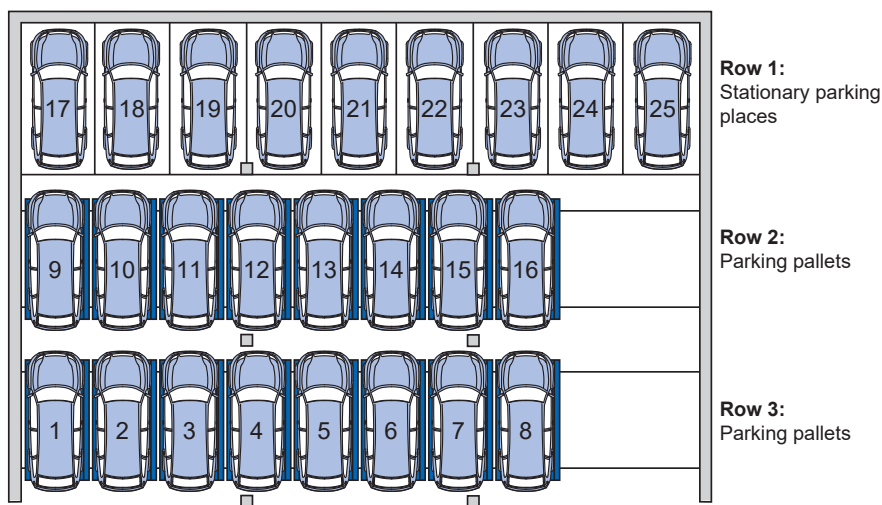
2 rows one behind the other :

swiss-park recommends : max. 15 parking pallets per row



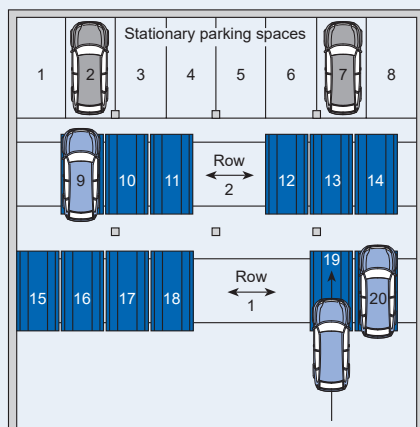
3 rows one behind the other :

swiss-park recommends : max. 8 parking pallets per row



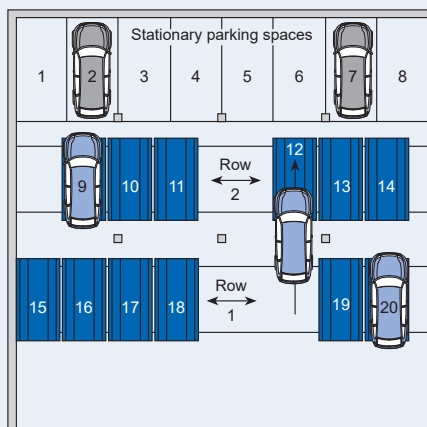
► Function

Dependent upon the size of the parking system, the desired parking space is selected either via operating panel or push buttons. The carriageway will then automatically be opened towards the selected parking space. During the shifting process flashing warning lights will come up. The control system is set in such a way that a selected mechanical parking space may always be driven onto so that the driver's door may readily be opened into the carriageway made available (see parking process No. 1 and 2, above).



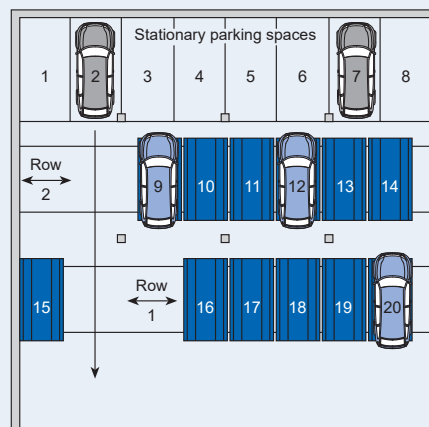
Parking Process No. 1 :

For entering parking space no. 19 in Row 1, the driver selects parking space no. 19, on the operating panel using a Key or RFID chip. Row 1 shifts in such a way that the pallet can comfortably be parked, and the driver may get out of the vehicle.



