The New Innovative System to get you out on your bike more!

bicebergdown

AUTOMATIC UNDERGROUND PARKING FOR BICYCLES

The user

What is biceberg$_{down}$?

biceberg$_{down}$ is an underground, automatic, intelligent parking system which receives and returns bicycles at street level, or at a platform in a time less than 25 seconds and which also allows users to keep some additional related elements, such as a backpack or a helmet.

B-24/3

biceberg$_{down}$ is the safest bicycle custody and safe-keeping system in the market, also introducing the advantage of a checkroom or left-luggage locker.

biceberg$_{down}$ encourages the use of the bicycle, providing convenience that users demand, for development of the bicycle as a non-contaminating urban way of transport.

The access to biceberg$_{down}$ is made through a user-friendly, functional, urban element of limited impact which offers the opportunity of the installation of various public services (interactive information, vending machines, advertising) as well as the possibility of repairing and servicing the bicycle.

B-24/2

Operation and use

The parking and retrieval of bicycles are done by means of chip / RFDI cards. The information about the user and the park is recorded in this chip.

The operation is very simple:

- Swipe your card.
- Type your code.
- Choose an option.
- Park /remove your bicycle.

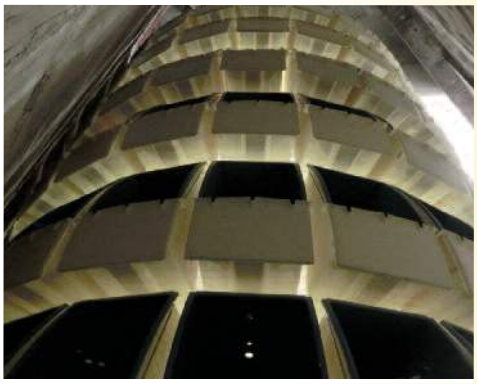
You must also follow a series of recommendations:

- Insert the rear wheel first.
- Observe the dimensional limits.
- Observe the authorized load / non-authorized load.

biceberg$_{down}$ can also be offered with other access technologies such as smartphones, QR codes, fingerprint, iris control.

A clear indication shown in the biceberg$_{down}$ itself reminds the user of the operation mode. The instructions are complemented with some intuitive drawings which make them easier to understand for everybody.

The installation



The parking

biceberg down is a modular parking (24 bicycles by level), from 1 level to 9 levels **(24 to 216 bicycles).**

The parking installation includes, the provision and assembly of the machinery, front and entrance of loading dock with console, and operator adjustments.

B-24/7

biceberg down products line includes also complementary systems such as: video supervision systems, card management and emission systems and independent units for the cards recharge.

As an option, you can also install other models of urban elements:

- *Luzydia (safety glass).*
- *Lusia (concrete panels).*
- *Lineas (concrete panels coated with stainless steel).*

When the parking is already in operation, the technical specifications are:

- Maximum power: 2200 W.
- Voltage: 220 V A.C., 50Hz.
- Consumption: 0,01 Kwh/parking.
- ADSL conexion.

Civil works

biceberg down´s installations require an underground (civil work) space to house our machinery.

The basic dimensions of the space are: a free internal diameter of 8 mts and a free height between 1,8 mts and 14 mts depending on the model.

For this underground space we take advantage of the know-how developed in the construction of prefabricated buried containers, usually intended for liquids, and to transfer and adapt it for the typical container which fits the features of our product.

As a supplementary installation, a single-phase 5500 W power supply must be made available,and ADSL conexion or through 3G, 4G or others.

Safety

The EC Declaration of Conformity, together with the EC logo on biceberg$_{down}$ parking guarantee the compliance with Safety Directives:

- Directive on machines, 2006/42/CE.
- Directive on electric material, 2012/19/EU.
- Directive on electromagnetic compatibility, 2014/30/EU.

B-24/5

biceberg$_{down}$ guarantees safety for the user, the bicycle and the objects deposited, provided that the parking is used in a proper way and according to the purpose.

