S700F ⊙ Freight elevator

HANGZHOU SWORD ELEVATOR CO., LTD.

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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.

STABLE

Super bearing capacity, stable and reliable,
good logistics partner

The S700F elevator, elaborately designed by Hangzhou SWORD Elevator Co. Ltd, is a product of the industry's cutting–edge technologies. Not only stable and reliable, it is also a good handy tool, receiving the favor of many factories, industrial parks, logistics centers, shopping centers, airports, and transportation hubs.

Product Performance

◎Microcomputer Control, Efficient Operation

Using multi–microcomputer modular control system and putting the four computer modules in a data network system, on the premise of not changing the hardware configuration, it can modify software on the scene, adjust the system parameter and improve the upgrading capability of the elevator control system, which accurately and efficiently controls all the operation and functions of the elevator.

◎Safe and Reliable, Accurate Leveling

The use of dedicated pattern generator makes the running speed curve smooth, avoids the shocks of freight elevator in its accelerating and decelerating, and ensures the safety of passengers and goods. The reduction of inter–floor running time and the accurate leveling, make the truck conveniently and smoothly come in and out of the cabin.

◎Intelligent Elevator–Sending System, Respond Timely

Based on the fastest response speed, the intelligent elevator–sending system is able to make an accurate calculation of the hall–call signals, which responds timely, greatly shortens the waiting time, and increases the efficiency of logistics transportation.

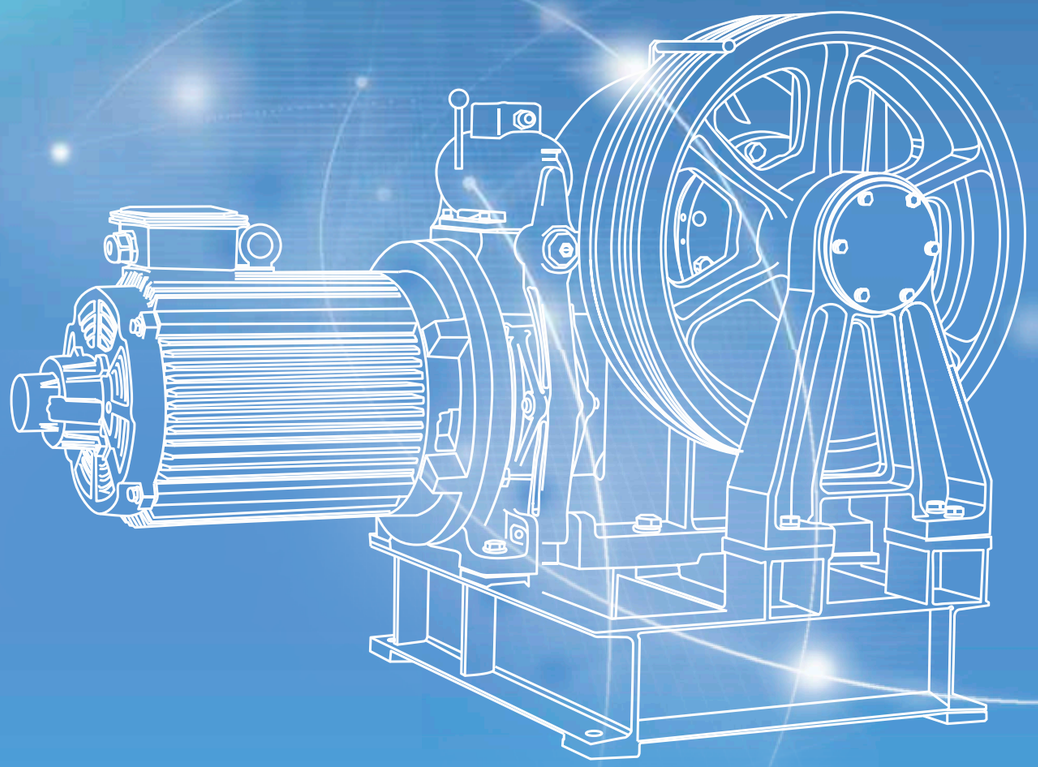
◎Various Specification, Strong Logistics Applicability

A large variety of specifications can be selected for clients and can be used in various logistics places, which bring convenience to the transportation workers and reduce the transportation time and transportation times.