Parking Process No. 2 :

For entering parking space no. 12 in Row 2, the driver selects parking space no. 12 on the operating panel using a Key or RFID chip. Rows 1 and 2 will shift in such a way that the pallet can comfortably be parked, and the driver may get out of the vehicle.



Parking Process No. 3 :

For parking on stationary parking space no. 2 in stationary parking space, the driver selects parking space no. 2 on the operating panel using a Key or RFID chip. Rows 1 and 2 will shift in such a way that they open the carriageway to stationary parking space no. 2 so that the vehicle can be comfortably parked, and the driver may get out.

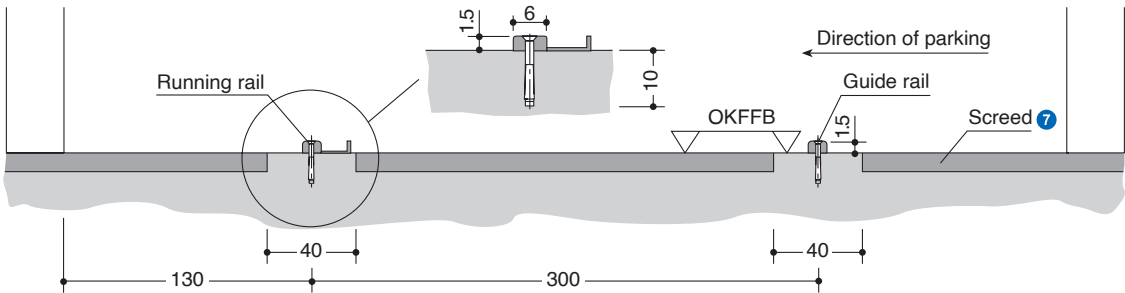
Recess / Rail system

Dependent upon the structural conditions of the garage, several different options are available for installation of the rails.
Rail loading due to moving traffic load for PP-PQ with 2000 kg : 6.5 kN per rail
Rail loading due to moving traffic load for PP-PQ with 2600 kg : 8 kN per rail

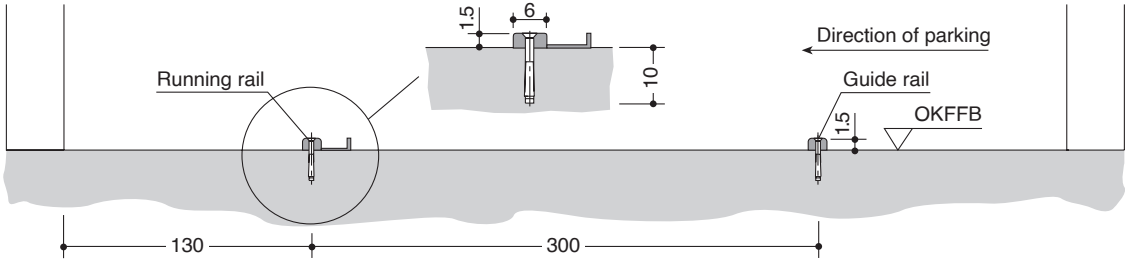
Installation of the running rails :

- ▶ Meter markers are to be permanently attached by the customer
- ▶ Do not use cast asphalt
- ▶ After bringing in the screed, the track rails are secured with wooden screws and plastic dowels
- ▶ Level as per DIN 18202, table 3, line 3
- ▶ No expansion gaps or building separation gaps are permitted in the area of the track system

