Construction project:

Installation of a car parking system

Preliminary technical notes

1. The principles underlying the execution of this project are:
   1.1 Garage regulations of the relevant federal states in the latest version.
   1.2 The EC Machinery Directive no. 2006/42/EC, Annex 1, and the DIN EN 14010
   1.3 A conformity test by TÜV SÜD
   1.4 The project execution drawings produced by the architects

2. By submitting a bid, the tenderer confirms that the relative garage dimensions as well as the driving aisle widths are in full compliance with the Garage Regulations in force, with the project execution guidelines designated by the tenderer and with the system itself, as offered by the tenderer.

3. The required load capacities compliant to the DIN 1991-1-1, page 3, amount to 2.0 t for each parking place.

Technical specifications

General:

– Car parking system for the independent parking of two passenger vehicles on top of each other.

– For the relative dimensions please consult the WÖHR Parklift 450 Data Sheet and the dimensions specified for the pit, for system height and for system width.

– This is a car parking system featuring two horizontal platforms (1° = 2 % downward/upward slope, where the platform inclination serves for drainage purposes).

– A brink wedge for vehicle positioning is included for each parking space.

– The platforms are moved via a hold-to-run control device with automatic reset upon release, operated with a keyed-alike turn-lock (with two keys provided for each parking place lock).

– **WÖHR Parklift 450 S:** 2 single platforms for 2 cars parked one on top of the other
– **WÖHR Parklift 450 D:** 2 double platforms for a total of 4 cars

Corrosion protection:

The classification of the parking systems to the DIN EN ISO 12944-2 reads:

Corrosivity category C3 medium (interior: production rooms with high humidity and some air pollution. Exterior: urban and industrial atmospheres, moderate pollution by sulphur dioxide. Coastal areas with low salinity.
Note: C3 applies to structural elements located above drive-in levels.

Corrosivity category C4 high (interior: chemical plants, swimming pools, coastal shipyards and boatyards. Exterior: industrial areas and coastal areas with moderate salinity).
Note: C4 applies to structural elements located in parking system pits.

Corrosivity category C2 low (interior: unheated buildings where condensation may occur, e.g. depots, sports halls). **C2 applies to all moving parts** such as cog wheels, racks, chains and bevel gears located either above or below the drive-in levels.

– Drive plates with a zinc-aluminum-magnesium alloy coating of approx. 16 µm on both sides (compliant to the DIN EN 10346)

– Contact plates, cover plates and any possible platform extension sections to be hot dip galvanised with a zinc coating of approx. 45 µm (compliant to the DIN EN ISO 1461)

– Side wall plates and central wall plates to be hot dip galvanised compliant to the DIN EN ISO 1461, wixth a zinc coating of approx. 55 µm

– Screws, nuts and flat washers of the drive plate mount: Fastening of the drive plate mount to the side and middle wall plates to be performed using zinc flake coated self-tapping screws with a zinc coating of approx. 12–15 µm, or an equivalent alternative; nuts and flat washers to be hot dip galvanised compliant to the DIN 50961, with a zinc coating of approx. 5–8 µm

– For further details see additional sheet Surface Protection

Hydraulic power pack:

It is possible to power several Parklift systems with a single hydraulic power pack unit, provided that they are installed side by side in a row (e.g. as is the case in an underground car park). Each Parklift is operated separately via its own individual control unit. It is therefore possible to either raise or lower the Parklifts simultaneously.

Standard systems feature on-board hydraulic power pack versions in which the power pack is normally fixed onto the rear, left-hand side of the top platform and this also for practical, noise prevention and sound insulation reasons.

Hydraulic circuit pipes and electrical cables must to be laid-in internally to the system (not fixed onto the walls or running along the floor – this to prevent corrosion hazards!)

Preparation works to be performed by the customer:

1. Mains power supply cabling up to the main switch and connection to the main switch (electrical works to be compliant to the specifications on the WÖHR Parklift 450 Data Sheet).

2. In compliance with the DIN EN 60204, all systems are to be hooked up onsite to an equipotential bonding safety lead-out connection, with grounding spaced at a maximum distance of every 10 m.