EFFICIENT

Mature technology and super bearing capacity
offer efficient transportation.



Smooth and reliable logistics line comes from the advanced
variable frequency asynchronous traction machine

Leading Traction Technology

◎Stable and Reliable Performance

The dedicated motor of the freight elevator optimizes the traditional design, which greatly improves the stability of the motor and reduces the noise.

◎Simple Structure, Easy Maintenance

The mature technology of asynchronous motor is used, with stable and reliable mechanical components and simple structure, which reduces the losses and using costs and makes it easier for maintenance.

◎Powerful Bearing Capacity Creates Value

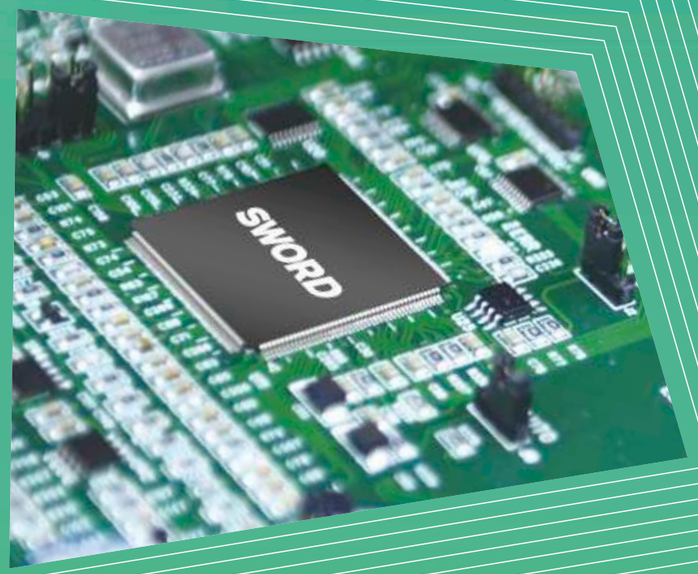
The dedicated motor of freight elevator has different levels of load–carrying capacity – maximum load is up to 5,000 kilograms. It is user–friendly and can bring attractive profits for users' efficient transport.

◎Good Lubrication, Firm and Durable

Good lubrication function greatly reduces the vibration and wear during the operation, which makes the loading process smoother; meanwhile, it has maintenance function, which extends the motor's service life – even under harsh conditions, it can still run safely.

ACCURATE

Intelligent control, accurate and reliable, makes the running more stable.



Intelligent Modular Control System

◎Serial Communication Network

Serial communication uses impulse to transmit signals and the landing display and landing call only need four wires to meet the using requirement, which greatly reduces the wiring faults, improves the system reliability, and makes it easier for future upgrading.

◎Intelligent Variable Frequency System

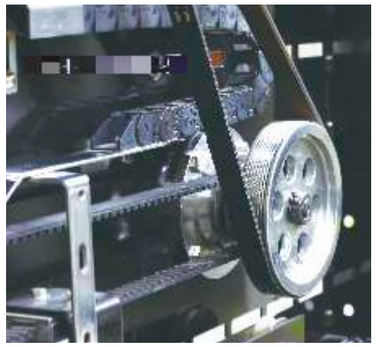
The dedicated frequency converter uses vector closed-loop control technology, and fully meets the dynamic regulation requirements, which not only can ensure the elevators' strong driving force, but also can improve the response speed and comprehensive performance.

◎Intelligent Floor Impulse Memory Device

According to the practical situation of the floors, the stable and efficient frequency converter can automatically calculate the optimal speed curve, and correspondingly adjust the current frequency according to the need of speed and load, more energy-saving than traditional driving system by about 20%, which avoids the influence on power grid caused by voltage fluctuation, thereby making the freight elevator have the same perfect comfortableness as the passenger elevator.

SECURITY

Safe structure and leading–edge technologies create brand value.



