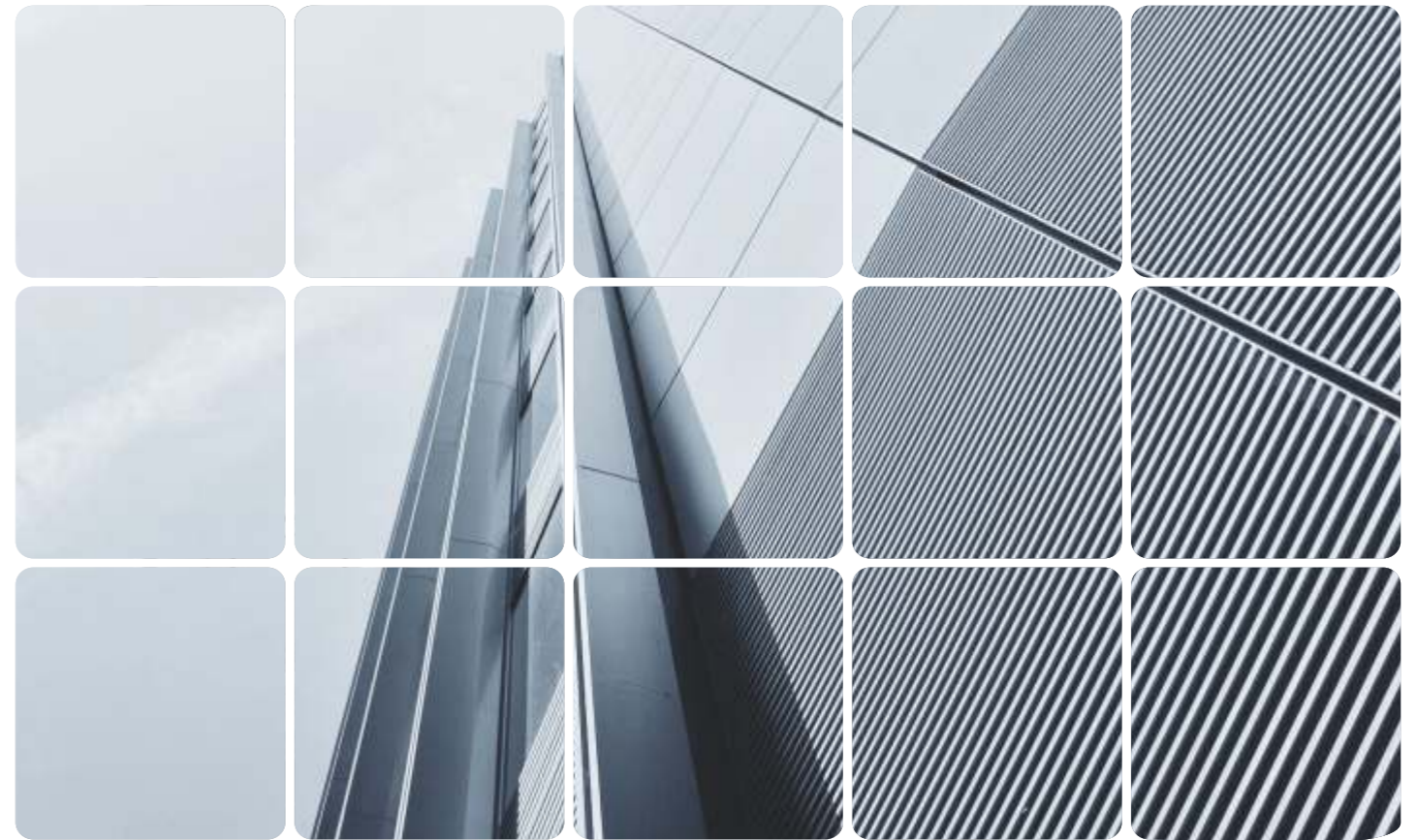


## S800H ▶ High-speed elevator



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2020.06A

**SWORD**  
HANGZHOU SWORD ELEVATOR CO., LTD.



## SWORD

### The manufacturing base of SWORD in Hangzhou

- An investment of 150 million US dollars
- An area of 270,000 square meters
- An annual output of 100000 units
- One of the most advanced elevator testing towers in China, over 120m in height, with the testing ability of 10m/s

### The excellence of quality originates from capability

HANGZHOU SWORD ELEVATOR CO., LTD. was established in 2009 and is located at the National Economic and Technological Development Zone in Hangzhou, China. We are an international comprehensive manufacturer and service provider which integrate the R&D, design, production, sales, installation and after-sales maintenance of elevators and escalators. Our annual production capacity is up to 100,000 units, of which the comprehensive strength ranks top in the industry.

