

Yungtay Elevator

Connecting Elevator with Artificial Intelligence
E PASS Smart Safety Elevator

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VDI 4707



ISO 9001



ISO 14001



ISO 45001

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Our Company reserves the rights to change the specifications, please be reminded that the information in regard with those changes shall not be notified later. Please contact our Company for further details.

Elevate Your Quality of Life

EAS
Machine Room
Passenger Elevator



Taipei - Presidential Office Building



Taipei - "Your Majesty" Building



Taipei - Veterans General Hospital



New Taipei City -
Four Points by Sheraton Linkou



Taichung City -
National Trade Center

Hitachi Yungtay Elevator Co., Ltd. (formerly Yungtay Engineering Co., Ltd.) was founded in July 1966. For more than 50 years, we have always adhered to the spirit of "always think more for you" and provided customers with the best quality service with a careful and professional attitude and The most appropriate consultation and advice. So far, over 250,000 elevators have been operated worldwide, and it has been awarded the top 500 enterprises of the world magazine.

Looking forward to the future, we will continue to fulfill our consistent commitment to customers, provide high-quality and comprehensive products and complete warranty services, and accelerate research and development to create a win-win future for enterprises and customers.



Kaohsiung -
National Kaohsiung Center for the Arts (Weiwuying)



Taichung City -
CBD Times Square



Taipei - Breeze Xin Yi

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E PASS

Smart Satety System

Keep abreast of the times



ENERGY EFFICIENCY



PREVENTIVE MAINTENANCE



ARTIFICIAL INTELLIGENCE



SAFETY



SECURITY



ENERGY EFFICIENCY

"Destination Dispatch" and "FT3X Group Control" reduce the number of elevator stops, effectively improving the efficiency of elevator operation. Besides, the "Energy Feedback Device" goes back the regenerative power to the building power grid, truly accomplishing "energy saving, environmental protection, and earth love."



Destination Dispatch

Register the destination floor before boarding the elevator, and distribute the passengers to each elevator through AI computing distribution, reduce the number of elevator stops, improve operation efficiency, and shorten the waiting time of passengers. (This function can also link with the access control system)

FT3X Group Control

In each car call from the hall, according to the relative position of each elevator and the registered car-calling signal, calculate the optimal dispatching arrangement, reducing the overall average waiting time and the probability of passengers waiting for a long time.



Energy Feedback Device

The regenerative power generated by the Energy Feedback Device can feed back to the building power grid to supply electricity for the building when the elevator runs in light-load upward or heavy-load downward. In addition, the device can return clean electric energy to achieve green energy-saving benefits.



PREVENTIVE MAINTENANCE

Use the "Internet of Things" to maximize the intelligence of the elevator system through network collection, analysis, and utilization of elevator data. Therefore, achieve elevator status monitoring, remote management, data statistics, fault alarm, maintenance supervision, and emergency response functions.



Internet of Things (IoT)

IoT collects, analyzes, and utilizes elevator data through the network to optimize the intelligent elevator system and achieve the elevator functions of intelligent monitoring, preventive maintenance, and instant rescue.



ARTIFICIAL INTELLIGENCE

Through artificial intelligence calculation and distribution, "Destination Dispatch" and "FT3X Group Control" accurately allocate the elevator service to shorten the waiting and take the time of passengers to use the elevator. In addition, "Face Recognition," "Voice Car Calling," and "Smartphone Car Calling" highly improve the convenience of use.



Face Recognition

After confirming the passenger's identity through the facial recognition system, the right to register the floor is granted, or the system can directly register to the preset destination floor. The system can also combine with the Destination Dispatch system to guide the identified passenger to the designated elevator. (The owner provides the face recognition machine, and Hitachi Yungtay Elevator provides the communication interface)

Voice Car Calling

Passengers can register the destination floor in the car by voice, replacing the traditional touch button, reducing the risk of germ transmission.



Destination Dispatch

Register the destination floor before boarding the elevator, and distribute the passengers to each elevator through AI computing distribution, reduce the number of elevator stops, improve operation efficiency, and shorten the waiting time of passengers. (This function can also link with the access control system)

FT3X Group Control

In each car call from the hall, according to the relative position of each elevator and the registered car-calling signal, calculate the optimal dispatching arrangement, reducing the overall average waiting time and the probability of passengers waiting for a long time.



People Flow Control

The system can automatically detect the number of people waiting in the hall. The intelligent group control dispatching system can flexibly increase the number of service elevators, which can instantly evacuate the crowd and shorten passengers' waiting and boarding time.