Permanent Magnetic Variable Frequency Door Motor

Using the latest professional permanent magnetic variable frequency driving and controlling technology for door motor, the synchronous cam can assure that hall and car door switches run synchronously, quickly and safely, with simple outline and compact structure, which is space–saving and convenient for installation and maintenance.

Light Curtain Door Protection

Form a light curtain area at the entrance of the elevator, which can make sensitive reactions to any people or objects who enter its detection region. Also, set an intensive infrared light curtain for the car door, which can fully ensure the safety of passenger and goods.

Car Design

The solid car platform can reliably bear all types of goods; the precise weighing switch strictly controls the load, to prevent the accident of overload; the floor uses antiskid flower pattern steel plate – even polluted by oil, it can endanger enough friction to prevent the slipping of person or goods and avoid the skidding of forklift's tyre.

Hall door and cabin

Four panels – center opening folding door

Two panels – side opening door

Standard Cabin

Wall: painted steel plate (RAL7047)
Car door: painted steel plate (RAL7047)
Floor: antiskid pattern steel plate

Hall call box and car operation panel

Standard Configuration

6.4"BND–LEDW
White LED segment display

BR36D
Shimmery hairline stainless steel braille button

4.3"BND–LEDW
White LED segment display

BR36D
Stainless steel braille button

XHB15–A

COP1

XHB15–A the new bottomless hall call box adopts stainless steel for its panel, matched with a 4.3" BND–LEDW display and BR36D stainless steel braille button.

COP1 split–type car operation panel adopts hairline stainless steel plates, matched with the 6.4" BND–LEDW display and BR36D stainless steel braille button.

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.
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.
Floor Space Self–Learning	The system can automatically record each floor's height and make precise distance control when the elevator is operating.
Auto–Correction Operation	When the elevator loses its position, it auto–corrects itself to the right position.
Error Call Cancel	Before the car starts, the registration of a call or operation can be cancelled by double click of this button.
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.
Re–Initialize	When power failure and the position signals cannot be given (position cannot be detected), the car will move to the home floor and re–initialize the operation. After that, the floor info can be displayed and the elevator returns to normal.
Separate Control For Car &Hall Door Opening Time	The system can set different door opening time for hall door and car door.
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.

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.
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	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	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.
	Cabin Alarm	In case of emergency, the alarm bell will be activated by pressing the alarm button on the car operation panel.

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.
	Door Hold Cancel	Under automatic conditions, while the door is fully open, it can be closed immediately by pressing the 'CLOSE' button.

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.

Special Operation	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.
	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.

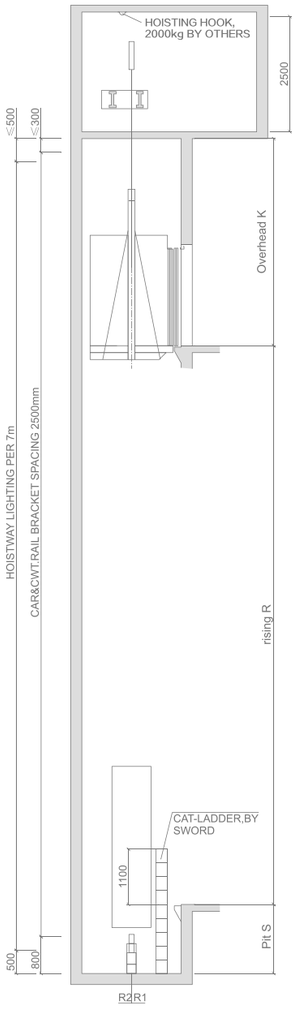
OPTIONAL FUNCTION

Operating Functions	Attendant Service	The attendant service allows semi–automatic operation with manual control.
	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.
	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.
	Timer Switch	Timer could be adopted to realize the all–weather control of the elevator.
	Energy–Saving Display	After a pre–set time, if there is no hall call registration, display will turn off for energy–saving.