Our products cover small machine room passenger elevator, machine-room-less passenger elevator, high-speed elevator, hospital elevator, freight elevator, panoramic elevator, escalator, moving walk and vehicle elevator, totally nine series, among which our environment-friendly products with high precision and high standard have went through German TÜV certification, European Union CE, Russian CU-TR certification, JKKP Malaysian certification, Algerian ENACT certification and successfully joined in the North American CSA and ASME certification systems. We have provided service and solutions for more than 70 countries and regions worldwide by now. All these have contributed to the unceasing enhancement of our brand image and influence.

**Rapid**  
 Reach the peak instantaneously



HANGZHOU SWORD ELEVATOR CO.,LTD

# S800H

High-speed elevator

With the increasing of the city building height, the S800H high-speed elevators produced by Hangzhou Sword emerge at a historic moment. S800H high-speed elevators adopt world-famous parts with its safety, efficiency, cutting-edge technology and other special advantages. S800H lets you feel the happiness to control the fast-paced modern city life and can be perfectly applied to CBD, skyscraper and other high-rise buildings.

#### International quality

S800H adopts the special traction machine which is tailor made for high-speed elevators. The complete machine has powerful performance and has many safety precautions; the core components in control system adopt world-famous brand and brings in the world leading variable frequency control technique, ensuring the elevators run safely and efficiently; door operator adopts double-motor and double-retiring-cam structure, with double power and double protection.

#### Wisdom Technology

S800H flexibly adopts many high-end technologies and makes the intelligent elements fully integrated into every aspect of the elevators. You would feel that comfort efficiently and conveniently come into people's lives. Target floor elevator-sending system, remote monitoring system, negative oxygen ion ventilation system and other advanced functions make you feel more convenient and comfortable. With the quality growing, your identity upgrades.





## GETM high-speed traction machine

GETM traction machine is specially used for high-speed elevator. It has a strong performance and many safety measures, which ensure the safety of passengers at the high-speed running state.

### Imported Brake

Imported brake runs steadily, reliably and flexibly. It has gone through 20 million tests and the quality and performance have been fully guaranteed.

### High-quality Magnet Steel

Magnet steel is made of special rare earth permanent magnetic material and could resist temperature up to 180°C, which can effectively avoid the accidents caused by demagnetization under high temperature. Magnet steel adopts double fixation protection with conventional fixing mode and mechanical compaction protection, ensuring that magnet steel never comes loose.

### German Heidenhain Encoder

German Heidenhain encoder has 8192 pulses, which is 4 times of conventional encoder. Therefore, its control precision is higher.

### Double Structural Support

Imported high-quality bearing and double support structure make motor have stronger carrying capacity and steadier operation with lower noise. Its service life is above 20 years.



## Control system

It adopts our professionally-designed control system, which introduces world-leading frequency conversion technology to make high-speed elevator's operation efficient and energy-saving; its strong mainboard ensures that the system processes data fast and accurately, which effectively meets the demand of high-rise buildings.

### Safe And Efficient Core Parts

Core parts and peripheral low-voltage electrical control elements adopt internationally famous brands, which have sensitive and efficient performance and ensure the safe operation of high-speed elevators.

