### HANGZHOU SWORD ELEVATOR CO., LTD.

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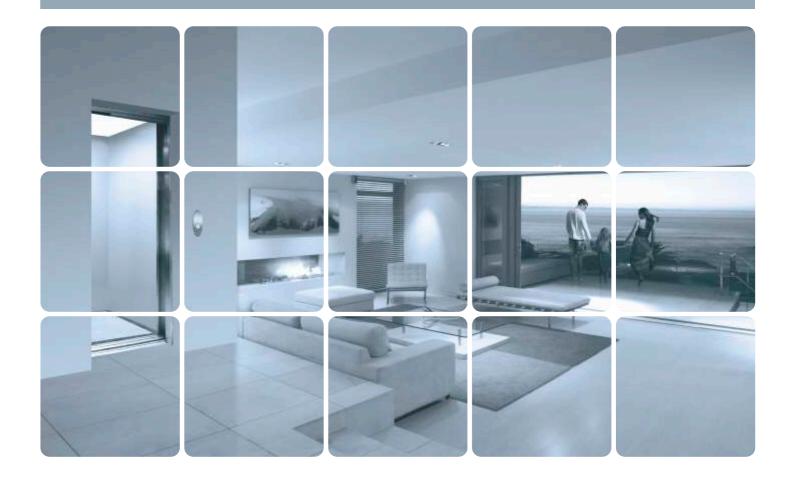




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SALES HOTLINE / 0086-571-56076090







## **SWORD**

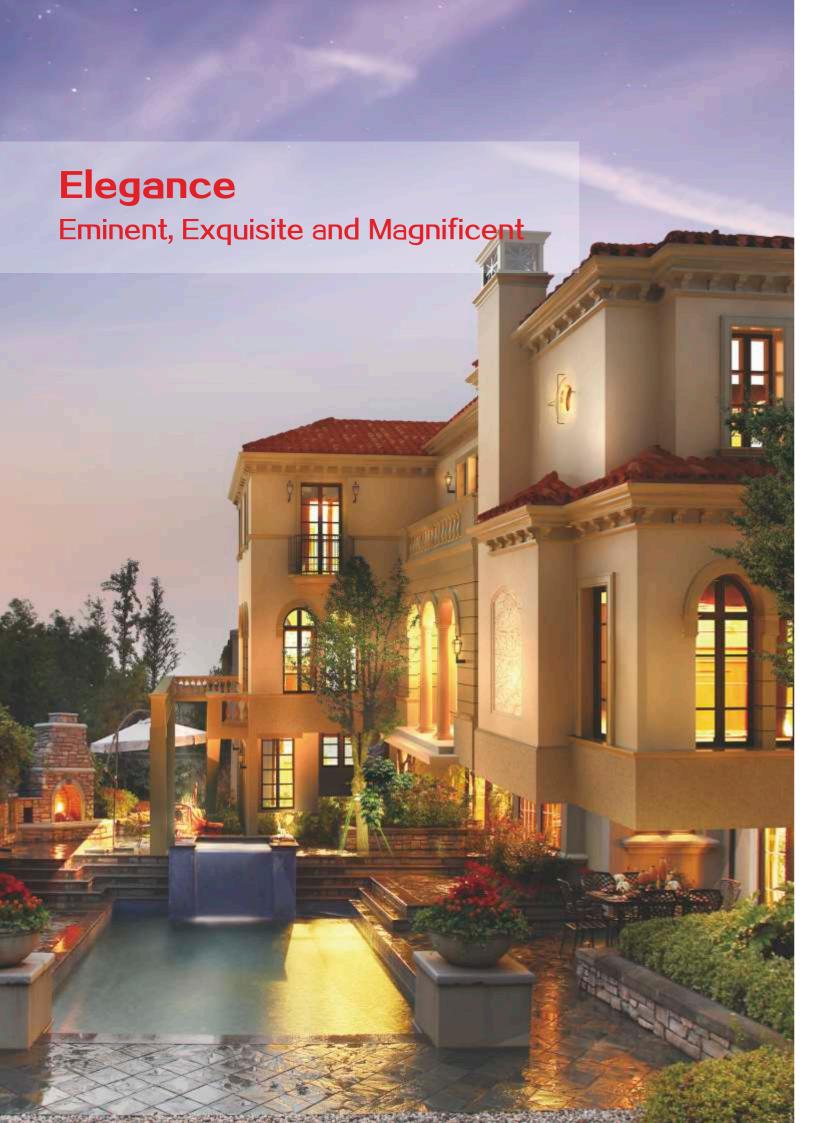
# The manufacturing base of SWORD in Hangzhou (\*)