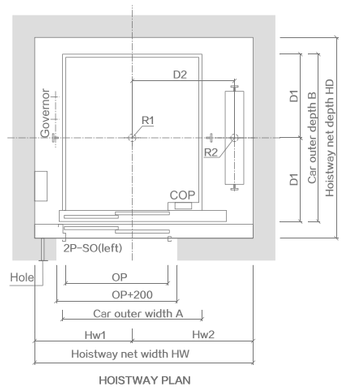
Other Functions	Emergency Fireman Operation	When the key switch preinstalled in the car is turned on, the elevator will cancel all the hall call signals, and only respond to the signals from the car. This function is intended to cooperate with firemen to put out the fire and should be used with the fire elevators.
	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.

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.

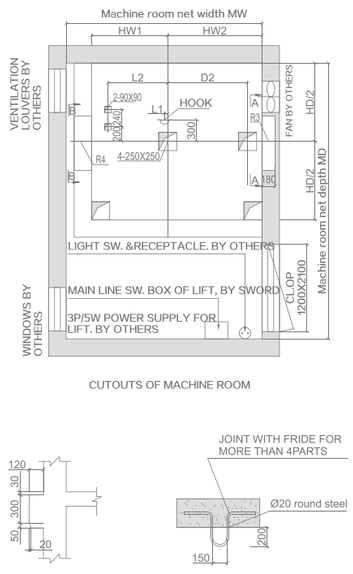
S700 Freight elevators
S700F 1000kg



ELEVATION



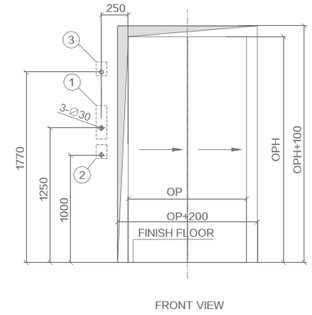
HOISTWAY PLAN



CUTOUTS OF MACHINE ROOM

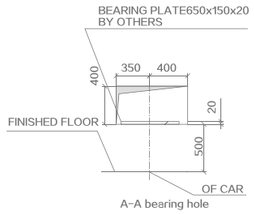
SILL SUPPORT DETAIL

HOOK (BY OTHERS)

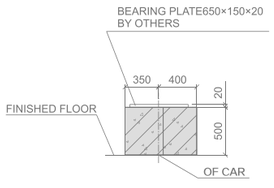


FRONT VIEW

(ALL FLOORS)
1:HB&HPI
2:PARK SW. ONLY FOR MAIN LANDING
3:ONLY FOR FIRE SW. SELECTED AT MAIN LANDING
4:FREE HOLE FOR HALL FIXTURE, INTERIOR DIA.
ϕ30MM PVC PIPE RECOMMENDED



A-A bearing hole

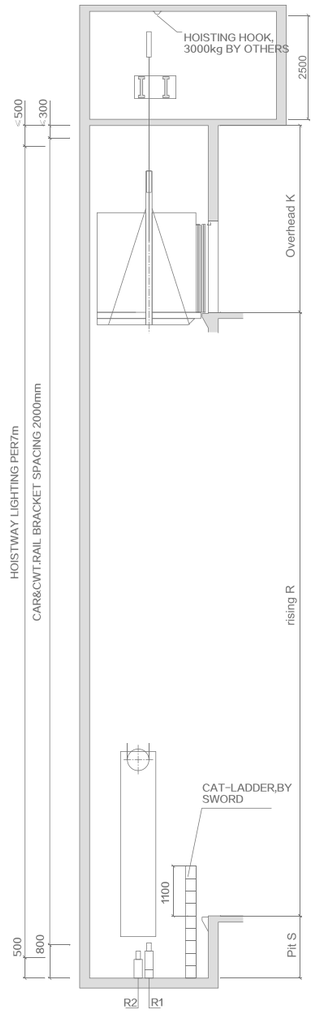


B-B bearing hole

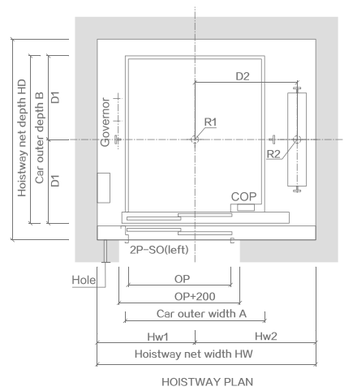
Load (kg)	Speed (m/s)	Car outer size A(mm)xB(mm)	Opening net size OP(mm)xOPH(mm)	Hoistway net size HW(mm)xHD(mm)	Machine room net size (mm)	Pit S(mm)	Overhead K(mm)	Other positioning measurement (mm)				Pit reactions (KN)		Overhead bearing (KN)			HW1 (mm)	HW2 (mm)
								D1	D2	L1	L2	R1	R2	R3	R4	R5		
1000	0.5 1	1500x1800	1100x2100	2350x2160	2700x3800	1500	4500	900	1100	45	825	104	84	77	40	--	1050	1300