### Four-quadrant Frequency Conversion Control Technology

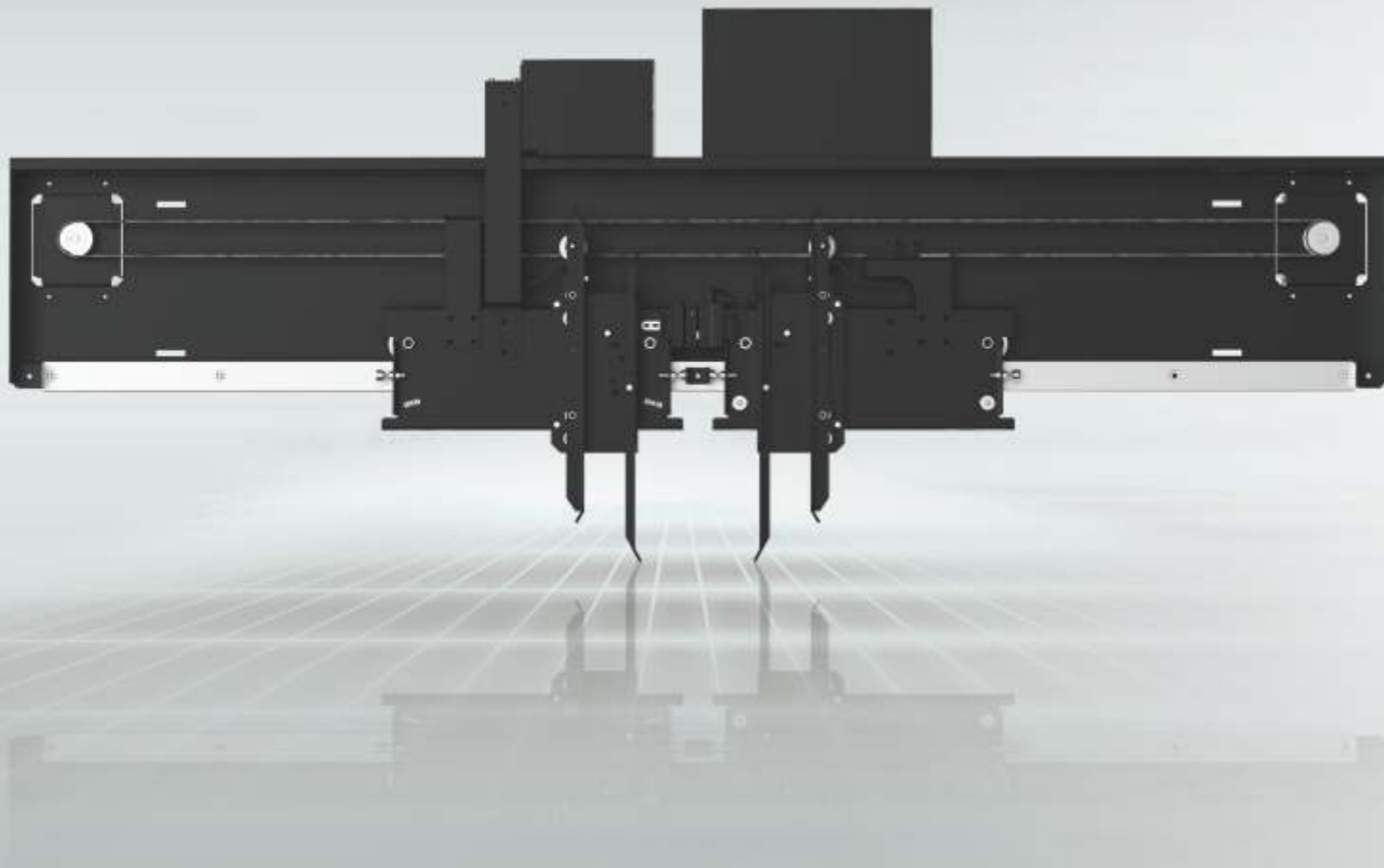
Four-quadrant frequency conversion control is the most advanced frequency conversion control solution in the industry. It contains efficient energy regeneration technology and advanced torque feed-forward technology, of which the control element is simpler and the system integration level is higher.

#### Energy regeneration technology

Precise control of busbar voltage, so as to achieve effective energy feedback.  
 Clean energy technology: precise motor control and efficient energy feedback with professional control algorithm, to ensure the efficient and clean feedback energy.

