**Automated Car Parking System**

**Mobile Ramp**

**Description**

Mobile Ramp

**Mechanical Dock Leveller**

**Description**

Standard features

- Fully mechanical, single handed light weight pull chain operation
- Positive hold down device
- Reinforced lip similar to hydraulic model
- Allows ramp on a free float position when in service
- Heavy duty adjustable 4-type coil springs with direct extension features
- Robustly constructed boxed beam deck design.

Optional Extras

- Larger capacity available
- Various ramp sizes
- Various lip length
- Robust laminated bumpers
- Extended warranty for structural members
Hydraulic Dock Leveller

Description

Capacity
High rated static capacity 35000 lbs. available with various platform sizes And lip sizes to suite any modern warehouses or docking facilities

Ramp
Robustly constructed from 2 pieces 6mm Chequered plates reinforced with total 6 nos. of 4”x 6” & 2 nos of 4” x 3” boxed beam deck construction with a high rated static capacity of 35000 lbs.

Control panel
Working on 230 v control panel in accordance to EU standard & equipped with all necessary safety elements to protect the machine and its connections.

Power Pack
Highly sophisticated compact power pack with 1.0 HP motor, equipped with hydraulic pump with full easy pressure adjustable features & robust steel oil tank. This high quality European mini power pack series conform to European directives, machinery Directives 98/37/EC, EMC 89/336/EEC, BT 2006/95/EC, PED 27/23/EC & ATEX 94/9/EC.

Reinforced Lip
The front hinges are designed to maximized strength and minimized wear with built in grease nipples. The 16” long lip is constructed from 18mm thick high quality steel plates.

Toe Guards
The ramp is equipped with full height toe guards which prevent operator’s foot from entering between the ramp and the loading dock when dock leveler is above dock level.

Finishing
The standard surface finishing includes degreasing by the method of sand blasting, primed and two coats of final colour, Green RAL 6005.

Vertical Horizontal PSH-1+2 Parking System With Outside Packing

Description

Working Principle
This type of parking system is designed 3 levels of top, middle and bottom. Two levels are on and above the ground, the bottom level is underground. There is an exchange space in the middle level. The spaces in top and bottom levels may lift up and down automatically and the spaces in the middle level can slide left and right. Spaces in the middle level are in the same line with the ground for cars going in and out freely. When we need to park or get a car in the top or bottom levels, the spaces in the middle level over or under this space will slide to the exchange space to form a lifting passage. This space will be operated down to the ground for parking and retrieving.

Characteristics of the System
Save land area and take full use of the underground space to raise more parking quantity;

The bottom level has advantage of dustproof, rainproof and anti-theft;

Outer packing types may be designed as full packing, half packing, simple packing or nude packing according to the customers’ requirements;
Vertical Horizontal PSH-1+2 Parking System

Description

Working Principle

This type of parking system is designed 3 levels of top, middle and bottom. Two levels are on and above the ground, the bottom level is underground. There is an exchange space in the middle level. The spaces in top and bottom levels may lift up and down automatically and the spaces in the middle level can slide left and right. Spaces in the middle level are in the same line with the ground for cars going in and out freely. When we need to park or get a car in the top or bottom levels, the spaces in the middle level over or under this space will slide to the exchange space to form a lifting passage. This space will be operated down to the ground for parking and retrieving.

Characteristics of the System

Save land area and take full use of the underground space to raise more parking quantity;

The bottom level has advantage of dustproof, rainproof and anti-theft;

Outer packing types may be designed as full packing, half packing, simple packing or nude packing according to the customers’ requirements;

It has advantages of steady operation, low noise, fast operative speed and short time of parking;

Fast maintenance and simple malfunctions solution with PLC logic circuit;
Multi-channels safety protection and series of safety protection devices for anti-fall, anti-crashing and anti-overloading.

Vertical Horizontal PSH6

Description

Working Principle

The equipment is designed with multi-levels and multi-rows and each level is designed with a space as an exchanging space. All spaces can be lifted automatically except the spaces in the first level and all the spaces can slide automatically except the spaces in the top level. When a car needs to park or release, all spaces under this car space will slide to the empty space and forms a lifting channel under this space. In this case, the space will go up and down freely. When it reaches the ground, the car will go out and in easily.