Smartphone Car Calling

It uses the APP and BlueTooth from a smartphone or tablet to accurately locate the floor and quickly complete the elevator call and the destination floor registration.



SAFETY

It uses technology invention patents such as "Self-rescue System for Car Slipping" and "Brake Force Detection System" together with safety system devices (unintended car movement protection of the elevator cage, over-speed protection, automatic landing device for power failure, and absolute positioning system) to protect the safety of the ride in all directions.



Self-rescue System while Car Slipping

Safety technology invention patent. The system monitors the car's status when the elevator is in the door-opening zone. If the car is slipping, the computer host automatically outputs the holding torque to keep the car in the door-opening zone, immediately opening the door and reminding passengers to leave the elevator. When the car is vacant, the elevator closes the door and runs to the top floor (the safest position), generating a fault code and stopping service.

Unintended Car Movement Protection (UCMP)

When the elevator door is opened for passengers to enter and exit, the brakes are immediately activated to stop the elevator service once the elevator moves unexpectedly. The elevator will resume regular operation only after maintenance and inspection by professionals.



Ascending Car Overspeed Protection (ACOP)

When the elevator goes up, suppose the speed limiter detects that the up speed exceeds the limit value, it will start the brake to stop the elevator to ensure that it runs safely at the rated speed.

Brake Force Detection System

Safety technology invention patent. The braking force detection of the elevator motor is automatically performed daily on a preset schedule. When the braking force becomes weakened, a warning code will be issued to notify the maintenance personnel to take preventive measures. Furthermore, suppose the braking force is insufficient, the elevator will stop service and generate a fault code for the maintenance personnel to troubleshoot to ensure the brakes' reliability and effectiveness.



Automatic Landing Device for Power Failure (ALP)

In the event of a power failure, the device will replace the regular power supply, and the elevator will automatically move to the nearest floor to allow passengers to exit the car safely, thereby avoiding the situation where passengers are locked in the elevator during a power failure.

Absolute Positioning System (APS)

The sensor above the elevator car reads the tape installed in the hoistway in a non-contact way to detect the current absolute position of the car. Avoid measurement errors caused by rope slippage or dynamic rope effects; even unfavorable environmental conditions (such as thick black smoke) do not affect the measurement results. In addition, it can increase the functions of upstream and downstream overspeed protection and check end-stage deceleration, greatly improving safety.





SECURITY

The "Security Mode" strengthens daily safety precautions and prevents crimes; when an emergency occurs, the "Car Monitoring" proactively reports to the outside world that passengers fall over or are inactive, minimizing the damage in the event of an accident. In addition, antibacterial disinfection technologies such as "Positive and Negative Ions Air Purifier" and "Non-Contact Button" can double protect passengers' health.



Face Recognition

After confirming the passenger's identity through the facial recognition system, the right to register the floor is granted, or the system can directly register to the preset destination floor. The system can also combine with the Destination Dispatch system to guide the identified passenger to the designated elevator. (The owner provides the face recognition machine, and Hitachi Yungtay Elevator provides the communication interface)

Internet of Things (IoT)

IoT collects, analyzes, and utilizes elevator data through the network to optimize the intelligent elevator system and achieve the elevator functions of intelligent monitoring, preventive maintenance, and instant rescue.



Central Monitoring System (YECM)

The YECM system transmits the elevator operation signal in the operation panel to the monitoring computer through digital communication. The administrator can monitor the running status of the elevator, set the running mode, issue control commands, perform statistical analysis of the elevator operation, make reservations, and record the faults of the elevator.

Smartphone Car-Calling

It uses the APP and BlueTooth from a smartphone or tablet to accurately locate the floor and quickly complete the elevator call and the destination floor registration.



Security Mode

When there is an intruder in the home, the user can enter the password through the floor button on the car control panel so that the elevator will move to the non-leveling floor and stand by, and the lighting and fans will continue to run. At this time, the system will automatically notify the service center through the IoT function, making the elevator a safe refuge.

Car Monitoring

The car monitoring device can automatically detect the situation in the car. For example, suppose the passenger falls over or cannot move; the elevator will automatically run to the lobby floor to open the door, sound an alarm, and notify the service center through the IoT function to minimize the damage of an accident.



Car Disinfection

"Positive and Negative Ions Air Purifier," "Antibacterial Handrail," and "UV Germicidal Lamp" provide clean space for the elevator and additional protection for the health of passengers.