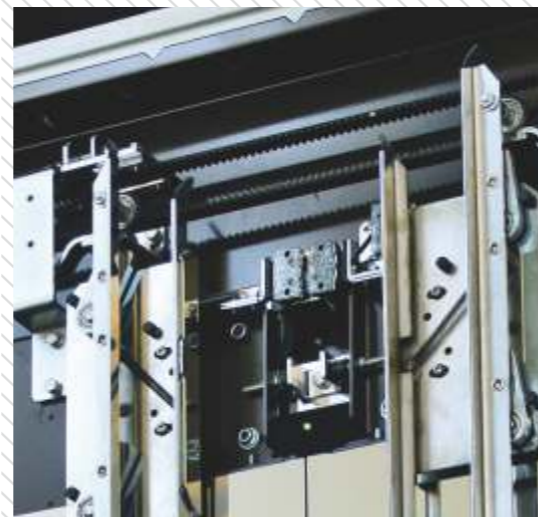
#### Torque feed-forward technology

The encoder can intelligently identify the car load and accurately output the signal to the frequency conversion device, which can output a pre-torque to the motor according to the car load, so as to make the elevator acceleration and deceleration more stable.



## Super-Con Permanent magnet synchronous variable frequency door operator

The S800H high-speed elevator's door operator adopts permanent magnet synchronous variable frequency one-control-two-drive core technology, high-safety electronic car door lock, double-door-coupler and double-door-lock structure, and specially designed triangle unlocking device, which perfectly suit high-speed elevator's wind pressure, horizontal shaking and installation adjustment and have many advantages such as high efficiency, low noise and quick response.



## Heavy car system

Car wall adopts streamlined design to effectively reduce the friction between car wall and air; in the meanwhile, it also adopts rotary ventilation holes and labyrinthine car door seal structure to reduce noise and improve riding comfort. Car top and car bottom adopt double sound insulation structure, which effectively cuts off the noise caused by air friction for passengers.





## Humanized design, personalized service

We provide the best service and tailor some personalized product solutions for customers. According to the unique design and planning of the architecture and the surrounding environment, we provide diversified function solutions and spare parts collocations, making the riding experience a distinguished enjoyment. In view of some customers' personalized requirements, we provide a wide range of choices in a bid to make the most satisfying elevator for customers.



### Voice Announcement Function

Target floor arrival voice announcement allows users to know the arrival floor clearly and enjoy our attentive service. Chinese announcement or English announcement can be provided.

### Negative Oxygen Ion Ventilation System (optional)

Negative oxygen ion ventilation system ensures the air clear in the car, making passengers feel the freshness of nature.



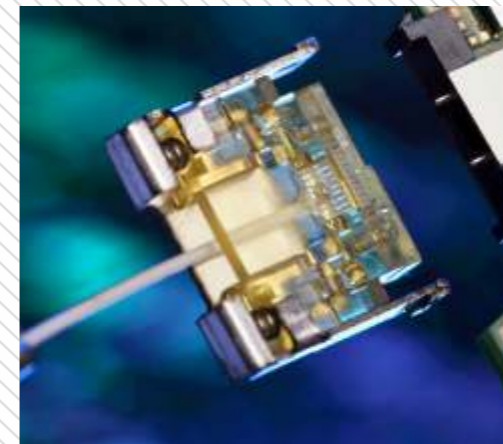
### Intelligent IC Card Management System (optional)

Intelligent IC card management system manages the permission to specific floors by the card reader system in the car or outside the hall. After the elevator is installed with the intelligent IC card management system, it can set permissions for passengers, and owners can only select the corresponding floors by punching the card; at the same time, the system can provide visitor function: visitors can confirm their identities with owners by talkback or other methods of communication, and owners press the button on the visitor board, easily allowing the visitors to take the elevator without going out.



### Remote Monitoring System (Optional) ➤

Remote monitoring system collects the elevators' running state in real time and monitors all the elevators by the monitoring computers at monitoring center; it can record the elevators' running condition while monitoring, take statistic analysis of the elevators' running data and send relevant reports to the printer for printing. The system can centrally manage the elevators, control the elevators' running condition in time and help to analyze the reason of errors and alarm when the elevator is in abnormal conditions, which improves the efficiency of services and maintenance, and reduce the error rate.



#### ◎ Advancement

Using advanced concepts, technologies and methods, combined with object-oriented design ideas, the advanced technologies of data integration and the application of popular management theory provide users with a direct-viewing and easy-to-use monitoring system.

#### ◎ Easy maintenance

Provide a flexible organization, user permission, data backup/recovery, data tracing, data integration, application fallback and other management tools, which greatly facilitates the system maintenance work.

#### ◎ Applicability

Reliable and reasonable function and input/output interface can be applied to different environments. System can flexibly choose configuration according to different elevator models.