- An investment of 150 million US dollars
- O An area of 270,000 square meters
- O 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.





HANGZHOU SWORD ELEVATOR CO., LTD **S800V** home elevator

Outstanding classic quality promises you with honor, warmth, comfort and ease. Luxurious, magnificent style enhances nobleness and eminence for you and ensures an ideal, homelike life.

## **Excellence**

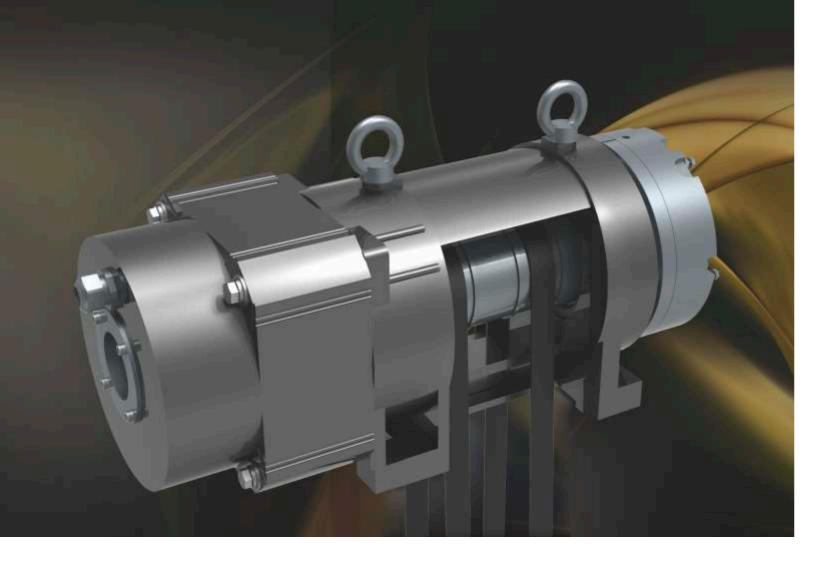
Innovation assures quality.



## Flat steel belt - An innovative creation in the industry

Flat steel belt rearranges the rope strand. With antirust galvanized steel wire surface, the outer layer is wrapped with polyurethane which can protect steel strand and increase flexibility. It increases the frication and the traction capability without lubrication, while keeping the strength of the steel wire rope.



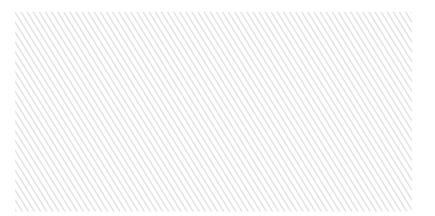


## Steel belt traction machine with cutting-edge technologies

### Efficient and environment-friendly



S800V's traction machine is made of tombarthite material without carbon brush. The highly efficient motor uses sealed bearing and gearless reduction box. Without lubrication, it avoids oil contamination in the shaft and the machine room.

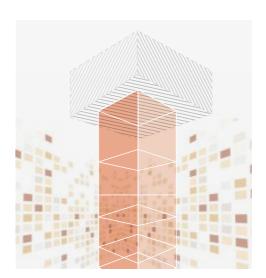




### Green and energy-saving >



S800V's traction machine is equipped with the smooth wheel spindle. Matching with the imported flat steel belt, it increases the contact area and friction factor with driving wheel. Compared with the traditional traction wire rope, it makes the elevator operate more efficiently.