NOTE: DO NOT SCALE THS DRAWING, UNLESS OTHERWISE STATED

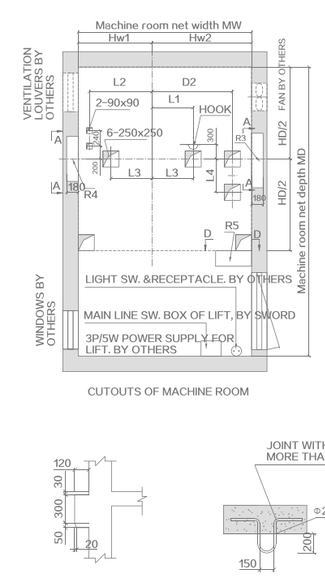
S700 Freight elevators
S700F 2000kg



ELEVATION

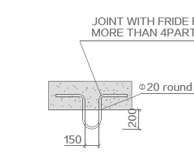


HOISTWAY PLAN

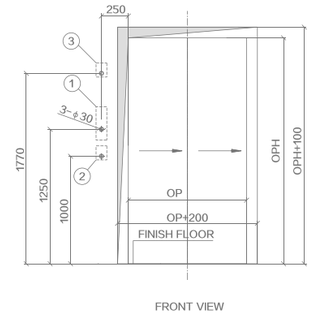


CUTOUTS OF MACHINE ROOM

SILL SUPPORT DETAIL



HOOK (BY OTHERS)



FRONT VIEW

(ALL FLOORS)
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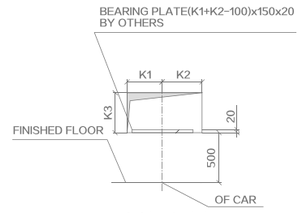
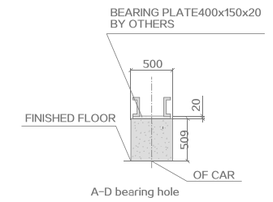
4:FREE HOLE FOR HALL FIXTURE, INTERIOR DIA.
ϕ30MM PVC PIPE RECOMMENDED



A-A bearing hole



A-D bearing hole

Load (kg)	Speed (m/s)	Car outer size A(mm)xB(mm)	Opening net size OP(mm)xOPH(mm)	Hoistway net size HW(mm)xHD(mm)	Machine room net size (mm)	Pit S(mm)	Overhead K(mm)	Other positioning measurement (mm)									Pit reactions (KN)		Overhead bearing (KN)			HW1 (mm)	HW2 (mm)
								D1	D2	L1	L2	L3	L4	K1	K2	K3	R1	R2	R3	R4	R5		
2000	0.5	1800x2500	1500x2100	2700x2860	2700x4500	1500	4500	1250	1250	595	975	640	520	350	400	550	188	148	111	75	23.1	1150	1550
	1	1800x2500	1500x2100	2700x2860	2700x4500	1500	4500	1250	1290	615	975	640	520	650	350	550	188	148	111	75	23.1		