Non-Contact Button

When moving the finger toward the button within 1 cm, passengers can trigger the button signal to call a car by induction. As a result, passengers do not need to press buttons directly, reducing the risk of germ infection.



Emergency Visible System

When an emergency occurs in the car, passengers can press the emergency video intercom button on the car's control panel to communicate with the outside. People outside the car can also know the situation in the car in real-time through the visual system to ensure the safety of passengers.

Elevator Multimedia System (OPYM4)

It can display the dynamic position of the elevator and import information such as weather conditions or financial stock markets through the Internet. In addition, it provides passengers with real-time and valuable information and can provide functions such as audio and video advertisements and electronic announcements.



Anti-epidemic Precautionary Elevator

Multiple Sterilization and Disinfection Technology

SHARP Professional Medical Plasmacluster Air Purifiers

The only air cleaner that simultaneously releases a large number of H+ (positive) and O2- (negative) ions, fighting off bacteria actively and comprehensively.



Nano-Photocatalyst Air Purifier

Nano-photocatalyst technology purifying the air. Air purification and sterilization efficiency, more than 90%, PM 2.5 purification efficiency, more than 95%.



UV Germicidal Lamp

Disinfection and sterilization efficiency achieves 99%. By induction protection device, when someone is sensed, UV disinfection will stopped immediately.



Antibacterial Handrail

The wooden surface of the handrail of the car is added with the antibacterial and anti-mildew coating to form an antibacterial protective layer. When germs contact the surface of the handrail, the antibacterial coating will inhibit the activity of germs.

Non-Contact Solution

Passengers do not need to press any elevator button, and therefore they avoid cross infection and ensure a safe ride.



Non-Contact Button

When moving the finger toward the button within 1 cm, passengers can trigger the button signal to call a car by induction. As a result, passengers do not need to press buttons directly, reducing the risk of germ infection.



Voice Car-Calling

No hand, no contact! Just name the floor you want. Reduce the chance of infection.



Gesture Car-Calling

Simply wave your hand up and down in the elevator hall to call the car. Not only bettering experience with elevator rides but also eliminating contact with germs on the buttons to protect the health of passengers.



Infrared Light Curtain

The elevator will promptly detect any people or objects blocking the infrared light curtain and reopen the door during the closing process. Improve riding safety, and have a non-contact epidemic prevention effect

Smart and Energy-saving Innovative Technology

Features of Gearless PM Motor Traction Machine

- Traction machine with higher transmission efficiency and lighter weight that can reduce electricity consumption to save energy as well as lower carbon emission.
- Gearless structure eliminates the noise by occlusion of gear wheels. As a result, there is no need to use gear oil for lubrication.
- Dual brakes.
- Winding Self-Interlock Device: Even if the brake fails, the elevator will only slowly slide down until the buffer is compressed, and then the slide halts; no severe damage will incur due to uncontrollable collision.

PM Direct Drive Synchronous Door System

The smart PM motor is higher efficient and lower noisy, possessing the technologies of motor parameters and magnetic pole self-learning. The end of the car door closing will be smoother, faster, steadier, and quieter.

High Efficient Energy Feedback Device (OPTION)

Using the energy feedback device, the regenerative power generated by the traction motor is able to feed back to the electrical network for reuse, obtaining the highest 5A level certification of the European Union's new elevator green energy-saving efficiency seal "VDI 4707"



Green Advanced LED

Highly efficient LED is comprehensively applied: low-frequency flash, high electrical efficiency, mercury pollution-free, and long service life, accomplishing the home of full evolution.



Lower Noise



Higher Torque



Lower Electromagnetic Interference



Lighter Weight Smaller Volume



Higher Electrical Efficiency

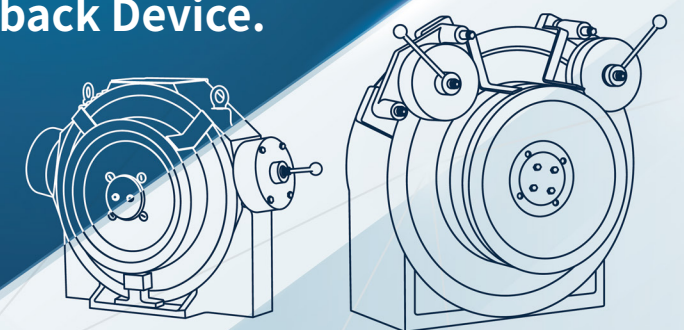


Higher Structural Strength

At most approximately 40% of the electricity can be saved by the Energy Feedback Device.