Fixing before floor finish



Fixing on finished floor

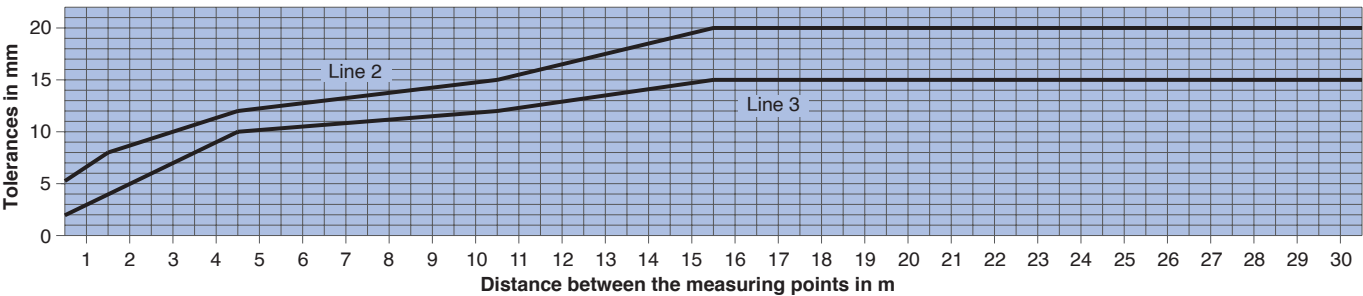


7 Screed to be concrete.

Evenness and Tolerances (abstract from DIN 18 202, table 3)

The distance between the lower flange of the pallet and the garage ground must therefore not exceed 2 cm. To adhere to the safety regulations and DIN EN 14 010 recommendations and to get the necessary even ground, the tolerances of evenness to DIN 18202, table 3, line 3, must not be exceeded. Therefore exact levelling of the ground by the client is essential.

Table with 6 columns (1-6) and 3 rows. Column 1 contains reference descriptions. Columns 2-6 contain tolerance values in mm for different measuring point distances (0.1, 1, 4, 10, 15 m).



8 Intermediate values are to be taken out the diagram and must be rounded-off to mm

Page 1
Sections,
dimensions,
car data

Page 2
Length
and Width
dimensions

Page 3
Arrangement,
Function

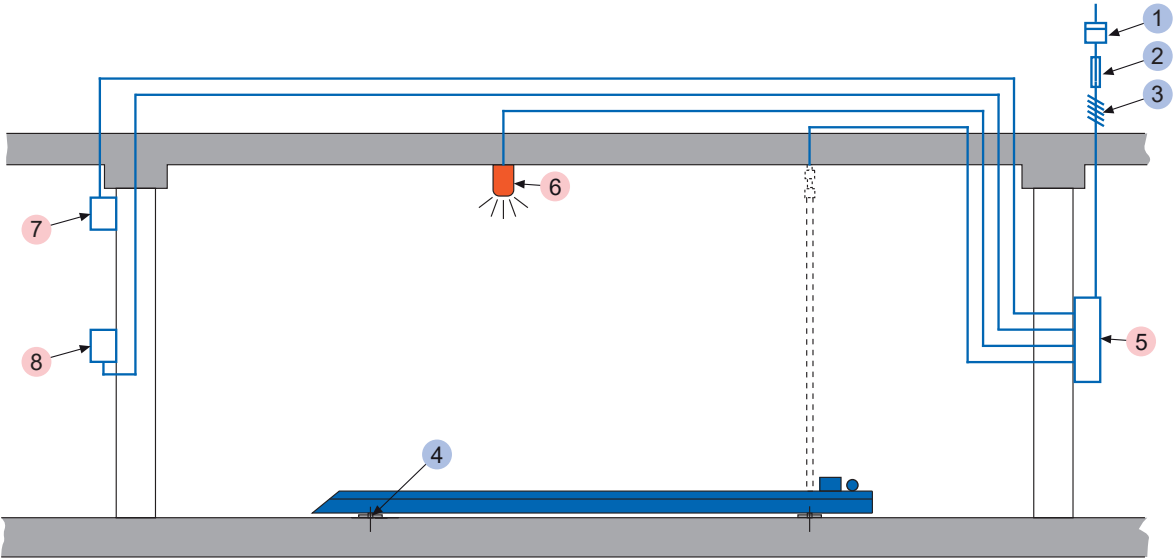
Page 4
Recess / Rail
system

Page 5
Electrical
installation

Page 6
Technical hint
/ Facilities
from
customer

Page 7
Description

Electrical installation



- The location of the main cabinet and control panel are specified in the layout plans provided by swiss-park.
- For smaller systems with up to 4 pallets in a row, the selection is made via one control unit per palette in jog mode (deadman). Warning : Only possible with trailing cable or contact line from above.
- Warning signals are installed within the shifting area of the parking pallets. They start flashing as soon as the system starts.