Characteristics of the System

Low area coverage and high usage rate of space.

The levels and rows can be designed according to the customers’ requirements;

Outer packing types can be designed as full packing, half packing, simple packing or nude packing according to the customers’ requirements;
This type of parking system has low cost and low maintenance cost;

It operates steadily without noise and with fast operating speed and short parking and releasing time;

Multi-channels safety protection and series of safety protection devices for anti-fall, anti-crashing and anti-overloading;

**Vertical Horizontal PSH2 levels Parking System**

**Description**

**Working Principle**

The equipment is designed with multi-levels and multi-rows and each level is designed with a space as an exchanging space. All spaces can be lifted automatically except the spaces in the first level and all the spaces can slide automatically except the spaces in the top level. When a car needs to park or release, all spaces under this car space will slide to the empty space and forms a lifting channel under this space. In this case, the space will go up and down freely. When it reaches the ground, the car will go out and in easily.

**Characteristics of the System**

Optional modes of drive: Hydraulic high speed drive; Motor steel rope rolling drive; Motor gear box chain drive.

It adopts 7 national patents technology.

It has safeguard functions of over going protection and crashing protection.

The whole system is adopted galvanized anti-corrosion treatment.

Hydraulic drive has advantages of over loading protection, empty loading motor-starting, saving energy and environmental protection.

Automatic Control System has Fault Diagnosis and display for a quick troubleshooting.

**Vertical- Horizontal PSH3 levels Parking System**

**Description**

**Working Principle**

The equipment is designed with multi-levels and multi-rows and each level is designed with a space as an exchanging space. All spaces can be lifted automatically except the spaces in the first level and all the spaces can slide automatically except the spaces in the top level. When a car needs to park or release, all spaces under this car space will slide to the empty space and forms a lifting channel under this space. In this case, the space will go up and down freely. When it reaches the ground, the car will go out and in easily.

**Characteristics of the System**

Optional modes of drive: Hydraulic high speed drive; Motor steel rope rolling drive; Motor gear box chain drive.

It adopts 7 national patents technology.
It has safeguard functions of over going protection and crashing protection.

The whole system is adopted galvanized anti-corrosion treatment.

Hydraulic drive has advantages of over loading protection, empty loading motorstarting, saving energy and environmental protection.

Automatic Control System has Fault Diagnosis and display for a quick troubleshooting.

Vertical Horizontal PSH5

Description

Work Principle
This system is designed with 5 layers and multi-columns layout. Each layer is designed with a spare space as an exchanging space. All spaces can be auto-lifting freely except the spaces in the first layer and all the spaces can be auto-transverse moving except the spaces in the top layer.

When a space needs to park or release a car, all spaces under the space will make a one space transverse moving to the empty space and forms a lifting channel under this space. In this case, the space will go up and down freely. When it reaches the ground, the car will go out and in freely.

Characteristics
Low area coverage and high usage rate of space.
The layers and columns will be added to raise the number of cars according to the customer's requirements.

It may be designed with full-closed style to adjust the surrounding environment.
It operates steadily without noise and with fast operating speed and short parking and releasing time.

Multi-channels safety protection and series of safety protection devices for anti-dropping, anti-crashing and anti-overloading.

- Main Structure
- Steel structure
- Car Pallet
- Lifting system
- Sliding system
- Hydraulic system
- PLC control system
- Safe-guard system
Tower Parking System

Description

Working Principle
It is a new type parking system adopting comb pallet with mixed characteristics of puzzle parking and vertical lift parking and it adopts a strong hydraulic drive.

Characteristics of the System
It is safer and more reliable by using hydraulic drive;
The layout of system is more flexible and better use of parking area than vertical lift parking system;
This type of parking system is our national invention system and it is a new refreshing system of our high levels puzzle parking system, it is a replacement system of the vertical lift parking system.

Stacker Parking System

Description

Working Principle
Using stacker or bridge crane to move cars which is in the carrier to the parking spaces by horizontal and vertical movement. The parking and relasing device will finish park and release the car in order.

Characteristics of the System
This parking system has advantages of space saving, flexible design, convenient control etc. Simple and fast parking and releasing car, high automatic during the whole process.