#### ◎ Expansibility

Fully considering the needs of information integration and function expansion, we provide a variety of expansion interfaces, so as to facilitate the connection with other equipment and systems.

#### ◎ Safety

Access password and access permission both guarantee the safety of the system. From the perspective of functional operating permission management, we manage users in group and record the operating process in detail, so as to protect the safety of system and data.

## Cabin decoration

### Standard Cabin

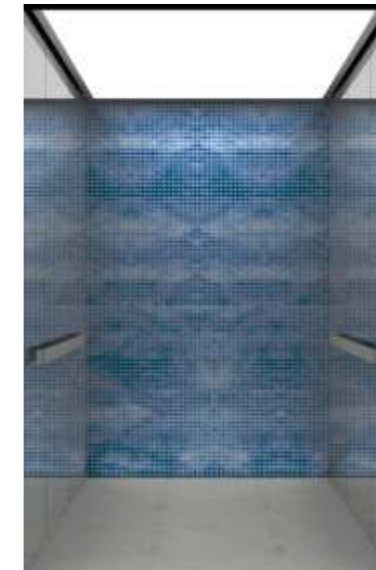


Ceiling: XO-Z0378 (L)  
 304 hairline stainless steel frame + silk-screen acrylic light-passing panels + LED lighting, the middle frame is baking varnish steel panel + white mirror stainless steel roof board

Wall: 304 hairline stainless steel

Car door: 304 hairline stainless steel

Floor: XO-Z0465 (PVC)



#### XO-Z0209

Car Wall: XO-Z0209J White mirror stainless steel + art glass

Car Ceiling: XO Z0209D(L) 304 long hairline stainless steel + light-passing film

Handrail: XO-Z0209F 304 long hairline stainless steel flat handrail

Floor: XO-Z0209P Marble

Recommended Front Wall: White mirror stainless steel

### Optional Cabin



#### XO-Z0228

Wall: XO-Z0228J White mirror etching stainless steel + 304 short hairline stainless steel

Ceiling: XO-Z0228D(L) 304 short hairline stainless steel + milk-white acrylic

Handrail: XO-Z0228F 304 long hairline stainless steel flat handrail

Floor: XO-Z0228P Marble parquet

Recommended Front Wall: 304 short hairline stainless steel



#### XO-Z0229

Car Wall: XO Z0229J 304 short hairline stainless steel + metal mesh + white mirror stainless steel

Car Ceiling: XO-Z0229D(L) White mirror stainless steel + metal mesh+ acrylic

Handrail: XO-Z0229F 304 long hairline stainless steel flat handrail (on the back side)

Floor: XO-Z0229P Marble parquet

Recommended Front Wall: Short hairline stainless steel

## The hall door and hall call box



Hall door on the first floor: hairline stainless steel



Hall doors on other floors: volcanic ash colored painted steel (RAL7047)

### Hall-Call Box



XHB16-A

XHB16-A the new bottomless hall-call box: the panel material uses stainless steel, and comes standard with a 4.3" TFT-LCD colorized liquid crystal display and BR36D hairline stainless steel braille buttons.

### Optional Display



4.3" EOD-LCD  
Yellow LED dot matrix liquid crystal display



4.3" EOD-LEDY  
Yellow LED dot matrix display



4.3" BND-LCD  
Black screen LCD



4.3" BND-LEDW  
White LED segment display

## Car operation panel

### Car Operation Panel



COP2

COP2 is an integrated car operation panel placed at the front wall, with a 10.4" TFT-LCD colorized liquid crystal display and BR36D shimmery hairline stainless steel braille buttons. Excellent quality; panel is made of 304 hairline stainless steel.