PERMANENT MAGNET

In an age of shorter resources, Hitachi Yungtay Elevator devotes to realizing green technology, fully adopting the elevator with permanent-magnet (PM) gearless traction machine.



Car Design - CH5

Modern Aesthetics

Modest Temperament · Elegant in Good Taste

Ceiling

Main Frame	Steel Plate with Baked Painting (J147)
Middle Plate	Spherical Creamy White Acrylic
Side Plates	Milky White Acrylic Plate

Operating Panel

Embedded Stainless Steel with Mirror Finish
Model KF-D2F
(Patent Certificate Utility Model No. M420525)
Minimum Width of Front Wall
250mm needed for 20 below landings
300mm needed for 21 above landings



Wall Panels

Car Door	Steel Plate with Colored Pattern (A111)
Front Wall	Steel Plate with Colored Pattern (C114)
Side Wall	Steel Plate with Colored Pattern Left / Right Plate - (C114) ; Middle Plate - (A111) C114 single-colored sidewall is for the elevator with a capacity of 9 passengers at most
Rear Wall	Steel Plate with Colored Pattern Left / Right Plate - (C114) ; Middle Plate - (A111)

Floor

NPC Floor Tile : (505)



Car Design - CH10

Future Image

Simplicity Characteristics · Bold and Advanced

Ceiling

Main Frame	Steel Plate with Baked Painting (J161)
Left/Right	Steel Plate with Baked Painting (1-30)
Lining	White Wood Grating and Rice Paper Acrylic

Operating Panel

Embedded Stainless Steel with Mirror Finish
Model KF-D1F
(Patent Certificate Utility Model No. M420525)
Minimum Width of Front Wall
250mm needed for 20 below landings
300mm needed for 21 above landings



Wall Panels

Car Door	Steel Plate with Colored Pattern (1072)
Front Wall	Steel Plate with Colored Pattern (1072)
Side Wall	Steel Plate with Colored Pattern (1072)
Rear Wall	Steel Plate with Colored Pattern (1072) + Mirror Plate Stainless Steel Decorative Strip

Floor

NPC Floor Tile : (531)
Frame : (536)



Car Design - CH12

European Classic

Silent Steady · Eternal Nobility

Ceiling

Main Frame Steel Plate with Baked Painting (1-51)
Matching with Milky White Acrylic Plate

Operating Panel

Embedded Stainless Steel with Mirror Finish
Model KF-D2F
(Patent Certificate Utility Model No. M420525)
Minimum Width of Front Wall
250mm needed for 20 below landings
300mm needed for 21 above landings



Wall Panels

Car Door Steel Plate with Colored Pattern (A111)
Front Wall Steel Plate with Colored Pattern (SNW-9)
Side Wall Steel Plate with Colored Pattern
Left / Right Plate - (SNW-9); Middle Plate - (A111)
SNW-9 single-colored sidewall is for the elevator with a capacity of 9 passengers at most
Rear Wall Steel Plate with Colored Pattern
Left / Right Plate - (SNW-9); Middle Plate - (A111)
+ Mirror Plate Stainless Steel Decorative Strip

Floor

Faux Stone Floor Tile : (8T7)
Frame : (8T0)



Car Design - CH18

Delicate Paragon

Steady Magnitude · Prime Honor

Ceiling

Main Frame Steel Plate with Baked Painting (1-51)
Matching with Milky White Acrylic Plate
3 partitions Inside Width > 1100mm
1 piece Inside Width ≥ 1100mm

Operating Panel

Embedded Stainless Steel with Mirror Finish
Model KF-D3F
(Patent Certificate Utility Model No. M420525)
Minimum Width of Front Wall
250mm needed for 20 below landings
300mm needed for 21 above landings



Wall Panels

Car Door Steel Plate with Colored Pattern (SNW-1)
Front Wall Steel Plate with Colored Pattern (SNA-7)
Side Wall Steel Plate with Colored Pattern
Left / Right Plate - (SNA-7); Middle Plate - (SNW-1)
SNA-7 single-colored sidewall is for the elevator with a capacity of 9 passengers at most
Rear Wall Steel Plate with Colored Pattern
Left / Right Plate - (SNA-7); Middle Plate - (SNW-1)
+ Mirror Plate Stainless Steel Decorative Strip

