

## Underground parking lot



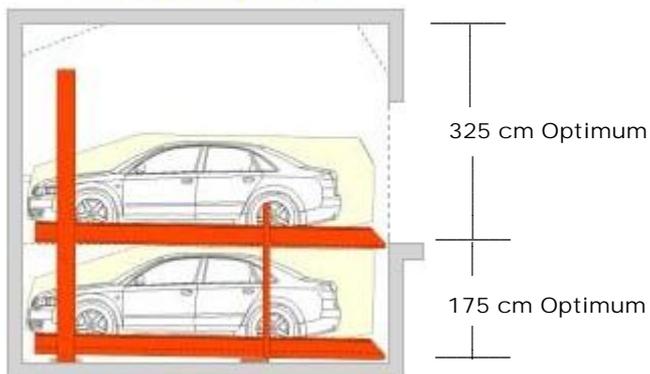
### Multivario 2082

#### One System - Thousands of Variants

The Multivario 2082 allows flexibility in designing your system because the design allows for thousands of variants in its installation. A design software called Prodesigner is available online at [www.multiparking.com](http://www.multiparking.com) to help you in designing one that fits into your proposed location.

With the design software the optimum installation begins with a pit depth of 175 cm and a height of 325 cm. If there is not enough height and pit depth available, a change of the platform incline by 1 degree can reduce the space requirement by approx 5 cm. The platform angles can vary as much as 8 degrees to fit more into a given area.

Also the Multivario 2082 can be adapted for different vehicle dimensions in the future because of the variability in the design. Your requirements change, and the vehicle changes, today a sporty two seater, tomorrow a family carriage, and maybe the day after a 4 x 4 for off road comfort.



#### Dimensions:

All structural dimensions are minimum finished dimensions and given in centimeters.

EB (single platform) = 2 vehicles  
DB (double platform) = 4 vehicles

This system is installed with so many different variants such that no one data sheet can cover all the variations. The data sheet for your specific application is only available by using the Prodesigner software to adjust platform height and angles to match the site conditions. Taking all the designing specifications and the desired comfort, the software will create a individually designed product data sheet.

Ascent upper platform

8°

Incline lower platform

8°

#### Suitable for:

Standard passenger cars according to their contours, i.e., cars without any sports designs, as, for example, spoilers, low-profile tires, etc. and plus a wider range of larger and heavier vehicles depending how much adjustment is made in the machine to allow for it and the equipment package originally purchased

#### Notes

- (1) For dividing walls a cutting through of 4" x 4" for pipes must be provided by the customer.
- (2) Potential equalization from foundation grounding connection to system.
- (3) 4" wide yellow stripe recommended at edge of machine (provided by BUYER)

WIDTH

6'-3"

WEIGHT

MAX. 4400 LBS \*\*

WHEEL LOAD

MAX. 1100 LBS \*\*

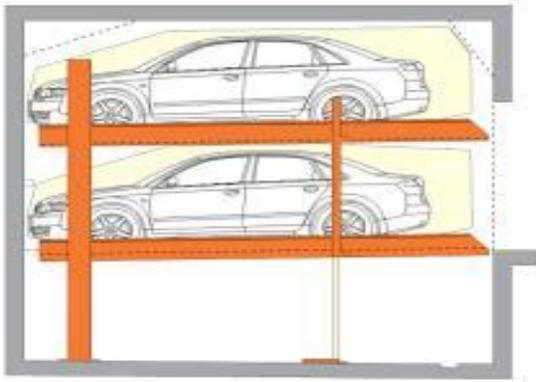
\*\* Special design EB:  
Cars with a max. weight of 5,500 lbs / max. wheel load of 1,375 lbs  
or  
Cars with a max. weight of 6,600 lbs / max. wheel load of 1,650 lbs