### Optional Display



6.4" BND-LCD  
Black screen LCD



6.4" BND-LEDW  
White LED segment display



6.4" EOD-LCD  
Yellow dot matrix liquid crystal display



6.4" EOD-LEDY  
Yellow LED dot matrix display



7.0" TFT-LCD  
Colorized liquid crystal display

### Optional Button



BS34D

Stainless steel braille button

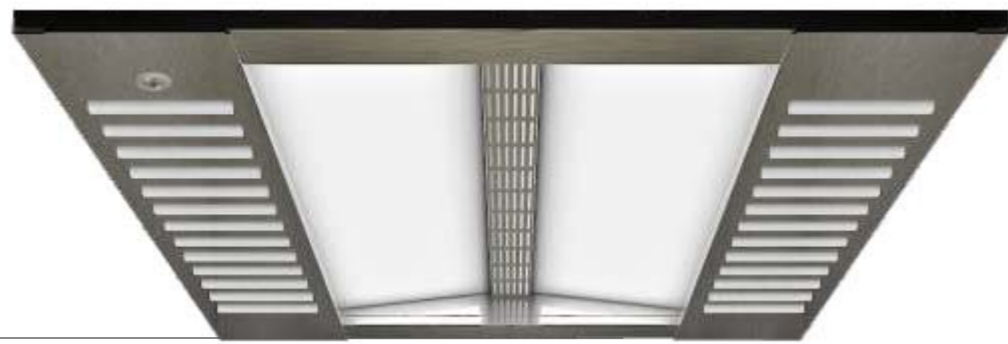


BR34B

Shimmery white mirror stainless steel braille button

## Optional cabin configuration

### Optional Ceiling



XO-Z0372(L)

Hairline stainless steel panel frame + acrylic lighting decoration + trapezoid roof board



XO-Z0303(L)

White mirror stainless steel frame + down lamp on both sides + acrylic lighting board for the middle part (grid)



XO-Z0378(L)

304 hairline stainless steel frame + silk-screen acrylic light-passing board + LED lighting, baking varnish steel frame in the middle + platinum stainless steel roof board



XO-Z0379(L)

Painted steel panel on both sides + acrylic light-passing board + LED lighting + white mirror stainless steel roof board in the middle

### Optional Handrail



XO-Z0509  
Flat stainless steel

Optional Floor ◀

▶ Marble Series



XO-Z0194P



XO-Z0183P



XO-Z0182P



XO-Z0214P



XO-0442



XO-Z0440

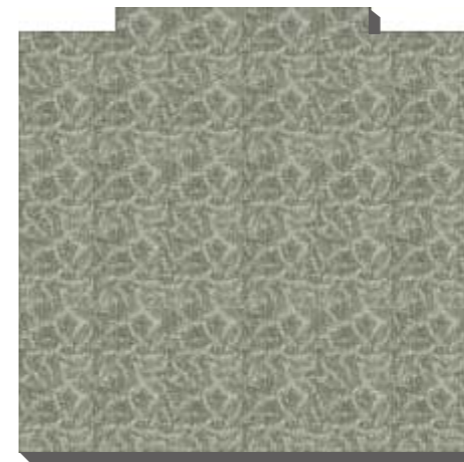


XO-Z0429

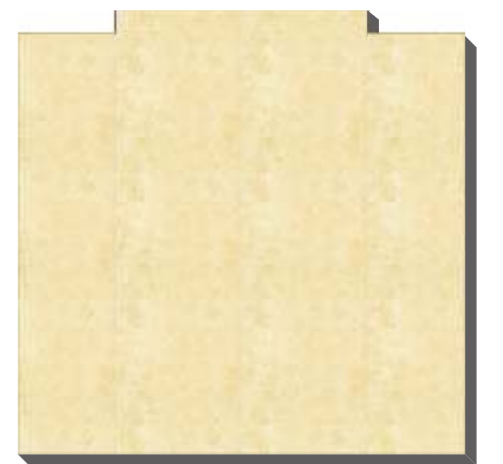


XO-Z0206P

▶ PVC Series



XO-Z0465



XO-Z0464

# BASIC FUNCTION

## – Operating Functions

Full Collective Operation	On the basis of signal control, elevator call signals are assembled together to make selective response.
Load Non Stop	When the car is fully loaded, the elevator does not respond to the hall call signal but executes the car-internal signal.
Automatic Home Landing	If there's no registration of calls or operations within the set time, the car will automatically return to the preset home floor and wait there.
Error Call Cancel	Before the car starts, the registration of a call or operation can be cancelled by double click of this button.
Floor Space Self-learning	The system can automatically record each floor's height and make precise distance control when the elevator is operating.
Key Switch	When lock key moves, the system no longer respond to hall call signals. After the elevator finishes responding to all the car-internal instructions, it automatically returns to the home floor.
Door Open Button Door Close Button	Door open and close buttons are set in the cabin. When the elevator is not running, you can press the open button to open the door, or press the close button to cancel the open waiting time and close the door at once, which improves the running efficiency.
Separate Control For Car Door & Hall Door's Opening Time	The system can set different opening time for hall door and car door.
Auto-correction Operation	When the elevator loses its position, it auto-corrects itself to the right position.
Door-closing Waiting Time Cancel	Through clicking the close button, close the cabin door immediately.
Re-opening For Hall Door	In normal closing process, when pressing the hall button, if the direction of hall call button is the same with the elevator's running direction, the elevator will be re-opened again.
Torque Compensation Without Weighing	When elevator starts, system would compensate torque according to the current weight without weighing, in order to create a comfortable starting feeling.