Safety for user

biceberg has he following safety devices:

- ***Door reopening:*** A sensitive device reopens the door in the presence of any obstacle which offers a resistance of 150 N. or more, also has a remote control to reopen via keyboard.
- ***Microwave radar:*** At the storing unit there is a radar microwave system which prevents the storing of a non authorized load (living creatures), reopening the door until the unauthorized items is removed.
- ***Load Cell:*** The maximum allowed weight is 35 kg. In case the limit is exceeded an alarm is activated and the load rejected.
- ***Mechanical lock:*** Should the system fail, the opening of the access door is blocked to prevent the user entering inside the parking.
- ***UPS:*** The parking has a UPS (uninterruptible power supply), which turns on automatically and allows the user to finish the operation in a normal and controlled way in case of mains power supply failure.

Safety for bicycle and accessories

The access system guarantees the inviolability of the parking through **verification** codes and a **personal identification** code.

The parking can be supplemented with video supervision systems whith digitally record the bicycle introduction and removing operation. This system allows video recording up to 5 connected cameras, controlling and avoiding any possible acts of vandalism.

Besides, the storing of the accessories in independent tight compartments, gives biceberg$_{down}$ the greatest reliability in terms of safekeeping and custody.

Management and maintenance

Management and operation

biceberg$_{down}$ can offer not only safekeeping and custody of bicycles, but also some additional services (bicycle hiring, etc...).

This option gives biceberg$_{down}$ the opportunity of offering an efficient solution to the new demands of modal transport interchanges.

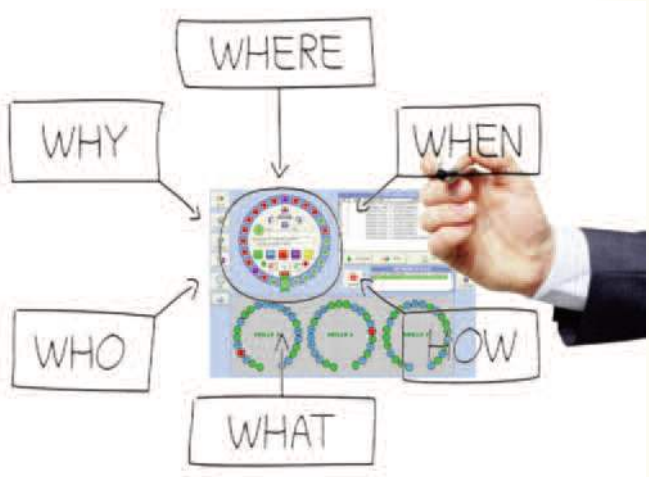
Management options

biceberg$_{down}$ operates with several management software packages which offer different exploitation options:

- Public/Free: Regulated by a maximum parking time.
- Public/Fee: Exploitation fee x time. Variable rates and reduced night rates.
- Public/Season tickets: monthly, annual.
- Public/Hiring: Bicycle hiring (traditional, electrical,…).
- Private: Parking space in freehold.
- Restricted: Provision for communities.
- Mixed: The combination of any of the systems mentioned.
- Other systems: On request. We can adapt to any existing card.

In the utilization contract of biceberg$_{down}$ card you will find the general conditions of use, mentioning: the term of the contract, rights and duties of the holder, obligations of the management company and limitation of liabilities.

Management "on line"



A high level language software monitorizes via modem the history of operations, control of images, checking of alarms, modification of data in the memory, the condition of the receptacles and also makes general verification tests of the status of the parking.

All this in real time and remotely.

The online maintenance service works bi-directionally with the centre control establishing a communication with the parking, to know its status, and the parking connecting with the centre in case of detection of any incidence.

Maintenance

Preventive Maintenance

To guarantee functionality and durability of the parking we have a Maintenance Manual that determines when, how and when maintenance inspections should be made.

ma-sistemaS s.l. recognized maintenance companies through training courses.

