Tender specification KLAUS Multiparking
TrendVario 4200

Preliminary technical remarks

1. Basis for the design are:

1.1 the garage regulations (GaVo) according to the building regulations in the latest version,

1.2 the EC Machinery Directive 2006/42/EC, Appendix 1, and the DIN EN 14010

1.3 a voluntary conformity testing by TÜV SÜD

1.4 the architect's workshop drawings

2. The bidder confirms upon submission of the bid that the garage dimensions and the driveway widths comply with the GaVo, the relevant implementation guidelines to be specified by him and the system offered by him.

3. Required surface loads according to DIN 1055, page 3, per parking space: 2.0 t

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Specification

General:
Multiparking system providing independent parking spaces for cars, one on top of the other and side by side. Dimensions are in accordance with the underlying dimensions of height and width. The parking bays are accessed horizontally (installation deviation ± 1%). Along the complete width of the system an approach lane (driving lane in accordance with local regulations) must be available. Parking spaces are arranged on two different levels, one level on top of the other. The platforms of the upper floor (UF) are moved vertically, the plat forms on the ground floor (GF) horizontally. At approach level (GF) there is always one parking space less available. This vacant space is used for shifting the ground floor (GF) parking spaces sideways, thus enabling the upper platform (UF) parking space located above to be lowered to approach/ground level. Consequently, a unit of three parking spaces (1 on the ground floor, 2 on the upper floor) is the smallest unit available for this parking system.The TrendVario 4200 allows parking of passenger cars and station wagons.
For safety reasons the platforms can only be moved behind locked doors.
All necessary safety devices are installed. Safety devices mainly consist of chain monitoring system, locking levers for the upper platforms and locked doors. The doors can only be opened if the selected parking space has reached the park position.

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Sliding doors

Size:
– Sliding door, dimensions: approx. 2500 mm x 2000 mm (width x height).

Frame:
– Frame construction with vertical centre stay bar made from extruded aluminium profiles (anodized, layer thickness approx 20 µm).
– To open the doors a recessed grip is integrated in the aluminium profile.
– A rubber lip is used for the finishing of the closing edge to the building

Standard door panel
Perforated steel plate
– Thickness 1 mm, RV 5/8 galvanized, layer thickness approx. 20 µm
– entilation cross-section oft he panel approx. 40%
– Not suitable for outdoor garages

Alternative door panel

Perforated aluminium plate
– Thickness 2 mm, RV 5/8 E6/EV1, anodized, layer thickness approx. 20 µm
– Ventilation cross-section oft he panel approx. 40%

Beaded steel plate
– Thickness 1 mm, galvanized, layer thickness approx. 20 µm
– Additional power coating, layer thickness: approx. 25 µm on the outside and approx. 12 µm on the inside
– Colour options fort he outside (building view): RAL 1015 (light ivory), RAL 3003 (ruby), RAL 5014 (pigeon blue), RAL 6005 (moss green), RAL 7016 (anthracite grey), RAL 7035 (light grey), RAL 7040 (window grey), RAL 8014 (sepia), RAL 9006 (white aluminium), RAL 9016 (traffic white)
– Inside oft the gates in light

Plain aluminium sheet
– Thickness 2 mm, E6/EV1, anodized, layer thickness approx. 20 µm

Wooden panelling
– Nordic spruce in grade A – vertical tongue and groove boards
– Preimpregnated colourless

Laminated safety glass
– Laminated safety glass made from single pane safety glass ESG 8/4mm

Wire grating
– Mesh size 12 x 12 mm
– Mesh size 40 x 40 mm (for manual sliding gates only)

Running rails
– The running gear of each doors consists of 2 twin-pair rolling gadgets, adjustable in height
– The running rails oft he doors are fixed to brackets or the concrete lintel, or on a building-specific door suspension using ceiling
– The guide consists of 2 plastic rollers mounted to a base plate, which is dowelled tot he
– Running raisl, ceiling fittings and guide roller base plate are hot-dip

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Door actuation
Standard:
– Manually, i.e. the door is opened and closed by hand

Alternatively:
– Electric drive via electric motor mounted oft he rail system at the turning point oft he sliding doors. The drive pinion engages into the chain mounted oft he door. For safety reasons the movement oft he platforms is always made behind locked doors. Position sensing, i.e. „door open“ and „door closed“ is effected by electic signalers.

Separation (if necessary):

– Upon request
Please note: Door panels (on the side, cover for running rails, etc.) and door suspension are not inclueded in the standard version but can be delivered against surcharge as special equipment.