### Space-saving (>)



S800V adopts flat steel belt as traction medium, which greatly reduces the driving wheel diameter.

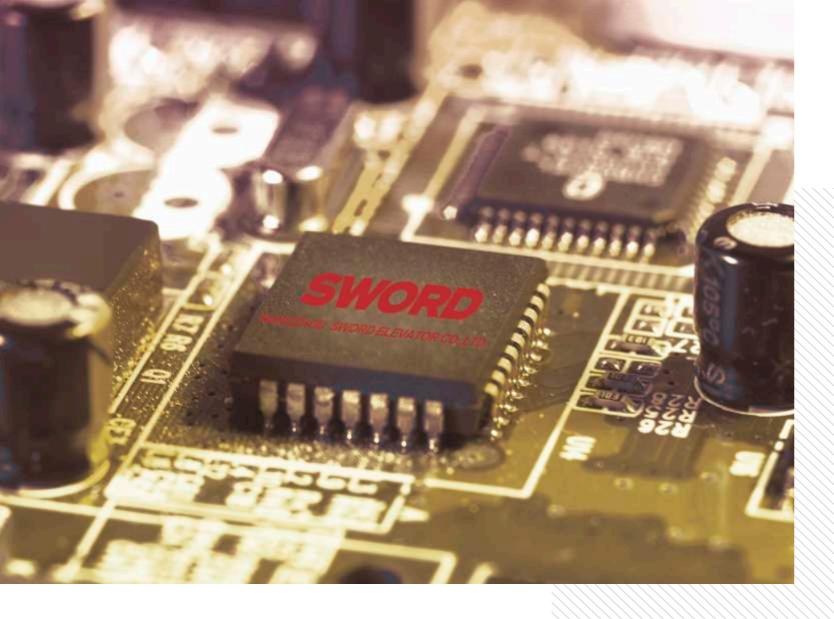
The incorporation of driving wheel and motor shaft and the integration of brake and motor greatly reduces the size of traction machine, which can be placed on the top of the hoistway, needless to add the overhead space, and saving the space of the machine room.



### Quiet drive >

Compared with the traditional traction machine, it saves the deceleration device, which not only reduces the consumption and space, but also avoids the noise and vibration caused by the worm and gear, thereby creating a quiet and warm rest environment.



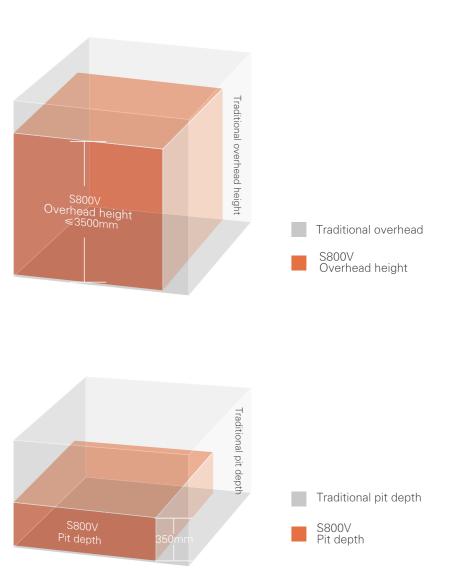


## Intelligent and efficient control system

Intelligent vector control allows elevator to stop at the station directly and easily, which improves the transport efficiency. The serial communication system reduces the system wiring, which is convenient to install and wire. There is no need for the system to set operation curve, and it automatically calculates operation speed according to the building height, with various control functions.

## Extreme hoistway utilization rate

Flat steel belt matches with the design of strip driving wheel, which makes the utilization rate of the hoistway improved greatly, giving more freedom for architecture design.





