

WD700MRL ▶ Compact motor machine-room-less passenger elevator



HANGZHOU SWORD ELEVATOR CO., LTD.

Add: No.169 Hengyi Road, Yuhang Economic Development Zone,
Hangzhou, China (311100)

Web: www.sword-cn.com

Facebook: [SwordElevator](#)

Linkedin: [swordelevator](#)



HANGZHOU SWORD ELEVATOR CO., LTD. All rights reserved.

This brochure is published as a general introduction. The pictures included in this brochure are for reference only, please in kind prevail. We reserve the rights to update technologies and technical descriptions in this brochure. It only provides general information and cannot be treated as formal contract. If the specifications in this brochure are different from the formal contract, the formal contract shall prevail.

 SALES HOTLINE / **0086-571-56076090**

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.

ULTRATHIN

Compact motor MRL passenger elevators

HANGZHOU SWORD ELEVATOR CO.,LTD

WD700MRL

Compact motor MRL passenger elevators

The WD700MRL compact motor machine-room-less passenger elevator launched by Hangzhou SWORD Elevator Co. Ltd is a strategic product which inherits many years of industry research experience and integrates various industry-leading and humanized technologies. With the "ultrathin" concept, the elevator is made thin and light from the motor to the whole structure, which greatly improves the utilization rate of the shaft, reduces the overhead requirement, and optimizes the utilization of the building space.