PSH15 Levels Parking System

Description

Working Principle
The equipment is designed with multi-levels and multi-rows and each level is designed with a space as an exchanging space. All spaces can be lifted automatically except the spaces in the first level and all the spaces can slide automatically except the spaces in the top level. When a car needs to park or release, all spaces under this car space will slide to the empty space and forms a lifting channel under this space. In this case, the space will go up and down freely. When it reaches the ground ,the car will go out and in easily.

Characteristics of the System
Low area coverage and high usage rate of space.
The levels and rows can be designed according to the customers’ requirements;
Outer packing types can be designed as full packing, half packing, simple packing or nude packing according to the customers’ requirements;
This type of parking system has low cost and low maintenance cost;
PSH4 Levels Parking System

Description

Working Principle

The equipment is designed with multi-levels and multi-rows and each level is designed with a space as an exchanging space. All spaces can be lifted automatically except the spaces in the first level and all the spaces can slide automatically except the spaces in the top level. When a car needs to park or release, all spaces under this car space will slide to the empty space and forms a lifting channel under this space. In this case, the space will go up and down freely. When it reaches the ground, the car will go out and in easily.

Characteristics of the System

Low area coverage and high usage rate of space.

The levels and rows can be designed according to the customers' requirements;

Outer packing types can be designed as full packing, half packing, simple packing or nude packing according to the customers' requirements;

This type of parking system has low cost and low maintenance cost;

It operates steadily without noise and with fast operating speed and short parking and releasing time;

Multi-channels safety protection and series of safety protection devices for anti-fall, anti-crashing and anti-overloading;

PSH7 Levels Parking System

Description

PSH7 levels Parking System Working Principle

The equipment is designed with multi-levels and multi-rows and each level is designed with a space as an exchanging space. All spaces can be lifted automatically except the spaces in the first level and all the spaces can slide automatically except the spaces in the top level. When a car needs to park or release, all spaces under this car space will slide to the empty space and forms a lifting channel under this space. In this case, the space will go up and down freely. When it reaches the ground, the car will go out and in easily.

Characteristics of the System

Low area coverage and high usage rate of space.

The levels and rows can be designed according to the customers' requirements;

Outer packing types can be designed as full packing, half packing, simple packing or nude packing according to the customers' requirements;
This type of parking system has low cost and low maintenance cost;

It operates steadily without noise and with fast operating speed and short parking and releasing time;

Multi-channels safety protection and series of safety protection devices for anti-fall, anti-crashing and anti-overloading;

**Plane Moving Mechanical Parking System**

**Description**

**Working Principle**

Each storey of the parking zone is set with one shuttle, horizontally moving along the laneway. A smart carrier or comb carrier are used for exchanging vehicle between lift and shuttle. When vehicle entering in, it's transported to the shuttle of the designated storey by car lift, and then parked on designated parking space by smart carrier.

Sometimes with limit of project budget and garage throughput one shuttle can be set for several levels in one system.

The pick-up process is done conversely.

**Characteristics of the System**

- High capacity and maximum utilization of land resource;
- Automatic parking and pick-up;
- Optimum for garage with a long laneway and few underground storeys;
- Equipped with safety protection device with high reliability, when partial region failure occurs, other areas won't be affected;
- Photoelectric safety inspection to control the parking vehicle's specification quantity;
- Typically no need for forced ventilation and large area lighting; computer and touch screen interface for comprehensive management, monitoring system running status; easy operated.

**Comb Type**

**Description**

**Work Principle**

This system adopts comb pallets, it is a new invention by using advantages of hydraulic puzzle type and vertical tower type. It represents the highest technology in modern parking area taking advantages of big transfer ratio of hydraulic cylinders. Total height is 53520mm.

**Characteristics**

This system is safer and more reliable by using hydraulic drive; The layout of system is more flexible and better use of parking area than vertical lift parking system; This type of parking system is our new national invention in 2011 and it will be put into birth at end of 2012. It is the new refreshing system of our high levels puzzle parking system. It is a replacement system of the vertical lift parking system (tower parking system).

**Main Structure**

- Steel structure
- Comb drive
Car Lifting Elevator

Description

Working Principle

Car elevator is used to carry the cars going in and out of the parking system in different levels especially commonly used in the underground parking base near the buildings.