XO-Z2101

XO-Z2101D(L)

Light-passing marble and white mirror stainless steel frame, painted steel roof,

LED spotlight
Car wall: XO-Z2101J

Front wall: 304 hairline stainless steel Back wall: decorative film, 304 hairline stainless steel skirting (height

Left wall: 304 hairline stainless steel, white mirror stainless steel

Right wall: 304 hairline stainless steel 304 hairline stainless steel

(height 60mm)

Handrails: XO-Z2101F

Φ32 mirror stainless steel round handrail

Flooring: XO-Z2101 PPVC (W8910 wood grain floor) XO-Z2102-1

XO-Z2102D(L)

Baking varnish wooden frame, LED hidden strip light

Car wall: XO-Z2102J-1

Front wall: white mirror stainless steel Back wall: baking varnish wooden frame,

decorative wallpaper, baking varnish woodcarving flowers

Side walls: baking varnish wooden frame, decorative wallpaper, baking

varnish woodcarving flowers Skirting: baking varnish wooden plate

Flooring: XO-Z2102P

Marble (light brown textured + dark brown textures + Louis

beige)

XO-Z2103-1

XO-Z2103D(L)

Baking varnish wooden frame, hidden strip lights all around

Car wall: XO-Z2103J-1

Front wall: white mirror stainless steel Back wall: baking varnish wood finishes,

white mirror moldings, decorative wallpaper

Side walls: baking varnish wood finishes

Flooring: XO-Z2103P

Marble (gold inlaid with jade +

gold leaf beige)

XO-Z2105

XO-Z2105D(L) Ceiling:

Painted steel panel, bronze mirror trim strip, LED hidden

lights

Car wall: XO-Z2105J

Front wall: bronze mirror stainless steel Back wall: decorative wood grain panel (classic rosewood, dark

brown), solid wood wireframe,

beauty mirror Side walls: decorative wood grain panel

> (classic rosewood, dark brown), mirror bronze-plated

trim strip

Flooring: XO-Z2105P

Marble (gold inlaid with jade + jazz white + violet)

XO-Z2107

XO-Z2107D(L)

Baking varnish steel plate (RAL 9010), wooden line, gold foil, ceiling light, LED light band

Car wall: XO-Z2105J

Front wall: rose gold hairline st. st.

Back wall: rose gold mirror etching st. st., wood grain board (walnut),

wooden line

Side walls: carved wood grain board

(walnut), wood grain board (walnut), wood line

XO-Z2107P

Marble parquet (black gold flower + emperor gold,

yellow jade)

XO-G023

Car cover: XO-G023Z

Rose gold mirror stainless steel

XO-G023D(L) Rose gold mirror stainless

steel, gold foil veneer, LED lights

XO-G023J

Car wall:

Front wall: rose gold mirror stainless steel, transparent laminated glass

Side walls: rose gold mirror stainless steel,

transparent laminated glass

Back wall: rose gold mirror stainless steel, transparent laminated glass

Handrails: XO-G023F

Rose gold hairline stainless steel

flat handrail Flooring: XO-G023P

Marble parquet

Note: The pictures are all computer effect drawings; please refer to the real object.

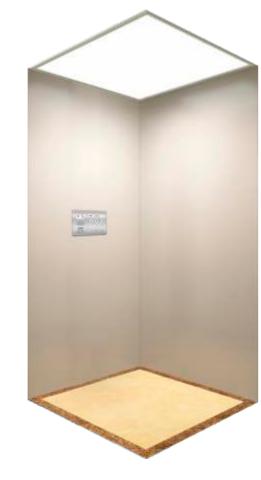
For more car decorations, please consult the catalog <SWORD elevator decoration>.