Roller doors:

Size
– Dimensions modified based on width and height measurements.

Shutter box
– 2-piece, roll formed aluminium box 45° consisting of upper and lower part
– lacquered type

Guide rails
– extruded aluminium guide rails with brush insert
– lacquered type

Gate type
– aluminium gate type, roll formed
– end rod with electronic safety strip
– lacquered type

Colour options
Shutter box, guide rails and gate type are avialabel with the following colour options:
– RAL 9016 (traffic white)
– RAL 9006 (white aluminium)
– RAL 7016 (anthracite grey)

Door actuation
Powered electrically by means of tube motor in the shaft.
For safety reasons the movement of the platforms is always made behind locked doors. Position sensing, i.e. “door open” and “door closed” is effected by electric signalers.

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Controll system:

– Central control panel (operating device) used to select the desired parking space
– With series installation, the doors are opened manually. If desired, this can also be done using electic motors
– Electric wiring is made from the electric cabinet by the manufacturer

Corrosion protection:
Corrosion protection according to DIN EN ISO12944-2, corrosive category C3 moderate

– Platform profiles hot-dip galvanized in accordance with DIN EN ISO 1461, film thickness approx. 45 µm

– Side member hot-dip galvanized in accordance with DIN EN ISO 1461, film thickness approx.55 µm

– Cross members hot-dip galvanized in accordance with DIN EN ISO 1461, film thickness approx. 55 µm

– Access plate hot-dip galvanized in accordance with DIN EN ISO 1461, film thickness approx. 55 µm, and additional orange powder- coating (Epoxy / Polyester base) RAL 2000, dry film thickness approx. 60 – 80 µm.

– Fastening screws for platform profiles Stainless steel V4A (lower platform electrogalvanized)

– Hydraulic tubes, screwed joints, bolts, screws, nuts, washers electrogalvanized

– Other steel components for example, steel construction, roller seating, drive mount, bearing plates and other small components: shot-peened (particle cleanliness SA 2.5) and grey powder coating (Epoxy / Polyester base) RAL 7040, dry film thickness approx. 60 – 80 µm

– Rail unit hot-dip galvanized in accordance with DIN EN ISO 1461, film thickness approx. 55 µm

Electrical supply:

Control box:
– The control box must be accessible at all times from outside.
– Dimensions approx. 100 x 100 x 30 cm.
– Parking system must be fully visible from control box.

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To be performed by the customer:

1. Electrical supply to the main switch / Foundation earth connector:
   Suitable electrical supply to the main switch and the control wire line must be provided by the customer during installation. The functionality can be monitored on site by our fitters together with the electrician. If this cannot be done during installation for some reason for which the customer is responsible, the customer must commission an electrician at their own expense and risk.
   In accordance with DIN EN 60204 (Safety of Machinery. Electrical Equipment), grounding of the steel structure is necessary, provided by the customer (distance between grounding max. 10 m).

2. Safety fences:
   Any constraints that may be necessary according to DIN EN ISO 13857 in order to provide protection, for pathways directly in front, next to or behind the unit. This is also valid during construction.

3. Numbering of parking spaces:
   Consecutive numbering of parking spaces.

4. Building services:
   Any required lighting, ventilation, fire extinguishing and fire alarm systems as well as clarification and compliance with the relevant regulatory requirements.

5. Door suspension:
   The lintel height H2 (see product data sheet TrendVario 4200) is absolutely necessary. With differing heights, additional fixings are required for extra charge.

6. Door shields:
   Door shields that may be necessary. If desired, they can be ordered from KLAUS Multiparking for an additional charge.

7. Floor/rails:
   Flooring structure in accordance with product data sheet TrendVario 4200 (recesses, rail systems). Recesses, 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.

8. Wall cuttings:
   Any necessary wall cuttings according to product data sheet TrendVario 4200.

9. Concrete quality:
   Floor and walls are to be made of concrete (quality minimum C20/25).

If the following positions are not listed in the bid, the following services are also to be provided by the customer:

10. Costs for expert acceptance

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Multiparking system for __ cars
TrendVario 4200/DH160/L540

Multiparking system for __ cars
GF: __ parking places + 1 empty space
UF: __ parking places

Clearance up to lower edge of the ceiling: 330 cm

Vehicle height:
GF: 150 cm
UF: 150 cm

If the clearance to the lower edge of the ceiling is deviant:
Height 335: car height UF 155 cm
Height 340: car height UF 160 cm

Vehicle length: 500 cm

Usable platform width: 230 cm

Platform load: 2,0 t

incl. freight, unloading, installation
incl. electrical wiring from hydraulic unit
incl. expert acceptance