Characteristics of the System

Replace the car passage, realize parking and retrieving cars in different floors or basement; Flexible power layout; Hydraulic drive, Speed adjustable. Has advantages of Safe and reliable, Easy maintenance, Attractive and durable etc.

Mode of drive

Motor gear

Size of car ≤5000*1850*1550

Weight of car ≤2000kg

Retriving time 40second

Safeguard devices Yes

Warning devices Yes

Parts appearance treatment Galvanized treatment and high-grade anti-corrosion paint

Mode of operation Manual

Lingoll

Mode of drive hydraulic

Size of car ≤5000*1850*1550

Weight of car ≤2000kg

Lifting motor power 2.2kw

Retriving time 40second

Safeguard devices Yes

Warning devices Yes

Parts appearance treatment Galvanized treatment and high-grade anti-corrosion paint

Mode of operation Manual
**Lingbo I**

Mode of drive: Motor rolling rope

Size of car: \( \leq 5000 \times 1850 \times 1550 \) / ground level \( 2050 \)

Weight of car: \( \leq 2000 \) kg

Lifting motor power: 2.2 kw

Retriving time: 40 seconds

Safeguard devices: Yes

Warning devices: Yes

Parts appearance treatment: Galvanized treatment and high-grade anti-corrosion paint

Mode of operation: Manual

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**Back Cantilever**

**Description**

**Working Principle**

This parking system is two floor parking system, cars can moving in and out from the ground level spaces directly, the ground level spaces can sliding automatically left and right to form space for the top level parking spaces lifting or down.

**Characteristics of the System**

Save land area and take full use of the space; Can be designed multi-units together to make more parking spaces; The installation position can be changeable to satisfy any sites required; Simple and reliable, Simple to operate; More wider drive way for cars going in and out conveniently; Down by selfweightness, more saving Energy.

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**Pit Lifting Parking System**

**Description**

**Pit-Lifting Parking System Working Principle**

All spaces of top, bottom spaces are united and lift together. Usually, the bottom spaces are underground in the pit. The top level space is in the same line with the ground for cars parking in and out directly. The bottom spaces may park cars when it is lifted.

**Characteristics of the System**

Save land area and take full use of the underground space.
-2+1 Pit Lifting Parking System

Description

Working Principle

All spaces of top, bottom spaces are united and lift together. Usually, the bottom spaces are underground in the pit. The top level space is in the same line with the ground for cars parking in and out directly. The bottom spaces may park cars when it is lifted.

Characteristics of the System

Save land area and take full use of the underground space.

It can achieve multi-units together to raise more parking numbers.

The middle and bottom levels have functions of dustproof, rainproof and anti-theft.

This system is simple, reliable and easy to operate.

The top level may be planted with grass and flowers to increase the green land area.

Outer packing types may be designed as full packing, half packing, simple packing or nude packing according to the customers’ requirements.

No influence to buildings sharing light.

Pit Lift Parking System

Description

Working Principle

All spaces of top, bottom spaces are united and lift together. Usually, the bottom spaces are underground in the pit. The top level space is in the same line with the ground for cars parking in and out directly. The bottom spaces may park cars when it is lifted.

Characteristics of the System

Save land area and take full use of the underground space.

It can achieve multi-units together to raise more parking numbers.

The middle and bottom levels have functions of dustproof, rainproof and anti-theft.

This system is simple, reliable and easy to operate.

The top level may be planted with grass and flowers to increase the green land area.

Outer packing types may be designed as full packing, half packing, simple packing or nude packing according to the customers’ requirements.

No influence to buildings sharing light.
Type DA - Low Headroom Crab Unit

Description

In contrast to the type D unit, the cross member supporting the hoist between the end carriages is fitted with articulated joints. The hoist headroom is therefore reduced to a minimum.

This is the option to use where very little space is available above the crane, as an alternative to type DQA, also a low headroom option.

Type Z – Twin Barrel Crab Unit

Description

Compact twin hoist crab unit for Safe Working Loads of up to 120 t with articulated end carriage joints to ensure positive contact of all four wheels with the track and with two direct drive cross travel motors.