# KLAUS

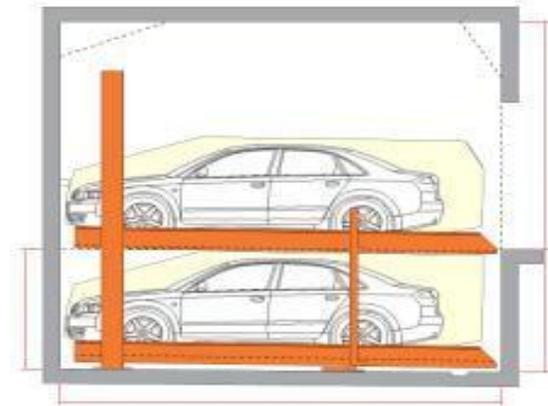
**KLAUS MULTIPARKING INC.**  
3652A CHESTNUT STREET  
LAFAYETTE CA. 94549

Phone 925-284-2092  
Fax 925-284-3365

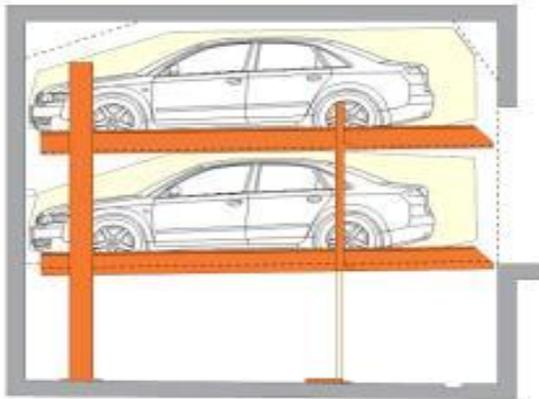
Internet [www.parklift.com](http://www.parklift.com)



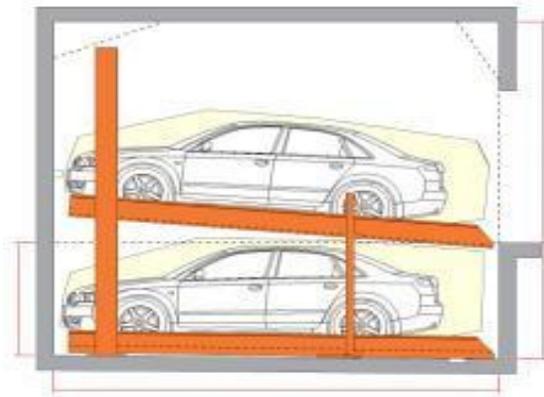
**Variant 1 position top**  
**Aptitude top 1 degree / bottom 1 degree**  
**Vehicle top 4'-11" / Vehicle bottom 4'-11"**



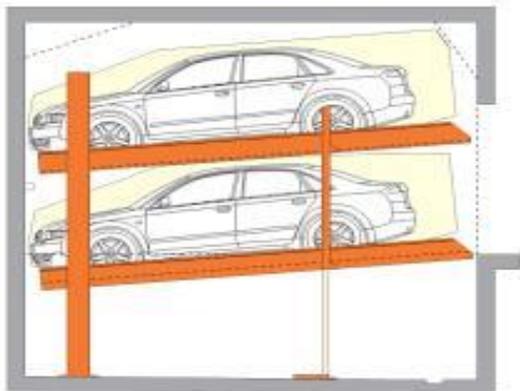
**Variant 1 position bottom**  
**Aptitude top 1 degree / bottom 1 degree**  
**Vehicle top 4'-11" / Vehicle bottom 4'-11"**



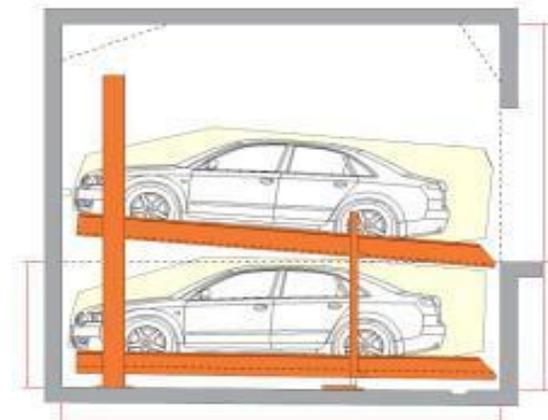
**Variant 2 position top**  
**Aptitude top 5 degree / bottom 1 degree**  
**Vehicle top 4'-11" / Vehicle bottom 4'-11"**