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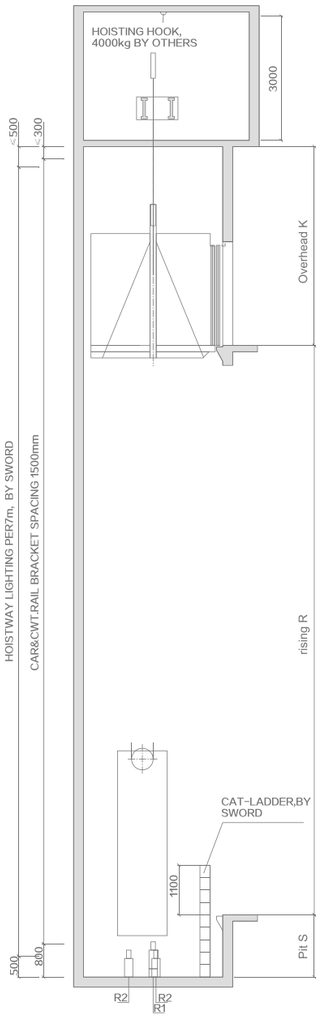
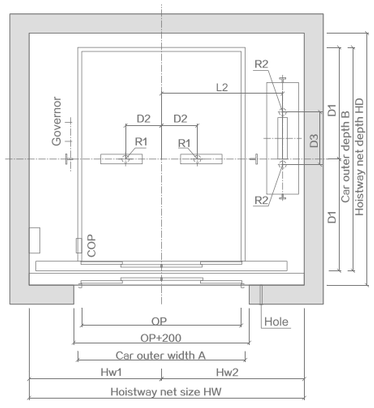
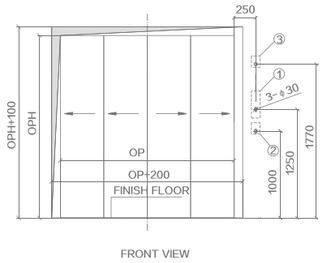
S700 Freight elevators
S700F 3000kg



ELEVATION



HOISTWAY PLAN



FRONT VIEW

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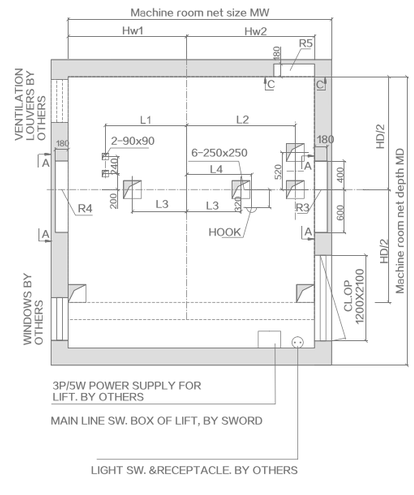
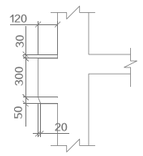
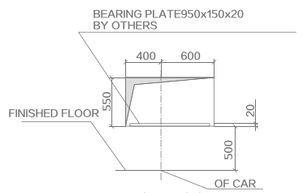
φ30MM PVC PIPE RECOMMENDED



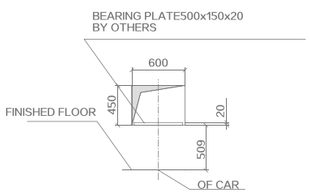
CUTOUTS OF MACHINE ROOM



SILL SUPPORT DETAIL



A-A bearing hole



C-C bearing hole

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								D1	D2	D3	L1	L2	L3	L4	R1	R2	R3	R4	R5		
3000	0.5	2100x3000	2000x2100	3450x3360	3450x4000	1500	4800	1500	450	660	1140	1520	760	665	122	92	152	86	28.7	1660	1790