Type DQA – Ultra Low Headroom Crab Unit

Description

Compact crab unit for SWL of up to 40 t. Ultra low headroom design with rope drum axis in the direction of cross travel; with articulated end carriage joints to ensure positive contact of all four wheels with the track and with two direct drive cross travel motors.

Type D – Standard Crab Unit

Description

Compact double rail crab unit for medium SWL applications up to 63 t. The articulated end carriage joints ensure positive contact of all four wheels with the track. Hoist trolley features two direct drive cross travel motors.

Type U – Monorail Hoist With Twin Trolleys

Description

Monorail hoist with twin trolleys type U for high load capacities and long hook paths. Safe Working Load range between 6.3 t and 25 t. Direct
drives without exposed reduction gearing for cross travel trolleys. Cranes with higher load capacities yet smaller spans can be designed as single-girder cranes when using this hoist.

Type S – Side Mounted Hoist

Description

The side-mounted hoist with the hook positioned beside the crane girder achieves an optimised highest hook position. Safe Working Load range between 1 t and 10 t. The combination of optimised highest hook position and the option to design cranes with spans of up to 35 m or more as single girder cranes results in cost advantages when investing in buildings.

Type E – Monorail Hoist

Description

Monorail hoist as economic choice in compact design with favourable dimensions. Safe Working Load range between 1 t and 16 t. Two direct drive cross travel motors. The cross travel trolley is adjustable to suit various flange widths.
Semi-Portal Cranes

Description

The ABUS half-port cable EHPK is particularly suitable for the transport of goods up to 10 t on the middle transport level. Due to its characteristics, it fits seamlessly into existing material flow systems: the upper undercarriage moves on a conventional crane runway; no guide rails on the floor side are necessary on the lower undercarriage, so that no interfering edges are created. Only low loads are created on the hall design.

A combination of round light and obstacle detection ensures the required safety during the process of the half-port cable. From an economic point of view, the semi-portals are characterized by comparatively low investment costs and not least by a simple and fast installation.

- Load capacity up to 10 t
- Wingspan up to 15 m
- Application on medium material flow plane
- No stopping edge, since without guide rail on the ground
- Quick and easy installation
- Low static load for hall construction

Underslung Overhead Travelling Crane

Description

ABUS underslung overhead travelling cranes offer solutions in applications where gantry tracks are fitted to ceilings rather than freestanding or building columns. Optimal side approach dimensions make it possible to use the maximum available building width.

Double Girder Overhead Travelling Crane

Description

ABUS double girder overhead travelling cranes achieve the maximum load capacity of up to 120 tonnes. They are available in various configurations and feature the versatility required for additional requirements. It is very easy to implement higher crane travel speeds, service platforms, trolleys with walkways, and auxiliary hoists for example.

Single Girder Overhead Travelling Crane

Description

ABUS single girder travelling cranes guarantee optimal material flow even in situations where space is at a premium as in production plants or warehouses where there is little room for crane systems.

ABUS single girder travelling cranes are available with rolled section girders or with welded box girders.

Thanks to different main girder connection versions, each type of crane can be optimised to minimise headroom and achieve the highest possible hook position.
Wall Jib Crane VW

Description

The wall jib crane VW has been designed to be mounted on a wall or column. This workstation crane provides a slew range of 180° with jib arm lengths of up to 10 m and Safe Working Loads (SWL) of up to 5 t. The design of the wall jib crane VW enables the given building dimensions to be used to the fullest extent, so that the transfer of the load is achieved at the highest possible lift height.

Wall Jib Crane LW

Description

The wall jib crane LW has been designed to be mounted on a wall or column. This workstation crane provides a slew range of 180° with jib arm lengths of up to 7 m and Safe Working Loads (SWL) of up to 1.0 t.

Wall Jib Crane LWX

Description

The wall jib crane LWX has been designed to be mounted on a wall or column. This workstation crane provides a slew range of 180° with jib arm lengths of up to 7 m and Safe Working Loads (SWL) of up to 0.5 t.

Pillar Jib Crane VS

Description
The pillar jib crane VS has been designed for freestanding installation on the building floor. This workstation crane provides a slew range of 360° with jib arm lengths of up to 10 m and Safe Working Loads (SWL) of up to 6.3 t. The low-built design allows high hook positions for optimal use of the available building space.