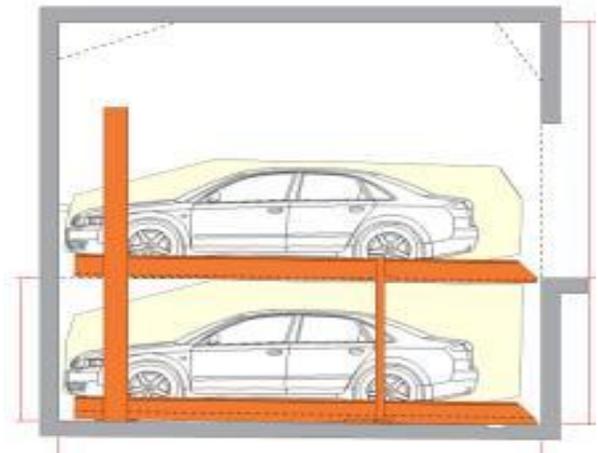
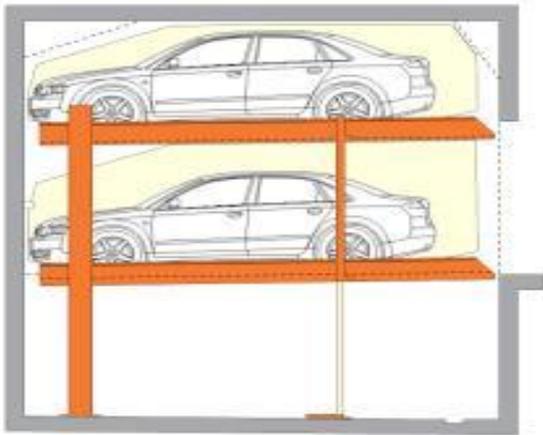
**Variant 2 position bottom**  
**Aptitude top 5 degree / bottom 1 degree**  
**Vehicle top 4'-11" / Vehicle bottom 4'-11"**



**Variant 3 position top**  
**Aptitude top 5 degree / bottom 5 degree**  
**Vehicle top 4'-11" / Vehicle bottom 4'-11"**



**Variant 3 position bottom**  
**Aptitude top 5 degree / bottom 1 degree**  
**Vehicle top 4'-11" / Vehicle bottom 4'-11"**