3. Acceptance certification performed by an expert, if not formally included in the offer.

4. Guard-rails, safety fences and barriers applicable to the structural frame, as required under the DIN EN ISO 13857.

5. Parking place numbering, if required.

6. Warning stripes along the pit edges, 10 cm wide, yellow/black, compliant to the ISO 3864.

7. We recommend the construction of a drainage channel in the front end sections of the pit, either connected up to a floor drain or to a drainage pit (50x50x20 cm). Sideways sloping is possible only inside the channel, not in the remaining sections of the pit. Sideways sloping in longitudinal direction is based on the specified construction dimensions. Installation of an oil and/or petrol separator unit in the drainage connection to the sewerage system is recommended. Coating of the pit flooring is recommended, in the interests of environmental conservation.

8. The quality of the concrete must be compliant to the static requirements of the building, with minimum grade C20/25 concrete for the dowel fastening sections.

9. Possible wall breakthrough works compliant to the WÖHR Parklift 450 Data Sheet.

10. Sufficient lighting of the driving aisle and of the parking places if necessary.

Scope of operations	**UP**	**TP**

Item 1.00.

Car parking system for **two cars** featuring platforms
with horizontal access.

(Select the values or fill in any differing construction dimensions)

Pit depth:
at front (A) / at rear (B) ___ / ___ cm

Clear height above
the entrance level (H): ___ cm

Vehicle height: upper level ___ cm
lower level ___ cm

Vehicle length: 500 cm

Parking space width: 230 cm

Platform load: 2,0 t

including installation and freight costs, free delivered to the installation site
including electrical installation operations from the power pack onwards
including inspection certification by a technical expert

WÖHR Parklift 450- ___ / ___ **S**
or its equivalent ___ Piece(s) € _____ € 0,00

Item 1.10.

Car parking system for **four cars**,
otherwise, as described under item 1.00.

WÖHR Parklift 450- ___ / ___ **D**
or its equivalent ___ Piece(s) € _____ € 0,00

Item 1.20.

Hydraulic power pack ___ Piece(s) € _____ € 0,00

Net total price
plus 19 % VAT **€** 0,00

Item 1.20.1

Surcharge for the lockable main switch ___ Piece(s) € _____ € 0,00

Item 1.20.2

Surcharge for lay-in of the feed cables from the main switch to the power pack ___ Piece(s) € _____ € 0,00

Item 1.30. * Contingency item *

Surcharge for a larger platform width _____ cm ___ Piece(s) € _____ € 0,00

Item 1.40. * Contingency item *

Surcharge for a larger platform width _____ cm ___ Piece(s) € _____ € 0,00

Item 1.50. * Contingency item *

Surcharge for increase of the platform load to 2.6 t for each parking place Single unit ___ Piece(s) € _____ € 0,00

Item 1.60. * Contingency item *

Surcharge for increase of the platform load to 2.6 t for each parking place Double unit ___ Piece(s) € _____ € 0,00

Item 1.70. * Contingency item *

Surcharge for measures aimed at the reduction of structure-borne sound insulation, compliant to the DIN 4109 Single unit ___ Piece(s) € _____ € 0,00

Item 1.80. * Contingency item *

Surcharge for measures aimed at the reduction of structure-borne sound insulation, compliant to the DIN 4109 Double unit ___ Piece(s) € _____ € 0,00

Item 1.90. * Contingency item *

Surcharge for increased noise abatement measures.
Sound pressure level max. 25 dB (A) Single unit ___ Piece(s) € _____ € 0,00

Item 1.100. * Contingency item * Surcharge for increased noise abatement measures. Sound pressure level max. 25 dB (A) Double unit	___ Piece(s)	€ _____	€ 0,00
Item 1.110. * Contingency item * Surcharge for fixing with HILTI Hit injection plug	___ Piece(s)	€ _____	€ 0,00
Item 1.140. * Contingency item * Surcharge for the stipulation of a system maintenance and repair contract covering the performance of a one-time yearly maintenance intervention consisting in one general system inspection, overall replacement of consumables/wear and spare parts as well as the one-time yearly cleaning of the platform surfaces	4 years	€ _____	€ _____
Net total price, including contingency items plus 19 % VAT			**€** 0,00