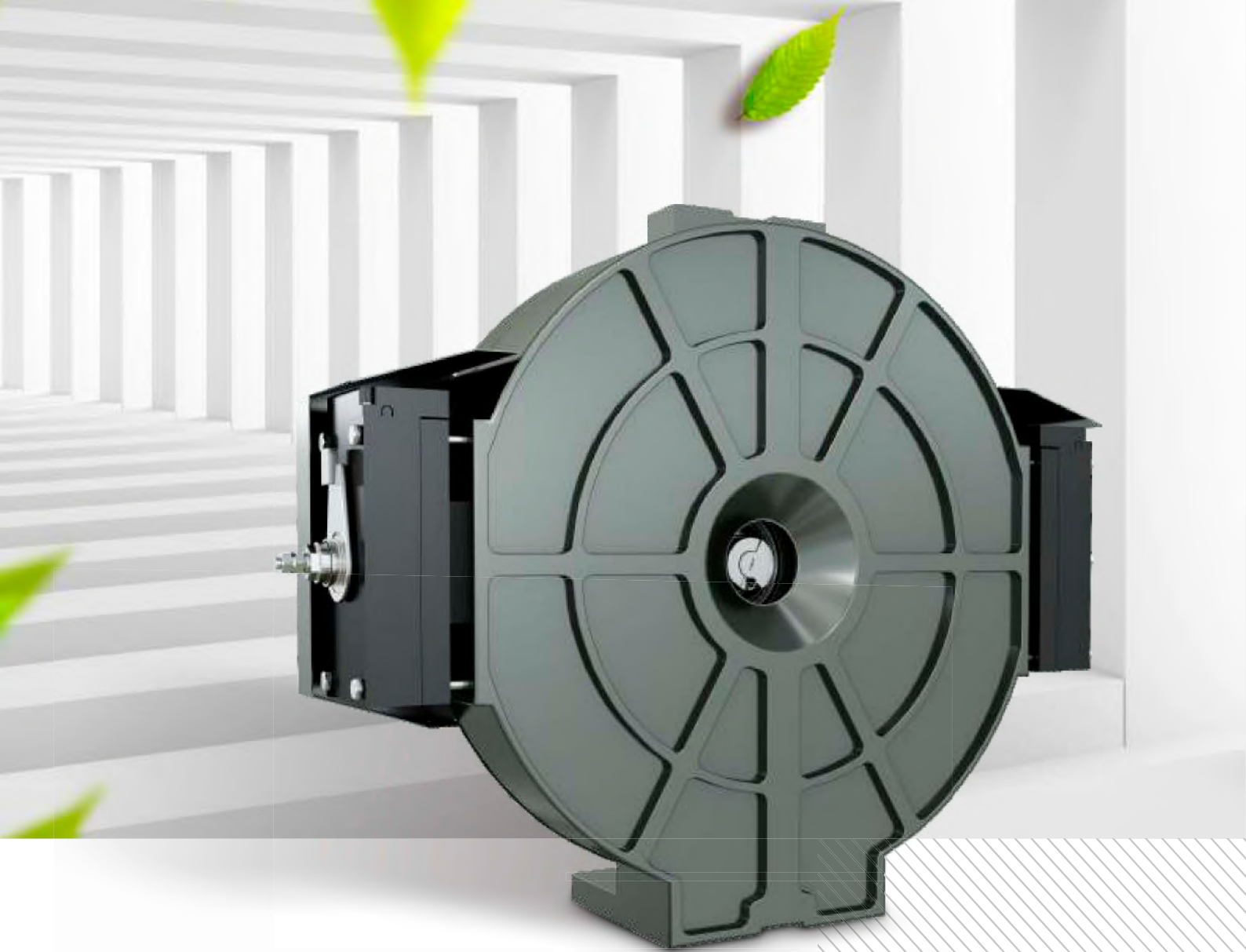




Compact Structure Creative Space

The new SWORD WD700MRL compact motor machine-room-less elevators have innovatively used the perpendicular magnetic field to greatly reduce the motor's thickness, only 65% of the traditional, making it possible to improve the utilization of space.

- ⌚ Motor's thickness is greatly reduced, which greatly improves the utilization of the hoistway.
- ⌚ The new light-weighted motor greatly reduces the overhead space requirement.
- ⌚ Motor is fixed on the guide rail, without the need of adding overhead ring beam, which lowers the construction costs.



Ultrathin Motor

With industry-leading electromagnetic field technology, the SWORD WD700MRL elevator greatly reduced the thickness of the motor while optimizing the magnetic field, which makes the motor more powerful and also brings in a number of innovative designs.



▶ Ultrathin

65% of the traditional motor's thickness



▶ Performance

Innovative magnetic field design optimizes the magnetic field characteristics with stable and powerful driving force.



▶ Quiet

Imported bearings: the surface has been specially processed, which lowers the running noise.



▶ Ultralight

75% of the traditional motor's weight



▶ Convenient

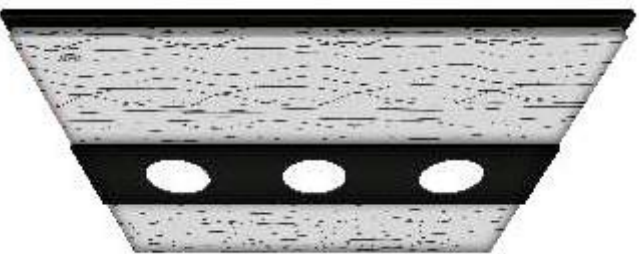
Coaxial encoder is adopted, with patented installation mode, which makes the maintenance of the motor more convenient.

Standard cabin decoration ➡



Standard Cabin ⬇

Ceiling: XO-Z3311(L)
Wall: Hairline stainless steel
Car door: Hairline stainless steel
Floor: XO-Z0471(PVC)



Standard Ceiling ⬇

XO-Z3311(L)
Wide ripple (laminated steel) + LED lamp

Note: The pictures are all computer effect drawing, please refer to the real object.