Ceiling: XO-Z0237D(L) large panel lights + aluminum alloy frame

Car wall: XO-Z0237J painted steel panel

Car door: painted steel panel Flooring:XO-O237P(PVC)



### Car Operation Panel >



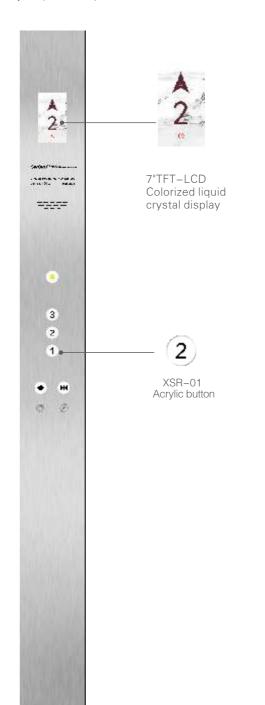
Optional Button BR36D Hairline stainless steel braille button

Car operation panel: COP3 home-use COP, equipped with 4.3" TFT-LCD colorized liquid crystal display and XSR-01 high-quality acrylic button, in excellent quality.

Note: The pictures are all computer effect drawings; please refer to the real object.

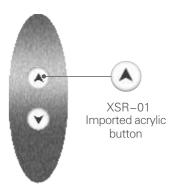
## Human interface >

#### Optional Cop



#### Hall-Call Box >





Hall-Call Box: XHB5-A home-use elevator hall-call box is equipped with XSR-01 high quality acrylic button, which looks elegant as a whole and can be applied to different kinds of decoration styles.

#### ▶ Optional Hall-call Box



XHB16-A. The new bottomless hall call box adopts the stainless steel panel matched with a 4.3" EOD-LED yellow dot matrix liquid crystal display and BR36D hairline stainless steel braille buttons.

COP2

★For more TFT display interfaces, please refer to the catalog <SWORD Elevator Decoration>.

### **BASIC FUNCTION (>)**

Operating Func	tions
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 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.
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.
Auto-Correction Operation	When the elevator loses its position, it auto-corrects itself to the right position.
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.
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 roof which is convenient for maintainers to repair in the hoistway. At this time, the repair switch for the machine room is invalid.
Progressive Reduction Of Electric Current	During the stopping of the elevator, the electric current will be gradually reduced to zero, so as to improve the comfortableness of the passenger's riding experience.
Zero Speed Stop Under Repair	When under repair, the elevator stops at zero speed, in order to increase the service life of motor's brake.
Test-Free	By the DIP and repair switch on control panel, the elevator can automatically complete the testing itself.

+ Safety Function	ons
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.
Contactor 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.



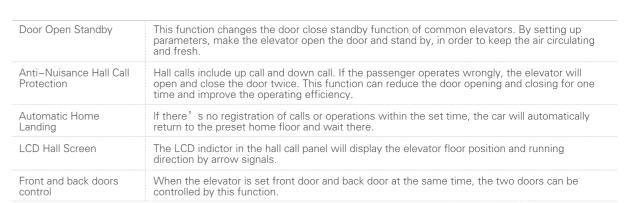
Light curtain protection fence is set up at the entrance of the elevator. Every scan loop has 154 bunches of infrared rays, and the reaction time is one second.
When the load of the car exceeds rated capacity, overload alarm is triggered. This operation includes opening the door, sounding the buzzer, 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.
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.
If difference is discovered between the actual braking state and the system command, the elevator will get into protection state and stop running.
When adding floors and stops, carry out the hall door self-learning to ensure the safety and then the elevator can operate normally.

▲ Emergency fu	nctions
Three-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										
Hall & Car Direction Indicator	Both car and hall screens will display the elevator's running direction.									
LCD Car Screen	The LCD indicator in the car operation panel will display the elevator 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.									