Electrical data to be performed by the customer

No.	Qty.	Description	Postion	Frequency
1	1	Electricity meter	in the supply line	
2	1	Main fuse : 3 x fuse 16 A (slow) or circuit breaker 3 x 16 A (trigger characteristic K, G or C)	in the supply line	1 per unit
3	1	Supply line 5 x 2.5 mm² (3 PH + N + PE) with marked wire and protective conductor	to main switch	1 per unit
4		Empty pipes EN25 (M25) with taut wire to contact line at the floor (only PQ-DC)		

Electrical data included in delivery of swiss-park

No.	Designation
5	Control panel unit
6	Warning light
7	Lockable main switch
8	Operating device

Page 1
Sections,
dimensions,
car data

Page 2
Length
and Width
dimensions

Page 3
Arrangement,
Function

Page 4
Recess / Rail
system

Page 5
Electrical
installation

Page 6
Technical hint
/ Facilities
from
customer

Page 7
Description

► Technical hint

Usage area

As a standard, the parking pallet system is suitable for long-time car parking. Frequent usage of parking space (e.g., short-term parking in office buildings or hotels) requires modifications to the **swiss-park** system. Feel free to contact us for consultation.

Environmental conditions

Ambient conditions for the areas around pallet systems:

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

Care & Protection

To avoid corrosion damage, please follow separate cleaning and care instructions (as per the “Corrosion protection” sheet) and ensure that your garage is well ventilated.

CE certification

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

Available documents

- Maintenance offer/contract
- Declaration of conformity

Parking safety

Safety bars on the side are installed as a safeguard to avoid crushing injuries when shifting the parking pallet.

PQ-DC : A 40 V low-voltage DC motor permitted for the open circuit is used as a drive. The pallets get powered via two contact lines mounted on the floor and sliding contact at the pallet.

PQ-AC : A 0.25 kW 3phase motor is used as a drive. The pallet get powered via trailing cable or contact line from above.

Pallet design

The shifting speed of the parking pallet is 0.2 m/s (12 m/min), according to DIN EN 14 010. The parking pallets are designed for standard vehicles up to a length of 5 m and a maximum weight of 2000 kg. The overall standard pallet width is 208 cm.

Emergency operation/Power failure

By locking the motor brake the pallets can be shifted manually.

Noise

Low running noise due to ball bearing rollers.

User noises are the noises that can be influenced by individual users of our **swiss-park** systems. These are created during the accessing of the pallet, slamming of vehicle doors, engine, and brake noise.

► Facilities to be provided by the customer

Safety barriers

During the parking pallet construction, in accordance with DIN EN ISO 13857, safety barriers are to be placed immediately in front of, adjacent to, or behind the systems where there are roadways.

Parking space numbering

Consecutive numbering should be given to parking pallets and stationary parking spaces.

Building services

Ventilation, fire extinguishing and fire alarm systems, as well as clarification and compliance with the relevant regulatory requirements.

Lighting

The customer must observe local regulations pertaining to the illumination of parking spaces and roadways. In accordance with DIN EN 12464-1 ‘Light and lighting - Lighting of work places’, an illumination level of min. 200 lx is recommended for the parking spaces and operating area of the system.

Electrical supply to the control panel

The customer must lay the supply line 5 x 2.5 mm² to the control panel, depending on line layout, line length or system size, a larger cross-section may be required. DIN VDE 0100 and other relevant local standards must be observed. The functional capability can be checked by our engineers on site, in conjunction with the electrical engineer. If this is not possible during assembly for reasons attributable to the customer, the customer must commission an electrician.

Power supply: three-phase 230/400 V/50 Hz with neutral and ground wire (other voltage networks, voltage or frequency are possible after the technical checking by **swiss-park**).