Human interface ➡

Car Operation Panel ➡

▶ Standard Display



6.4" BND-LEDW
White LED segment display

▶ Standard Button



BR36D
Shimmery hairline stainless
steel braille button

Hall-Call Box ⬇

Hall call: XHB15-A Bottomless hall-call box,
with 4.3" BND-LEDW white LED
segment display and BR36D hairline
stainless steel braille button



4.3"BND-LEDW
White LED
segment display



BR36D
Hairline stainless steel braille button



COP2
Integrated car operation panel

Optional human interface recommendation

Car Operation Panel

Optional Display



6.4" BND-LCD
Black screen LCD



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
Shimmery hairline stainless
steel braille button



BR34B
Shimmery white mirror stainless
steel braille button

Hall-Call Box

XHB17-A
Bottomless hall call box



4.3"BND-LEDW
White LED
segment display



BR34B
White mirror stainless
steel braille button

XHB15-A
Bottomless hall call box

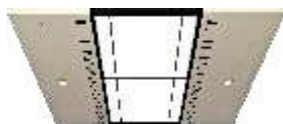
Optional Display



4.3" EOD-LEDY
Yellow LED dot matrix
display

Optional cabin recommendation

Optional Ceiling



XO-Z3301(L)
Painted steel plates on both sides (RAL1013) +
LED down lamp; Painted steel plates in central
frame (RAL9004) + LED lighting + silk-screen
acrylic light-passing board



XO-Z0303(L)
White mirror stainless steel frame, LED down
lamp on both sides, acrylic light board for the
middle part (grid)



XO-Z0305(L)
Hairline stainless steel frame, the middle part
is acrylic light board (checked spun antung),
acrylic stripe lighting decoration on both sides



XO-Z0372(L)
Hairline stainless steel frame + acrylic stripe
lighting decoration + light-passing board +
LED lighting

Optional Handrail



XO-Z0506A
Round white mirror stainless steel handrail



XO-Z0509
Flat stainless steel handrail

Optional Flooring

Marble Series



XO-Z0182P



XO-Z0189P



XO-Z0194P



XO-Z0206P

PVC Series



XO-Z0460



XO-Z0462



XO-Z0473



XO-Z0474

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.
Nearby Leveling	When the elevator misses the leveling location, no need to return to the bottom floor, only stop at the nearby floor, in order to save the passenger's time.
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.
Operating Direction Reverse Predication	Before the elevator operates to target floor, when the calculation shows there is no command in the same direction after responding to the target floor, the display reverses its direction in advance.
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.

+ — 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.
Steel Wire Rope Sliding Self-Test	Real-time monitoring of the relative displacement of the traction steel wire rope.
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 Home Landing (In Case Of Fire)	When fire breaks out in the building, after the system receiving the fire alarm, the elevator will cancel all the commands and call signals, and drive the elevator to return to the fire-fighting floor, open the door and evacuate the passengers.
Hall Door Self-Learning	When adding floors and stops, carry out the hall door self-learning to ensure the safety and then the elevator can operate normally.
Safety Rescue	When the elevator detects anomaly, under the premise of safety assurance, it enters the safety rescue operation mode, issues voice message to appease and prompt, and stops at the nearest floor to open the door and release passengers, after which, according to the actual situation after the accident, determines whether the elevator can run again or not.

🔒 — 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.
Cabin Fire Status Indicator	When fire breaks out, through the indicator in the cabin, remind the passengers to leave and do not take the elevator.
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.
COP Registration Tone	When the floor call in the cabin is successfully registered, the elevator gives the "ding" sound feedback, so it is more humanized and facilitates the operation of special groups.

Intelligence	
Communication Monitoring Protection	Real-time monitoring of control system and the communication status in the car. When detecting communication outage in the car, the elevator automatically opens the door and issues voice message to appease and remind passengers to leave the car.
Hall Call Intelligent Registration	In the group control mode, when an elevator fails to pick up all the passengers, the button will automatically re-register and keep the calling, and the system will automatically send another elevator to serve the waiting passengers.
Door Open Time Intelligent Adjustment	The elevator system automatically adjusts the opening time of the door according to the different flows of the entrance and exit of the landing station and the car and hall call instructions.
Control System Temperature Monitoring	Real-time monitoring of the temperature of the control system. If the trend of over-temperature is detected, the elevator will transfer into the safety rescue mode to prevent people from getting stuck.
Intelligent Comfortable Operation	The control system automatically calculates the optimal running curve according to the spacing of different target floors, so that the elevator operates smoothly and comfortably.
Button Sticking Automatic Identification	The control system can automatically identify the sticking or jamming of the hall call buttons, automatically remove the stuck or jammed call command, in order to avoid the failure of closing the door due to the sticking or jamming of the hall call buttons.