## OPTIONAL FUNCTION **③**

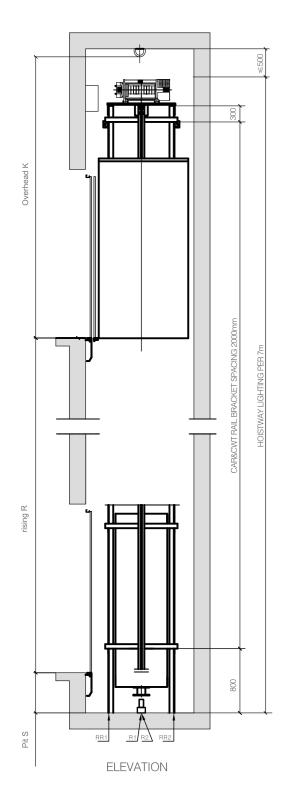


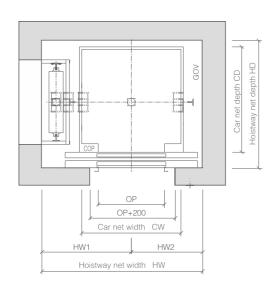
Note: If there is a difference between the real products and the functional list in this catalogue, please refer to the explanation by SWORD sales representatives.

### Home elevator

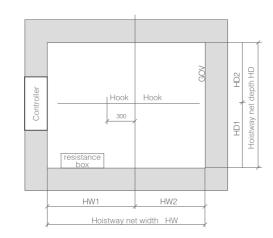
S800V

▶ LAYOUT OF S800V

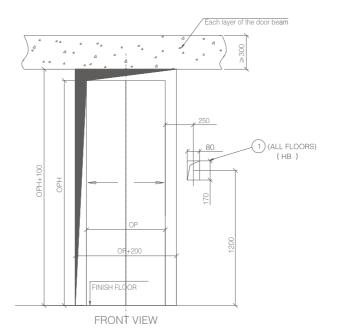


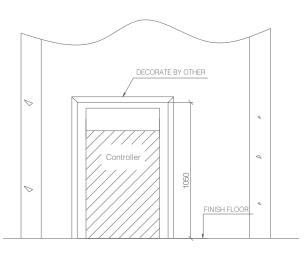


HOISTWAY PLAN



HOISTING HOOK





SIZE BY OTHER FOR PLACED CONTROL BOX

THE CONTROL BOX PLACED SCHEMATIC DEAGRAM

#### Duties of Owners and Builders (>)



- O The interior of the hoistway must meet the requirements of fire protection. Do not install any devices rather than the lift.
- O The hoistway must be vertical. The minimum clearance size is considered as the hoistway horizontal size. And the vertical error must within 0~+25mm/0~30m, 0~+30mm/30m~60m, 0+50mm/60.
- O If there is a space under the hoistway pit which is accessible for a person, the counterweight buffer shall be installed on a solid base which is extended to the solid ground, or install the safety gear and enlarge the hoistway size. Please consult elevator supplier about the details.
- O Before installation, set safety protection barriers with enough strength at all rough openings (the height of safety protection barriers is no less than 1.2m).
- Enclosed hoistway shall be provided with ventilation (at top or bottom of hoistway), and protected by grid guard. The size of ventilation shall be no less than 1% of the hoistway size.
- O The reserved holes on the hall doors and hall call display shall be refilled after the installation of the elevator.
- O Concrete hoistway structure is recommended. If the hoistway is frame structured, the concrete beams of 300mm height shall be made at the installation place for guide rail brackets; in addition, the concrete beams of 300mm height in the same width as the hoistway need to be made on the upper and lower edges of the each floor's hall door holes. If the hoistway is solid bearing brick structured, the concrete beams of 300mm height in the same width as the hoistway should be made on the upper and lower edges of the each floor's hall door holes.

- O If auxiliary concrete ring beam structure is needed to ensure safety of guide rail installation, the strength of concrete should be at least
- When distance between two adjacent landing door sills is more than 11m, a safety door is required in between and it cannot be opened inside the hoistway. Safety door's width shall be no less than 350mm, and its height shall be no less than 1800mm.
- O Pit shall be waterproof. If there is a sump, it shall be made in the
- O According to the requirements of technical parameters, the elevator's power supply shall be placed in the machine room and be locked with a lockable switch. Voltage fluctuation shall be within  $\pm 7\%$ . Null line and ground lead shall be separated and the grounding resistance shall be no greater than  $4\Omega$ .
- O All the force marked in the drawing shall bear its load. Hoistway walls and pit shall be strong enough to withstand the load.
- O All the prepared parts (hook, pre-embedded steel plate etc) by users which is marked in the drawing shall be made in advance.
- © Emergency rescue room is required and each elevator shall be equipped with a six conductor cable connected to the machine room. It is recommended to use shielded/twisted pair wire with an area of at least 0.75 mm² per conductor or be replaced by a CAT-5 cable.
- O The temperature in the machine room shall be maintained between 5~40°C

