

Description for Klaus MultiVario 2082 EB and DB

General description:

Multiparking system providing independent parking spaces for 2 cars (EB) or 2 x 2 cars (DB), one on top of the other each. Using a special arrangement of the lifting and the supporting structure, the vehicle doors can be opened wide. To facilitate accurate parking of the vehicle, both the upper and lower parking space are provided with one wheel stop on the right. Said wheel stops must be adjusted in accordance with the operating instructions to the vehicle to be parked. The parking system is operated using a self-resetting operating element activated by a master key. The operating elements are usually mounted either in front of the columns or on the outside of the door frame. Operating instructions are attached to each operator's stand. For garages with doors at the front of the parking system the special dimensional requirements have to be taken into account.

Special features:

This system can be installed in different variants. Platform distance and platform slope can be adjusted individually to the building requirements. For this system, the pit and height dimensions can be selected fluently and flexibly. The optimum application starts at a pit depth of 175 cm and a height of 325 cm measured from carriageway level. There will no longer be fixed grid dimensions. Any cm that is available is used for the system and its comfort. Due to the wide variability of the system we can now provide one basic product data sheet. For this purpose we provide the designers and our customers with our "proDesigner" software. You can access this software on our homepage, or directly via

<http://prodesigner.multiparking.com/>

Taking all the designing specifications and the desired comfort, the software will create an individually designed product data sheet.

If the system is to be used for different purposes in the future, and provided that the building dimensions are still suitable, we can adjust the system at any later date with reference to parking options, platform distances, or comfort (platform slopes).

Specification:

The multiparking system consists of the following elements: Steel pillars, which are mounted to the floor. Sliding platforms with sliding bearings are mounted to the steel pillars. The platforms are mounted to the said sliding platform supports. A mechanic synchronization control system to ensure synchronous operation of the hydraulic cylinders while lowering and lifting the platform. 2 hydraulic cylinders; 2 adjustable supports that connect the two platforms; 2 special chains, which can absorb the tensile and pressure forces, chain deflection pulleys; 4 adjustable platform stop plates. An automatic hydraulic safety valve prevents accidental lowering of the platform while accessing the platform. The platforms and parking spaces are end-to-end accessible for parking.

Platforms - consisting of the following elements:

Platform base sections, adjustable wheel stops, canted access plates, side members, central side members (only for DB), cross members, safety railings along the upper and lower platform (if required), screws, nuts, washers, distance tubes, etc.

Supporting structure - consisting of the following elements:

Steel pillars, sliding platforms, adjustable supports, mechanic synchronization control system, special chains, chain wheels, adjustable platform stop plates, dowels, screws, connecting elements, bolts, etc.

Hydraulic system - consisting of the following elements:

Hydraulic cylinder, solenoid valve, safety valve, hydraulic conduits, screwed joints, high-pressure hoses and installation material.

Electric system - consisting of the following elements:

Control unit with emergency stop button and lock with 1 master key per parking space, limit switch for lift control, Overtravel safety limit switch, and terminal box at wall valve.

Hydraulic unit:

The low-noise hydraulic power unit is installed onto a console with a rubber-bonded-to-metal mounting. It consists of a hydraulic oil reservoir serving the whole unit, cover with integrated internal geared wheel pump, pump holder, clutch, AC-motor (3.0 kW, 230/400 V, 50 Hz), contactor with thermal overcurrent relay and control fuse, test manometer, pressure relief valve and hydraulic hoses, which reduce noise transmission onto the hydraulic pipes.

Corrosion protection:

See separate sheet regarding corrosion protection.

Special note:

The MultiVario setup when delivered complies with the dimensions specified in the order and product data sheet. Any subsequent changes due to different vehicle dimensions of a parking space user also affect the neighbouring spaces and must therefore be accepted by these users, as long as parking is not restricted by these changes. If the requirements of all the users affected cannot be met, the MultiVario setup with the dimensions specified in the order and product data sheet is to be applied.

Generally, this parking system is not suited for short-time parkers (temporary parkers). Please do not hesitate to contact your local KLAUS agency for further assistance.

Environmental conditions for the area of multiparking systems:

Temperature range -10° to $+40^{\circ}$

Relative humidity 50 % at a maximum outside temperature of $+40^{\circ}$

If lifting or lowering times are specified, they refer to an environmental temperature of $+10^{\circ}$ and with the system set up directly next to the hydraulic unit. At lower temperatures or with longer hydraulic lines, these times increase.

To be provided by the customer:

1. Supply lines $5 \times 2,5 \text{ mm}^2$ (3PH+N+PE) per main switch
2. Pre-fusing $3 \times 16\text{A}$ slow, or safety cutout $3 \times 16\text{A}$, trigger characteristic K or C. Depending on type of installation and line lengths a larger conductor cross section may be required. Please follow DIN VDE 0100.
3. Lockable main switch per unit. The location of the main switch must be determined on approval of the design plan.
4. Control line $5 \times 2,5 \text{ mm}^2$ (3PH+N+PE) from main switch to unit
5. The supply lines for the main switch and the control lines to the unit must be connected during installation. The functionality can be checked on-site by our installation technicians together with the electrician. If this is not possible during installation because of existing conditions, an electrician must be commissioned.
6. According to DIN EN 60204, the system must be connected to foundation ground. The foundation ground connections must be made every 10 m.
7. Any constraints that may be necessary according to DIN EN ISO 13857 in order to provide protection for the park pits for pathways directly in front, next to or behind the unit. This is also valid during construction. Railings for the system are included in the series delivery when necessary.
8. Consecutive numbering of parking spaces
9. Any required lighting, ventilation, fire extinguishing and fire alarm systems as well as clarification and compliance with the relevant regulatory requirements.
10. Appropriate pit drainage
11. Any necessary wall cuttings according to the specification sheet
12. If due to structural conditions strip footings must be effected, the customer shall provide an accessible platform reaching to the top of the said strip footings to enable and facilitate the mounting work.
13. According to EN 14010, a warning that identifies this danger area must be placed in the entrance area that conforms to ISO 3864. This must be done according to EN 92/98/EWG for systems with a pit (platforms within the pit) 10 cm from the edge of the pit.

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

14. Mounting of contactor and terminal box to the wall valve, complete wiring of all elements in accordance with the circuit diagram
15. Costs for final technical approval by an authorized body

We reserve the right to make technical modifications. The Klaus company is free to use newer or other technologies, systems, techniques or standards than those now offered during construction according to technical advancements as long this does not result in disadvantages for the customer.