Pacifying Voice	When the elevator is in a special state, the voice will pacify the passengers in the car.
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)
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.
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.

Hall Chime	In general, the hall chime is integrated in the hall call display to remind passengers of the elevator's arrival.
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.
Building Management System	The elevator can provide the discrete-type running state signals for the intelligent building management system. The main signals are running direction, floor information, safety information, etc.
CCTV Cable Interface Reservation (Including CCTV Cable)	Cable interfaces are reserved for the installation of the cabin CCTV (including the CCTV cable).
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.)
Conference Priority Mode	In the group control mode, if there is a large passenger flow in a certain floor due to the closing of a meeting, this mode can be manually triggered by a dedicated switch or by automatic triggering of the sensor, then the other elevators will automatically come to this floor to serve.
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.
VIP Priority Service	When the VIP passenger on a certain floor hopes that the elevator can arrive at his floor immediately or preferentially, by pressing the switch, the system will automatically send an elevator to answer this priority call and cancel all the hall calls. The elevator will arrive at the floor at the first time to carry the VIP passenger and at this time it only responds to the cabin instructions and does not reply to any hall call service.

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.

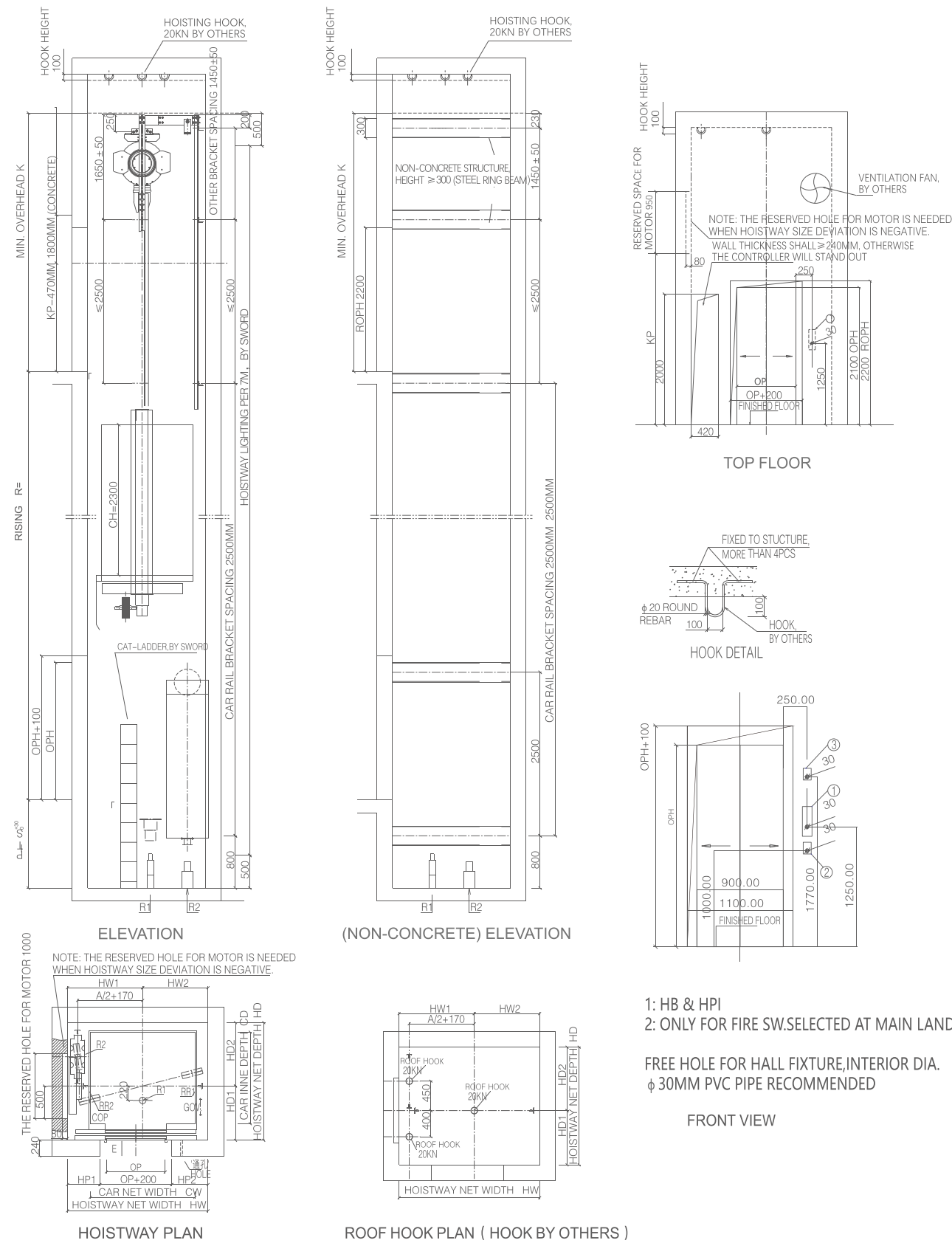
OPTIONAL FUNCTION ➡

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.