## – Safety Functions

Protection For First & Top Floors	If the speed is not slowed down to the pre-set value while the car is reaching the first or top floor, a forced deceleration will be carried out by system in order to protect the safety of the car.
Error Self-diagnosis	The system can automatically diagnose and record the elevator's error signal, and use special tools to quickly remove the fault.
Motor Overheat Protection	Self-protection mode will be started if the temp of the motor exceeds the pre-set value due to the heat made by motor itself or the high temp in the environment. The car stops at the nearest floor, unloaded, and shuts down the light and ventilation; once the temp falls down to the pre-set value, the car will return to normal work.

Door-closing Torque Protection	If the resistance torque reached the pre-set value when closing the door, the door will reopen.
Speed Anomaly Detection	By monitoring and comparing the encoder feedback signal and the system pre-set speed value, the system can master the elevator's running speed. Once the difference value is beyond the scope that the system allows, the system gets into the protection state and the car stops running.
Contactors Anomaly Detection	According to the contact device's control command, the system detects the state of the main contactor and the brake contactor. If anomaly is found, the system will enter a state of protection and the elevator stops running.
Power Grid Anomaly Detection	If the power grid fluctuation is over a certain safety margin, the system gets into the protection state and the elevator stops running.
Light Curtain Protection	Light curtain protection fence is set up at the entrance of the elevator. Every scan loop has 154 bunches of infrared rays, and the reaction time is one second.
Overload Alarm	When the load of the car exceeds rated capacity, overload alarm is triggered. This operation includes opening the door, sounding the buzzer, illuminating the overload lamp and cancelling all the COP commands. The overload condition is removed when the weight of the car falls below the rated load.
Door Open/close Protection	When the elevator reaches a floor, the door isn't opened completed in the setting time because of obstacle or other reasons, the elevator will enter the open protection mode – after opening the door in this floor unsuccessfully three times, it runs to the next floor to open the door; When the door isn't closed completely in the setting time because of obstacle or other reasons, the elevator will enter the close protection mode and not respond to any call commands.
Brake Anomaly Detection	If difference is discovered between the actual braking state and the system command, the elevator will get into protection state and stop running.

## – Emergency Functions

Five-way Intercom	There is an intercom device around car, car bottom, car roof, machine room and monitor room.
Cabin Alarm	In case of emergency, the alarm bell will be activated by pressing the alarm button on the car operation panel.
Emergency Electric Operation In Machine Room	An emergency electric operation device is installed in machine room. When an emergency happens, it can be operated by the professional maintenance staff in the machine room.
Cabin Emergency Light	Emergency light in the car will start whenever there is a power cut.

 – Energy-Saving Functions

Lighting & Fan Auto-control In Car	If the lift does not receive any instructions within the pre-set time, the elevator automatically shuts off the cabin lighting and fan, in order to save energy.
Energy-saving Display	After a pre-set time, if there is no hall call registration, display will turn off for energy-saving.

 – Human Interface

Car Passing Chime	When the elevator arrives at the target station, the car passing chime will remind the passengers with a loud bell.
Hall & Car Direction Indicator	Both car and hall screens will display the elevator's running direction.
Car & Hall Display	The indicator in the car operation panel or in the hall call panel will display the elevator's floor position and running direction by arrow signals.
Customized Floor Info Display	Based on customer's demand, the elevator can set a different floor info display. This information can be a combination of numbers 0-9, letters A-Z or any of the two characters and also can be set to a three-digit display beginning with 1, such as 13A etc. Note: segment code display cannot distinguish the number 0 from the letter O, the letter S from the number 5.
Shimmery Button	When not pressed, the COP buttons keep shimmery as an indicator for passengers; when pressed, the COP buttons turn full-lighted as a command registration.