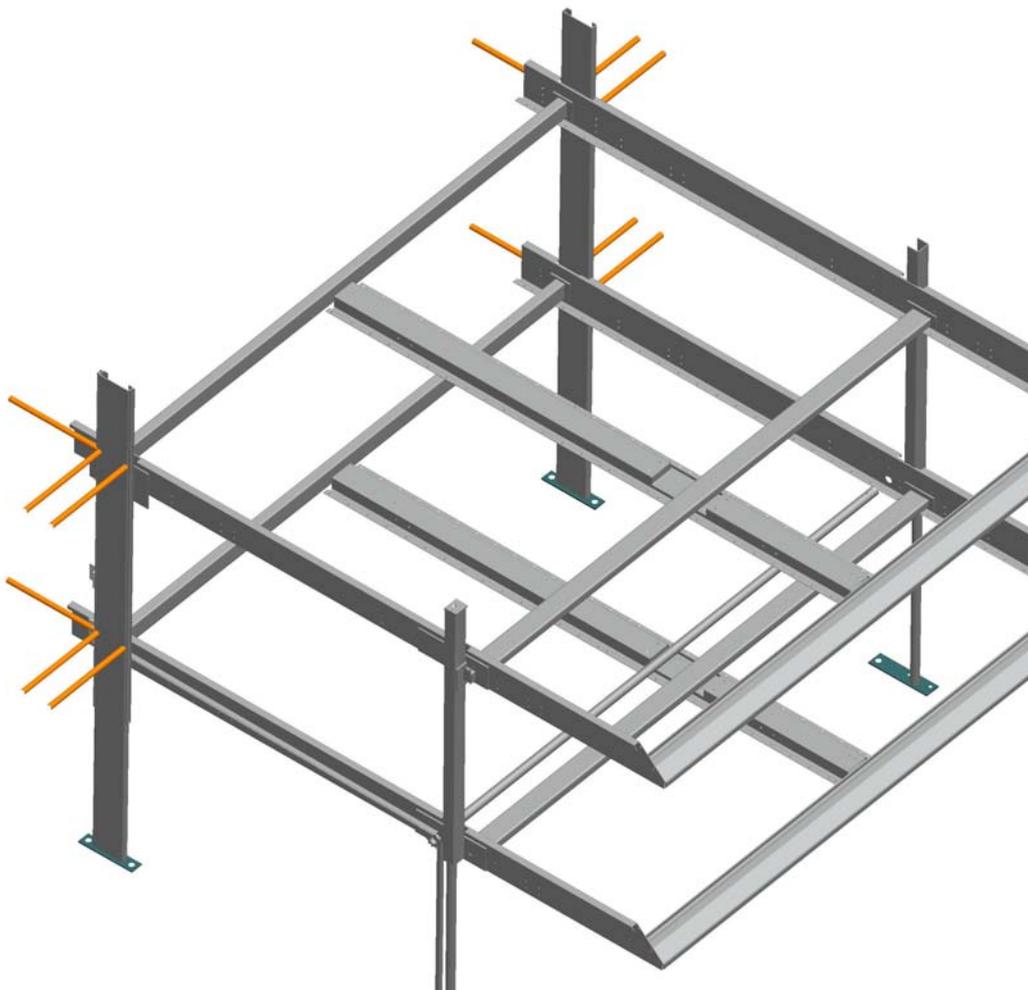
**Variant 4 position top**

**Aptitude top 1 degree / bottom 1 degree  
Vehicle top 4'-11" / Vehicle bottom 5'-11"**

**Variant 4 position down**

**Aptitude top 1 degree / bottom 1 degree  
Vehicle top 4'-11" / Vehicle bottom 5'-11"**

**Seismic Bracing**

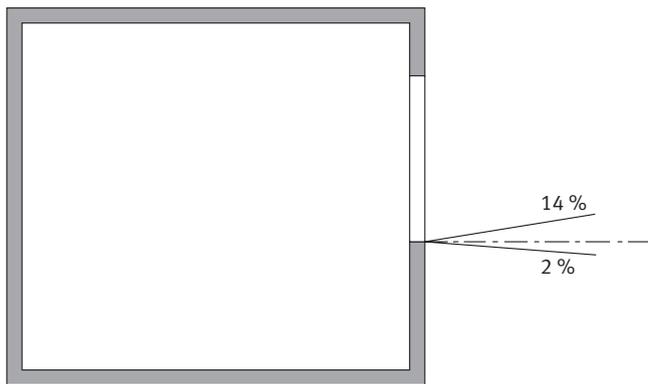


The tie rod bracing points for the Multivario 2082 are shown above

## Approach

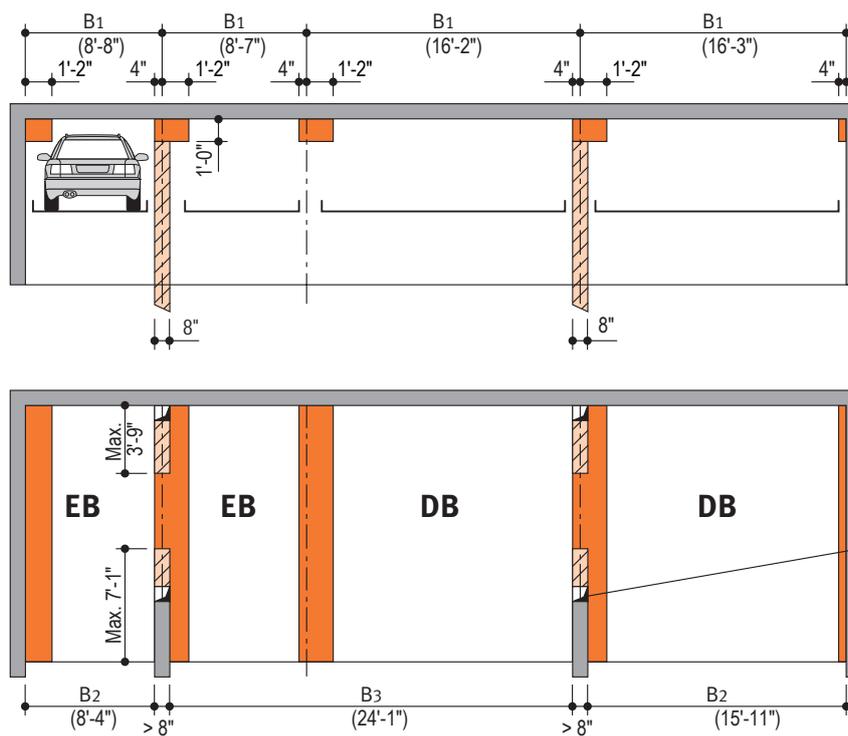


The illustrated maximum approach angles must not be exceeded. Exceeding these slopes will cause maneuvering problems and will restrict car sizes on the parking system.



## Installation data

Free space for longitudinal and vertical ducts (e.g. ventilation)



B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub> = (Norm, should we say this may vary?)

Free space for vertical pipelines, ventilation branch canals

Free space for horizontal ducting

Approach level

Free space only applicable if vehicle is parked forwards = FRONT FIRST and driver's door on the left side.

( ) = Dimensions in brackets illustrate an example for usable platform width 230/460 cm.

Example for ventilation branch canal and/or vertical pipelines.

## GENERAL DESCRIPTION

The Klaus Multivario 2082 provides independent access to all cars on the system. Each individual parking bay must be accessible from the drive aisle. The drive aisle shall comply with local regulations, but is typically 24' wide. The 2082 are sold in either single wide or double wide with the parking spaces on two levels. The upper level and lower levels move together so when the machine is in the down position the upper levels are accessible and when the machine is in the up position the lower platforms are accessible. The last user of the system determines if the machine is left in the up