The recognized companies have technical support service by **ma-sistemaS s.l.**

The maintenance company determines the frequency of services as monthly, quarterly, half- yearly, annual, not forgetting one exhaustive revision that should be sent in a report to **ma-sistemaS s.l**

On-line maintenance (neccesary ADSL connection)

The parking has a maintenance service **on-line** connected to a control centre.

A software developed with high languages level, allows through broad band communication the control of operation, control, and monitoring of images, checking of alarms, modifications of data in memory, state of cells, general testing and verifications of general state of parking. All this in **real time and remotely.**

The service of on-line maintenance works in a **bidirectional** way, that is to say, is establishing communication by the parking to know the state, and simultaneously the parking establishes connection in case of detecting any anomaly contemplate in programming.

Contracting of maintenance

The company or companies adjudicatory of the maintenance of biceberg down will have to carry out the maintenance service that comprises of the following concepts:

- Preventive maintenance according to manual.
- Corrective maintenance (assistance to incidents).
- Annual cleanliness of the internal zones of the parking to which only the maintenance workmen have access. These comprise: deposit of civil work, mechanical structure, electrical and electronic cupboards and the containers of bicycles.
- Service of attention of incidences.
- Presentation of reports of uses of the parking, historical reports, incidences, assistances, and maintenance.

Data Sheet

Tecnical Characteristics

System	Developed with biceberg and bigloo patents and trade marks
Model / capacity	Standard BCB D 24/1 24 places to BCB D 24/9 216 places
Storage Capacity	24 bicycles by level, from 1 level to 9 levels **(24 to 216 bicycles)**
Design Life of System	More than 25 years. Unlimited with maintenance
Structure	Galvanized iron
Individual containers	Poliester Reinforced Fiber Glass (PRFG
Operation Method	All Electric
Power Requirement	220/240 V AC 5500 w. Max.
Deposit / Retrieval Time	Min: 15 sg., Max: 25 sg., adaptable to local requirements
Minimum Storage Size	Diameter: Ø 8000 mm. Min. rings Ø 7600 mm. Free Height: From 1,80 m. to 14 m.
Size of Machine Shaft	Ø 2960 mm.
Access dimensions:	800 cm. x 1300 cm.
Storage Limitations	For Two Wheel Bicycles and Electric Bicycles Bicycle Length: Max: 1900 mm. Bicycle Width: More than 800 mm. Bicycle Height: Max: 1250 mm. , customizable Bicycle Weight 40 Kg Wheel Size: 18~28 inches
Dead Load on Base Slab	Max: 7000 Kg
Live Load on Base Slab	Max. 5000 Kg
Control Room	Integrated into the core, easy access to all components
Server connection:	ADSL/3G/4G
Management:	Parking / Rental / Mixed %
User access:	RFID card and others on demand
Load recognition:	Microwave radar Artificial vision, CCD TAC RFID
Other security devices:	Reopening of door F<150 N Mechanical blocking when not in use Uninterrupted power supply Alarm and communication GPRS / 3G / 4G

Web page for user activation and network management

Specifications can be varied or increased on request.

Control & Power

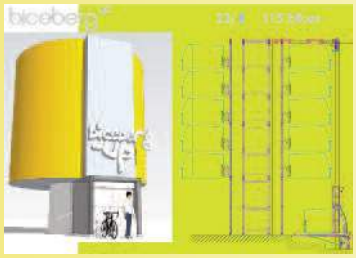
We consider CANopen is the best choice for machines and installations, providing the right technical performance and flexibility for machines and installations.
The systems offers network solution that guaranties the best for openness and interoperability of systems and products.

Other developments

biceberg up

Large Capacity Parking Above Ground.

New solution for large storage capacity of bikes, outdoor.



bigloo

An automatic, intelligent system of storage, parking and management, which receives and returns the bicycle at street level in less than 10 seconds.

biceberg moto

The first automated parking for motorcycles.

Adaptable to all types of spaces, in project, under construction, including built spaces.

Contact

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