 – Special Operation

Anti-nuisance Car Call Protection	If there is only one passenger in the car, and an excessive number of car calls are registered, nuisance is detected and all car calls will be cancelled.
Auto-parking	Elevators in the same group will park on different floors in its spare time, in order to optimize the using efficiency of the elevators.
Hall Call Cancel	Switch and buttons on the main panel can be dialed up to cancel the outside hall call, in order to facilitate testing and maintenance.
Static Positioning	When doing the motor angle positioning, no need to take the steel wire cable away from the traction machine, which is more convenient for installation at worksite. (2.5m/s, no such function)
Car Top Inspection	Set up the repair switch at the car top which is convenient for maintainers to repair in the hoistway. At this time, the repair switch for the machine room is invalid.
Silent Mode	At hotels, apartments and other places, in a specific period of time (e.g. night), automatically close the sound of the station chime and keep silent for the tenants; at other times, the station chime generator automatically restores the voice and provides voice announcement for the elevator users.
Pacifying Voice	When the elevator is in a special state, the voice will pacify the passengers in the car.
Auto Re-leveling	When the elevator's door opens, because of the personnel's entrance, the telescopic steel wire rope leads to the changes of the elevator's leveling position and the elevator will automatically correct its leveling position at a slow speed.

**OPTIONAL FUNCTION** 

Attendant Non-stop	When pressing the non-stop button, elevator will move straightly to the target floor, ignoring all the hall calls.
Door Hold Button	The cabin is equipped with the door hold button. When the switch is on, the elevator doesn't close the door for a set period of time. After the set waiting time, the elevator automatically closes its door. During the waiting (door-opening) process, if you press the close button, the door will be closed immediately and cancel the waiting.
Duplex	When there are two elevators, the duplex function can be selected. When in duplex, according to its priority, the system sends the fastest available elevator to serve the hall call command, in order to reduce the passenger's waiting time.
Voice Announcement	The elevator is equipped with the voice announcement device, which tells the passengers the floor that the elevator is stopping at, the state of the door and other information.
Independent Service	This function is designed for meeting customers' special needs. When independent service is switched on, the elevator will only answer the registered car's call instruction and deviate from group control.
Nearby Leveling	When the elevator loses its leveling position, no need to reach the bottom floor to reset, and just stop at the nearest floor to correct its position, so as to save the waiting time of passengers. (2.5m/s, as a basic function)
Emergency Fireman Operation	When the key switch preinstalled in the car is turned on, the elevator will cancel all the hall call signals, and only respond to the signals from the car. This function is intended to cooperate with firemen to put out the fire and should be used with the fire elevators.
Fireman Landing Success Feedback	Through a fire-isolated switch, system could feed back fireman landing success signal to the fire-fighting system in the residential district.
Automatic Rescue Device	This device is used for rescue operation in case of power failure. It is powered by a rechargeable battery. When a sudden power cut happens, a sound signal will comfort the trapped passengers, and the car will move towards the nearest floor, keeping the door open to release the passengers.
Reverse Command Cancel	When the elevator is running upward or downward, the command that is in the reverse direction cannot be registered.
Area Elevator System	Computers are carried out for the district monitor system. This function can provide computed monitoring for all the elevators in this district and offer the BA for the intelligent building management system.
Advanced Door Opening	Start the function and the elevator's speed will be slowed down to a set value to open the door when the elevator enters the door area, which improves the operating efficiency. (When speed ≥ 2.5m/s, this function is a basic function.)
Ic Card Automatic Registration	After the user swipes the IC card, the system automatically registers the floor instruction, with no need to press the button. (This function cannot be used together with the IC card open access function.)
Arrival Pre-remind Button	According to the optimal curve automatically calculated, pre-remind the elevator's next landing floor and the corresponding floor button flashes.
Arrival Pre-remind Display	According to the optimal curve automatically calculated, pre-remind the elevator's next landing floor and the corresponding floor number flashes.
The Rush Service Mode	Set the rush service mode and rush service works at regular time, which is designed to relieve traffic in the building during rush hours. When all the operating elevators reach the preset value (50%) in their loading capacity, the elevator will start this mode and maintain during the rush hours.