or down position. This system allows for full use of all the spaces on the machine and does not require a vacant space to allow for movement of other cars to access a individual car as required by other systems. Structural bracing of the machine is made by attaching it to two side walls with 16mm tie rods at eight locations and to the back wall at four locations. The machines can be tied together in chains of up to three and then tied on either end of the chain to a side wall or column with each individual machine tied to the back wall at four locations.

## TECHNICAL DATA

### RANGE OF APPLICATION

This parking system is suitable for self parking by owners, renters, regular employees or anyone that can be trained on the system. The public may not park on this system without a valet.

### ENVIRONMENTAL CONDITIONS

Environmental conditions for the systems: Temperature range 14° to 104° F. The system must be installed indoors. If lifting or lowering times are specified, they refer to an environmental temperature of 72° F and with system set up directly next to the hydraulic unit. At lower temperatures or with longer hydraulic lines, these times increase.

### DOORS AND CONTROL SYSTEMS

The machine comes standard with 2 keys per parking space. The keys are inserted into a user control box centrally placed on the system. Electric doors are available. Infrared control transmitters are available.

### SPACE NUMBERING

Standard space numbering is left to right with the empty space located in the first bay on the left. The empty space can be moved to another bay or even outside the normal machine if needed. The numbering sequence planned will be shown on the shop drawings and approved by the client.

### SPRINKLER SYSTEM

The sprinklers may be mounted at the front and rear of each level if needed.