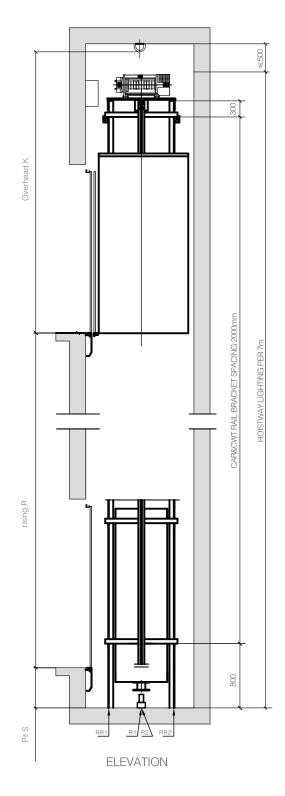
#### Car top wheel structure

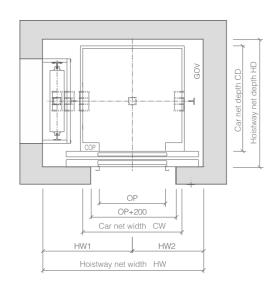
	Load	Speed		Door opening	Opening net size	Hoistway net size	HW1		Pit	Overhead	Pit reactions (KN)		Max. floor	Max. rising
1														IVIAX. HSING
	400	0.4	1100x1100	Center Opening	750x2000	1750x1430	971	779	350	3500	50	50	6	18
	400	0.4	1000x850	Center Opening	700x2000	1600x1200	896	704	350	3500	50	50	6	18
	400	0.4	800x850	Side Opening	650x2000	1400x1250	796	604	350	3500	50	50	6	18

### Home elevator

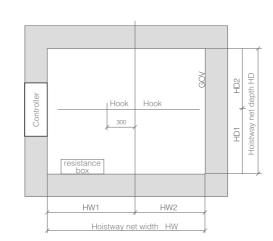
S800V

▶ LAYOUT OF S800V

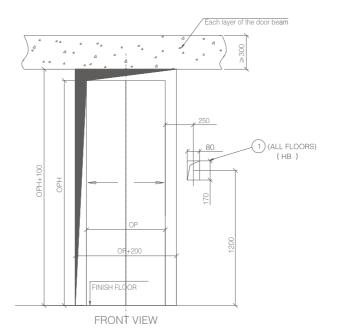


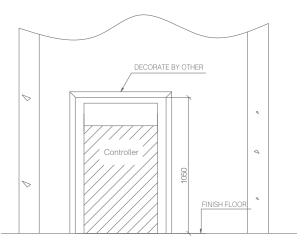


HOISTWAY PLAN



HOISTING HOOK





SIZE BY OTHER FOR PLACED CONTROL BOX

THE CONTROL BOX PLACED SCHEMATIC DEAGRAM

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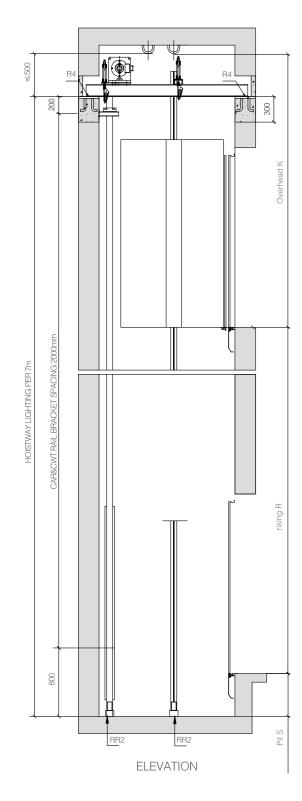
#### Car bottom wheel structure