Extra costs for electrically driven sliding doors

Extra costs for infrared remote control

Extra costs for additional hand-held transmitter (1 per parking place)

Extra costs for door panel made of perforated aluminium plate

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Extra costs for door panel made of beaded steel plate

Extra costs for door panel made of plain aluminium sheet

Extra costs for door panel made of wood

Extra costs for door panel made of laminated safety glass

Extra costs for door panel made of wire grating 12 x 12 mm

Extra costs for door panel made of wire grating 40 x 40 mm (for manual sliding gates only)

Option:
Extra costs for KLAUS TrendVario 4200/DH175/L540

Multiparking system for __ cars
GF: __ parking places + 1 empty space
UF: __ parking places

Clearance up to lower edge of the ceiling: 345 cm

Vehicle height:
GF: 165 cm
UF: 150 cm

If the clearance to the lower edge of the ceiling is deviant:
Height 360: car height UF 165 cm
Height 370: car height UF 175 cm

Vehicle length: 500 cm
Usable platform width: 230 cm
Platform load: 2,0 t

incl. freight, unloading, installation
incl. electrical wiring from hydraulic unit
incl. expert acceptance

Option:
Extra costs for KLAUS TrendVario 4200/DH180/L540

Multiparking system for __ cars
GF: __ parking places + 1 empty space
UF: __ parking places

Clearance up to lower edge of the ceiling: 350 cm

Vehicle height:
GF: 170 cm
UF: 150 cm

If the clearance to the lower edge of the ceiling is deviant:
Height 365: car height UF 165 cm
Height 380: car height UF 180 cm

Vehicle length: 500 cm
Usable platform width: 230 cm
Platform load: 2,0 t

incl. freight, unloading, installation
incl. electrical wiring from hydraulic unit
incl. expert acceptance

Option:
Extra costs for KLAUS TrendVario 4200/DH185/L540

Multiparking system for __ cars
GF: __ parking places + 1 empty space
UF: __ parking places

Clearance up to lower edge of the ceiling: 355 cm

Vehicle height:
GF: 175 cm
UF: 150 cm

If the clearance to the lower edge of the ceiling is deviant:
Height 375: car height UF 170 cm
Height 390: car height UF 185 cm

Vehicle length: 500 cm
Usable platform width: 230 cm
Platform load: 2,0 t

incl. freight, unloading, installation
incl. electrical wiring from hydraulic unit
incl. expert acceptance

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Option:
Extra costs for KLAUS TrendVario 4200/DH210/L540

Multiparking system for __ cars
GF: __ parking places + 1 empty space
UF: __ parking places

Clearance up to lower edge of the ceiling: 380 cm

Vehicle height:
GF: 200 cm
UF: 150 cm

If the clearance to the lower edge of the ceiling is deviant:
Height 405: car height UF 175 cm
Height 440: car height UF 210 cm

Vehicle length: 500 cm
Usable platform width: 230 cm
Platform load: 2,0 t

incl. freight, unloading, installation
incl. electrical wiring from hydraulic unit
incl. expert acceptance

Option:
Extra costs for KLAUS TrendVario 4200/DH215/L540

Multiparking system for __ cars
GF: __ parking places + 1 empty space
UF: __ parking places

Clearance up to lower edge of the ceiling: 385 cm

Vehicle height:
GF: 205 cm
UF: 150 cm

If the clearance to the lower edge of the ceiling is deviant:
Height 415: car height UF 180 cm
Height 450: car height UF 215 cm

Vehicle length: 500 cm
Usable platform width: 230 cm
Platform load: 2,0 t

incl. freight, unloading, installation
incl. electrical wiring from hydraulic unit
incl. expert acceptance

Optional position
Extra costs for larger platform width _____ cm

Optional position
Extra costs for increase of platform load to 2.6 t per parking space

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Optional position
Extra costs for parking place extensions for car length up to 5.20 m

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Optional position
Platform coating in AluLongLife (only UF platform)

Optional position
Platform coating in EasyWalk (only UF platform)

Optional position
Extra costs for additional noise protection measures to protect against structure-borne sound according to DIN 4109

Optional position
Extra costs for additional increased noise protection measures to protect against structure-borne sound according to DIN 4109-10

Optional position
Extra costs for fixing in waterproof concrete with glue dowel

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Extra costs for conclusion of a system service contract SSVP "PLUS" with cleaning and care, incl. maintenance 2 per year, all spare and wear parts, and cleaning and care of the platform surface.