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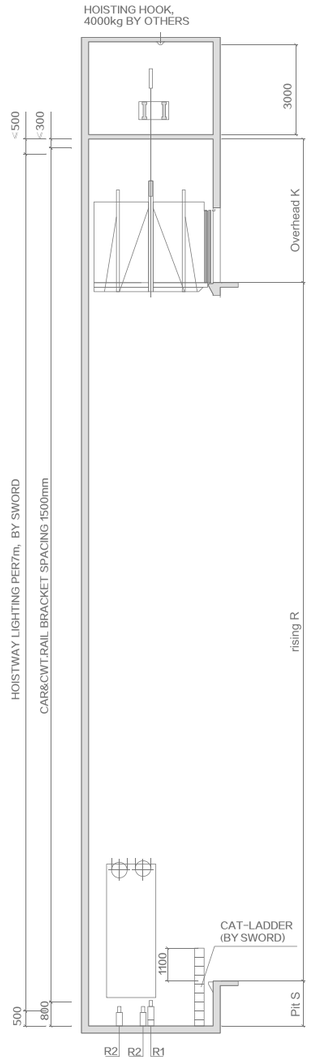
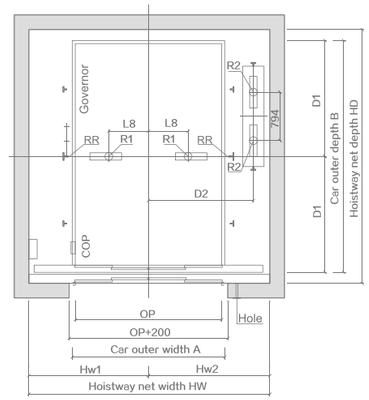
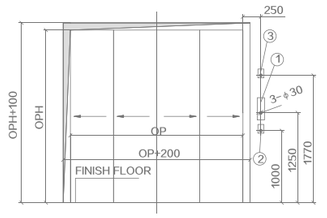
S700 Freight elevators
S700F 4000~5000kg



ELEVATION



HOISTWAY PLAN



FRONT VIEW

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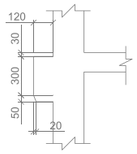
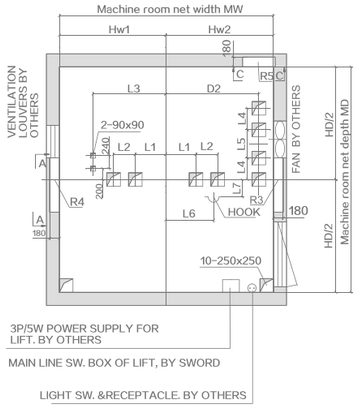
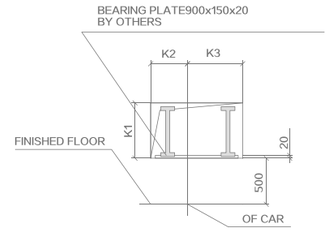
4:FREE HOLE FOR HALL FIXTURE, INTERIOR DIA.
φ30MM PVC PIPE RECOMMENDED



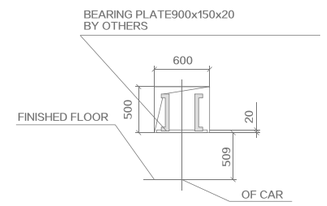
SILL SUPPORT DETAIL



CUTOUTS OF MACHINE ROOM



SILL SUPPORT DETAIL



C-C bearing hole

Load (kg)	Speed (m/s)	Car outer size A(mm)xB(mm)	Opening net size OP(mm)xOPH(mm)	Hoistway net size HW(mm)xHD(mm)	Machine room net size (mm)	Pit S(mm)	Overhead K(mm)	Other positioning measurement (mm)																Pit reactions (KN)		Overhead bearing (KN)			HW1 (mm)	HW2 (mm)
								D1	D2	L1	L2	L3	L4	L5	L6	L7	L8	K1	K2	K3	R1	R2	R3	R4	R5		
4000	0.25	2100x3800	2000x2400	3450x4160	3450x4160	1500	4800	1900	1520	260	500	1140	397	520	665		320	450	600	400	600	158	118	196	75	36.8	1660	1790
	0.5														685															
5000	0.25	2500x3800	2400x2400	3950x4160	3950x4160	1500	4800	1900	1720	560	400	1340	397	520	885	320	650	600	400	600	194	144	246	86	45	1960	1990
	0.5																													

NOTE: DO NOT SCALE THS DRAWING, UNLESS OTHERWISE STATED

Duties of Owners and Builders

◎ The interior of the hoistway must meet the requirements of fire protection. Do not install any devices rather than the lift.

◎ 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.

◎ 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.

◎ 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.

◎ 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 C20.

◎ 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.

◎ 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 ±7%. Null line and ground lead shall be separated and the grounding resistance shall be no greater than 4Ω.

◎ 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.

◎ The temperature in the machine room shall be maintained between 5~40 ℃ .