### ELECTRICAL REQUIREMENTS AND HYDRAULIC UNIT

The hydraulic power unit is normally installed against the back wall on a metal bracket with rubber sound insulation. It consists of an electric motor, hydraulic motor and hydraulic oil reservoir in one unit. The hydraulic oil is biodegradable and environmentally friendly. The electric motor can be supplied in a 208 volt (perferred) or a 240 volt single phase. Both types require a 30 amp circuit. One hydraulic unit power unit can run multiple lifts. KLAUS will provide the motor and motor controller. BUYER to conduit and wiring: a) from fused disconnect (supplied by BUYER) to motor controller (supplied by KLAUS); b) from motor controller to motor (supplied by KLAUS). For control wiring, BUYER to provide empty 3/4 inch conduit: 1) from motor controller to junction box (supplied by KLAUS) at rear of each lift; and 2) from junction box to desired key switch locations at front of lift (key switches supplied by KLAUS). KLAUS to perform all control wiring.

### CORROSION PROTECTION

The platforms are galvanized and the steel framing members are powder coated. The platforms should be cleaned annually to maximize their life.

### SERVICE

To maintain safe and reliable operation of the machine, it must be serviced twice per year.

### SCOPE OF WORK CLARIFICATIONS

1. The pit and surrounding walls, columns and beams to provide support for the machine are provided by the customer.
2. All pit drainage is provided by the customer.
3. General lighting in the garage is provided by the customer. Klaus will supply lighting within the machine. The lighting will be connected to the machine control box and will be activated when the doors are open.
4. Klaus will supply design assistance and will confirm in writing that the proposed machine will fit in the space provided.

### SOUND CONTROL

Numerous sound control features are standard. The hydraulic power unit is mounted on rubber pads. Steel hydraulic lines are mounted with rubber pipe supports. A rubber hose isolates the power unit from the steel hydraulic lines.

Sound tests at the front of the machine show about 67dB to 69dB (A weighting) noise levels (speech at 1 foot is 68db).

In multifamily podium construction, normally no special construction for sound is performed. For residential or wood frame construction, placement of the power unit is critical. Klaus designers will assist with power unit placement and other sound issues.

### STRUCTURAL

The machine has steel framing and is anchor bolted to the concrete garage slab with wedge anchors. The framework consists of steel columns and beams on a grid pattern. The machines steel columns are connected to the building at the rear wall and the side walls or columns.

Please refer to the MultiVario 2082 bracing details drawing and Merkle engineering report for details.

The platforms for the upper and lower cars consist of steel platforms that ride up and down the steel columns.

The upper and lower platforms are constructed with two steel side members, three steel cross members, ribbed steel platform material which runs from side member to side member and one wheel stop. The platform is solid and does not allow oil or water to drip onto the lower cars.

The lifting mechanism for the upper platforms consists of a hydraulic cylinder which raises the rear of the platform. The front of the platform is raised via a chain which runs on chain sprockets. There are safety switches that stop the machine in the event the chain goes loose for any reason. The platforms are suspended at the 4 corners and are guided along the front support columns.

The lower platforms are moved via an electric motor located on each platform. The motor drives a sprocket that runs along a chain at grade level. The platform runs on steel guide rails and can be moved manually without power by releasing the brake on the electric motor.

The machine includes several safety devices which include chain monitoring systems, and safety locks for the upper platforms. When a user is inside the machine all platforms are mechanically protected against lowering.

### WARRANTY

To machine has a complete one year parts and labor warranty. Klaus provides extended warranties.

5. Klaus will prepare shop drawings showing the location of all components.
6. The customer must close off the left and right sides of the machine with a wall or fence. The fence must be 8' high and the lower 5 feet must have no openings greater than 1/2" inch.
7. The customer must provide a 30 amp 3 phase 208 volt (or 240 volt single phase) circuit & fused disconnect for each machine group and power must be available before installation begins.
8. Klaus provides all control wiring and conduit.

## WE RESERVE THE RIGHT TO CHANGE THIS SPECIFICATION WITHOUT FURTHER NOTICE

The Klaus company reserves the right in the course of technical progress to use newer or other technologies, systems, processes, procedures or standards in the fulfillment of their obligations other than those originally offered provided the customer derives no disadvantage from their doing so.