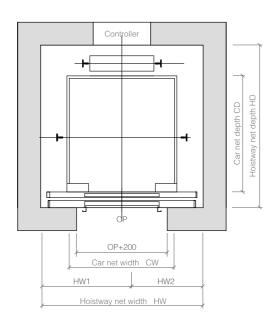
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### Home elevator

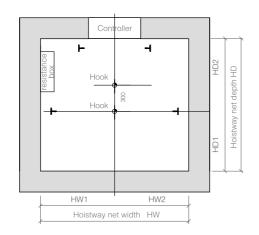
## S800V

▶ LAYOUT OF S800V

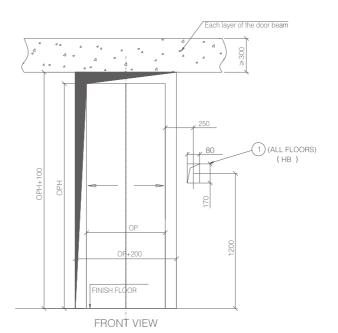


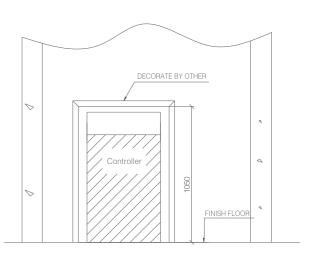


HOISTWAY PLAN



HOISTING HOOK





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- © Enclosed hoistway shall be provided with ventilation (at top or bottom of hoistway), and protected by grid guard. The size of ventilation shall be no less than 1% of the hoistway size.
- The reserved holes on the hall doors and hall call display shall be refilled after the installation of the elevator.
- © Concrete hoistway structure is recommended. If the hoistway is frame structured, the concrete beams of 300mm height shall be made at the installation place for guide rail brackets; in addition, the concrete beams of 300mm height in the same width as the hoistway need to be made on the upper and lower edges of the each floor's hall door holes. If the hoistway is solid bearing brick structured, the concrete beams of 300mm height in the same width as the hoistway should be made on the upper and lower edges of the each floor's hall door holes.

- If auxiliary concrete ring beam structure is needed to ensure safety of guide rail installation, the strength of concrete should be at least can
- When distance between two adjacent landing door sills is more than 11m, a safety door is required in between and it cannot be opened inside the hoistway. Safety door's width shall be no less than 350mm, and its height shall be no less than 1800mm.
- Pit shall be waterproof. If there is a sump, it shall be made in the corner.
- O According to the requirements of technical parameters, the elevator's power supply shall be placed in the machine room and be locked with a lockable switch. Voltage fluctuation shall be within  $\pm\,7\%$ . Null line and ground lead shall be separated and the grounding resistance shall be no greater than  $4\,\Omega$ .
- All the force marked in the drawing shall bear its load. Hoistway walls and pit shall be strong enough to withstand the load.
- All the prepared parts (hook, pre-embedded steel plate etc) by users which is marked in the drawing shall be made in advance.
- © Emergency rescue room is required and each elevator shall be equipped with a six conductor cable connected to the machine room. It is recommended to use shielded/twisted pair wire with an area of at least 0.75 mm² per conductor or be replaced by a CAT-5 cable.
- $\odot$  The temperature in the machine room shall be maintained between  $5{\sim}40{\,}^{\circ}\mathrm{C}$

Load													Max. rising
(kg)										R1			IVIAX. TISITING
400	0.4	1100x1100	Center Opening	750x2000	1700x1700	850	850	350	3200	50	50	6	18
400	0.4	1000x800	Center Opening	700x2000	1500x1350	750	750	350	3200	50	50	6	18
400	0.4	900x800	Side Opening	650x2000	1300x1400	650	650	350	3200	50	50	6	18