Floor / Rails

- Flooring structure in accordance with **swiss-park** instructions, (see “Recess / Rail system”, page 4).
- Recesses, and tolerances for the evenness of the driving lane must adhere to DIN 18202, sheet 3, line 3.
- Stuffing of rail system with cement floor for the whole length.
- Bringing in of floor pavement.
- Cable duct M25 with taut wire from electric cabinet to rails (only for PQ with busbar on the ground).

If the following are not included in the quotation, they will also have to be provided/paid for by the customer:

- Costs for final technical approval by an authorized body
- Main switch

Page 1
Sections,
dimensions,
car data

Page 2
Length
and Width
dimensions

Page 3
Arrangement,
Function

Page 4
Recess / Rail
system

Page 5
Electrical
installation

Page 6
Technical hint
/ Facilities
from
customer

Page 7
Description

► Description

General description

- **swiss-park** parking pallet are for independent parking of one car.
- Dimensions according to the underlying pit, width and height dimensions
- Sliding parking pallets are normally installed in front of a row of stationary parking spaces. They can be shifted sideways in a way that the parking spaces located behind them can always be easily accessed.
- For parking on the pallets, the pallets must also be moved sideways. This creates sufficient space for opening the driver's door, facilitating convenient getting in and out of the vehicle.
- Parking pallets, type PQ-DC, can be arranged in several rows, one behind the other.
- Parking pallets, type PQ-AC, can be arranged in a one-row arrangement up to 4 pallets.
- Passenger car positioning on each parking space by means of a positioning aid mounted on the parking pallet.
- Operating instructions at every operating point.

swiss-park pallet dimensions :

- See page 1 to 4
- Height in driving area is approx. 8 cm above finished floor
- Height of the side members is approx. 15 cm

Parking pallet consisting of:

- Pallet floor profiles
- Positioning aid
- Lateral beams
- Low-noise running and guide rollers running on ball bearings
- Wheel stop
- Screws, nuts, spacer tubes, etc.

Rail system consisting of:

- Two rail sections mounted to the floor, which have to be set in concrete by the customer in accordance with **swiss-park** instructions
- The guide rails protrude 15 mm above the finished floor, thus ensuring safe guiding when shifting the pallets.

Drive consisting of:

- PQ-DC : Drive pin driven by 40 V DC motor via taut chain using a pinion
- PQ-AC : Friction gear drive with gear motor 0.25 kW via taut chain using a pinion

Electrical system consisting of:

- **General :**
 - Control box
 - Operating device
 - Limit switches for positioning
 - Flashing warning lights
- **Electrical wiring PQ-DC :**
 - Contact wire dowelled to the concrete floor
- **Electrical wiring PQ-AC :**
 - Flat-/trailing cables
 - Running rails fixed under the ceiling
 - Cable trailers
 - Optionally at an additional charge : contact wire fixed under the ceiling

Control system:

- **General :**
 - While shifting the parking pallets, a warning signal flashes
 - Safety bars on the side are installed as a safeguard to avoid crushing injuries when shifting the parking pallet
 - Electric wiring is made from the electric cabinet by the manufacturer
- **Operation PQ-DC :**
 - The parking pallets are operated via a centrally located control panel
 - Once the desired parking space has been selected, the parking pallet is shifted automatically
- **Operation PQ-AC :**
 - The parking pallets are operated via push-buttons (dead man's principle)

We reserve the right to change these specifications without notice!

swiss-park reserves the right, in the course of technical and technological progress, to use newer or different technologies, systems, processes, procedures, or standards than those originally offered and ensure that the customer does not incur any disadvantage.

Page 1
Sections,
dimensions,
car data

Page 2
Length
and Width
dimensions

Page 3
Arrangement,
Function

Page 4
Recess / Rail
system

Page 5
Electrical
installation

Page 6
Technical hint
/ Facilities
from
customer

Page 7
Description



Swiss-Park GmbH

Falkenweg 8, D-88213 Ravensburg

Tel: +49 (0)751-999 23 740

E-mail : info@swiss-park.com

Website : www.swiss-park.com