Pillar Jib Crane LS

**Description**

The pillar jib crane LS has been designed for freestanding installation on the building floor. This workstation crane provides a slew range of 270° with jib arm lengths of up to 7 m and Safe Working Loads (SWL) of up to 1.0 t. Slewing stops allow you to adapt the slewing range to your individual needs.

Pillar Jib Crane LSX

**Description**

The pillar jib crane LSX has been designed for freestanding installation on the building floor. This workstation crane provides a slew range of 270° with jib arm lengths of up to 7 m and Safe Working Loads (SWL) of up to 0.5 t.
Double Girder Crane ZHB-3

Description

The ABUS double girder crane ZHB-3 teaches us how obstacles can be overcome. This double girder crane is suspended from three crane tracks. Very long crane spans become thus possible making the crane able to service large surface areas.

Stooled Up Double Girder Crane ZHB-X

Description

The ZHB-X is your answer should the building height of the ZHB prove to be insufficient. The crane girder of this double girder crane does not run underneath the crane tracks but between them. The total height of the crane is equal to the height of a single profile. A vastly improved lifting height is achieved. This can be very useful if high machinery in the transport area needs to be negotiated.

Double Girder Crane ZHB

Description

The ABUS double girder crane ZHB is our answer for heavy loads combined with area-coverage transport. The ZHB is also characterised by long crane spans. The ABUS chain hoist is also suspended between the crane girders making for an optimised lifting height.

Single Girder Crane EHB-X

Description

The EHB-X is your answer should the building height of the EHB prove to be insufficient. The crane girder of this single girder crane does not run underneath the crane tracks but between them. The total height of the
crane is equal to the height of a single profile. A vastly improved lifting height is achieved. This can be very useful if high machinery in the transport area needs to be negotiated.

**Single Girder Crane EHB**

*Description*

The ABUS single girder crane EHB is the most straightforward HB system solution for area-coverage materials handling within buildings. The EHB is a very light crane due to the simple construction of two crane tracks and one crane girder which makes it easy to move the EHB manually. This crane is ideal to be installed in lightweight buildings with low load-bearing ability.

**Double Rail System ZSB**

*Description*

Two crane tracks are suspended in parallel for the ABUS double rail system ZSB with the hoist suspended between them. The loads are distributed more evenly meaning less loading for the building structure. Wider suspension spacing is possible.
Monorail ESB

Description

The ABUS monorail ESB specialises in lifting loads locally and in linear point-to-point transport. With the help of curved sections your hoist is able to travel through the building exactly as you need it to. Workstations could be linked in this way if required or the crane could be adapted to fit individual machinery locations.

ABUCompact GM8

Description

The ABUCompact GM8 is available with 1 or 2 falls.

The GM8 lifts loads of up to 2 t / 4 t. The hooks paths reach lengths of up to 32 m / 16 m. Different lifting speeds are available depending on the load capacity.

The ABUCompact GM8 features a 48V electronic control as standard.
ABUCompact GM6

Description

The ABUCompact GM6 is available with 1 or 2 falls. The GM6 lifts loads of up to 1.25 t / 2.5 t. The hooks paths reach lengths of up to 35 m / 17.5 m. Different lifting speeds are available depending on the load capacity.

ABUCompact GM4

Description

The ABUCompact GM4 is available with 1 or 2 falls. The GM4 lifts loads of up to 630 kg / 1.25 t. The hooks paths reach lengths of up to 50 m / 25 m. Different lifting speeds are available depending on the load capacity.
ABUCompact GM2

Description

The ABUCompact GM2 is available with 1 or 2 falls. The GM2 lifts loads of up to 320 kg / 630 kg. The hooks paths reach lengths of up to 32 m / 16 m. Different lifting speeds are available depending on the load capacity.

ABUCompact GMC

Description

A standard power socket with 230 V suffices for the power supply of the ABUCompact GMC. The GMC is particularly suited to mobile use due to its low weight.

The GMC is available with single or double falls and is able to lift loads of up to 100 kg / 200 kg. The lifting speed is infinitely variable. Feasible hook paths reach lengths of up to 20 m / 10 m.
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