Door Open Standby	This function changes the door close standby function of common elevators. By setting up parameters, make the elevator open the door and stand by, in order to keep the air circulating and fresh.
Anti-Nuisance Hall Call Protection	Hall calls include up call and down call. If the passenger operates wrongly, the elevator will open and close the door twice. This function can reduce the door opening and closing for one time and improve the operating efficiency.
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.

Compact Motor MRL Elevators

WD700MRL



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.

Load (kg)	Speed (m/s)	Car inner size CW x CD (mm)	Opening net size OPxOPH (mm)	Hoistway net size HWxHD (mm)	Pit S (mm)	Min. overhead K (mm)	Max. overhead K (mm)	Other positioning measurement (mm)						Guide rail & pit reactions (KN)				Max. floor (floor)	Max. rising (m)
								HW1	HW2	HD1	HD2	HD2	HD2	R1	R2	RR1	RR2		
550	1	1100×1350	700×2100	1650X1775	1350	3800	4150	900	750	805	970	425	325	67	57	29	39	16	50
630	1	1100×1400		1650X1800						830	970			73	60	30	41	16	50
680	1	1200×1400	750×2100	1750X1800	1350	3800	4150	950	800	830	970	450	350	77	63	32	43	16	50
	1.5				1500	3900	4250											24	75
	1.75				1500	3950	4300											32	90
800	1	1350×1400	800×2100	1900X1800	1350	3800	4150	1025	875	830	970	525	375	85	69	33	46	16	50
	1.5				1500	3900	4250											24	75
	1.75				1500	3950	4300											32	90
900	1	1500×1400	800×2100	2050X1800	1350	3800	4150	1100	950	830	970	500	450	91	73	35	48	16	50
	1.5				1500	3900	4250											24	75
	1.75				1500	3950	4300											32	90
1000	1	1600×1400	900×2100	2150X1800	1350	3800	4150	1150	1000	830	970	600	450	97	77	37	50	16	50
	1.5				1500	3900	4250											24	75
	1.75				1500	3950	4300											32	90
1000 Stretcher Elevator	1	1100×2100	900×2100	2000X2500	1350	3800	4150	1000	1000	1180	1320	450	450	97	77	37	50	16	50
	1.5				1500	3900	4250											24	75
	1.75				1500	3950	4300											32	90

NOTE: DO NOT SCALE THS DRAWING, UNLESS OTHERWISE STATED