Floor

NPC Floor Tile : (531)
Frame : (536)



Car Design - H2

Classical Collection

Character Extraordinary · Gradation Apparent

Ceiling

Main Frame Steel Plate with Baked Painting (1-51)
 Matching with Creamy White Acrylic
 5 partitions Inside Width \geq 1400mm
 3 partitions Inside Width < 1400mm

Operating Panel

Embedded Stainless Steel with Mirror Finish
 Model KF-L4F **Option**
 (Patent Certificate Utility Model No. M420525)
 Minimum Width of Front Wall
 250mm needed for 20 below landings
 300mm needed for 21 above landings



Wall Panels

Car Door Steel Plate with Colored Pattern (A111)
 Front Wall Steel Plate with Colored Pattern (A111)
 Side Wall Steel Plate with Colored Pattern (A111)
 Rear Wall Steel Plate with Colored Pattern (A111)
 + Decorative Strip (SNW-9)

Floor

Wood Grain Floor Tile : (8TF)
 Frame : (8TE)

Car Design - H4

Starry Sky Melody

Boundless Meteor Shower · Fashion of Romance

Ceiling

Option

Bottom Layer Steel Plate with Baked Painting (J161)
 Middle Layer Steel Plate with Baked Painting (J179)
 Upper Layer Steel Plate with Baked Painting (J179)
 LED Light Central White Light with Multi-Gradations
 Meteor Shower Type with Indirect
 Peripheral Yellow Light
 Size Limits Inside Width \geq 1400mm
 Inside Depth \geq 1350mm

Operating Panel

Embedded Stainless Steel with Mirror Finish
 Model KF-D1 F
 (Patent Certificate Utility Model No. M420525)
 Minimum Width of Front Wall
 250mm needed for 20 below landings
 300mm needed for 21 above landings



Wall Panels

Car Door Steel Plate with Colored Pattern (SNC-25)
 Front Wall Steel Plate with Colored Pattern (SNC-25)
 Side Wall Steel Plate with Colored Pattern (SNC-25)
 Rear Wall Steel Plate with Colored Pattern (SNC-25)
 + Mirror Decorative Strip

Floor

Faux Stone Floor Tile : (8T6)
 Frame : (8T0)

Ceiling



CH5

Main Frame	Steel Plate with Baked Painting (J147)
Middle Plate	Spherical Creamy White Acrylic
Side Plates	Milky White Acrylic Plate



CH10

Main Frame	Steel Plate with Baked Painting (J161)
Left/Right	Steel Plate with Baked Painting (1-30)
Lining	White Wood Grating and Rice Paper Acrylic



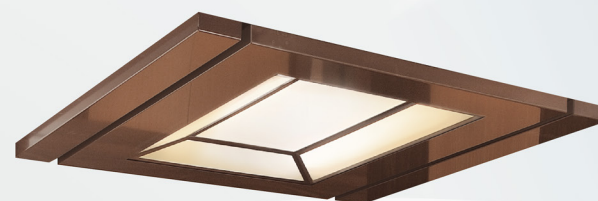
VIP01 Option

Main Frame	Titanium Steel Plate (TK-ED-011)
	Mirror Brown Anti-Fingerprint Plated
	Titanium Steel Plate
Inner Side	Milky White Acrylic Plate
Outer Side	Transparent Acrylic Decorative Strip



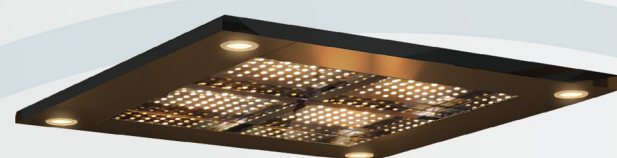
CH12

Main Frame	Steel Plate with Baked Painting (1-51)
Matching	with Milky White Acrylic Plate



CH18

Main Frame	Steel Plate with Baked Painting (1-51)
Matching	with Milky White Acrylic Plate
3 partitions	Inside Width > 1100mm
1 piece	Inside Width ≥ 1100mm



A2 Option

Main Frame	Titanium Steel Plate (TK-ED-003)
	Mirror Black Anti-Fingerprint Plated
	Titanium Steel Plate
	Central light source covered with mirror-polished stainless steel panels with holes
Light	Energy-saving warm LED lighting
Size Limits	Inside Width ≥ 1300mm
	Inside Depth ≥ 1250mm



H2

Main Frame	Steel Plate with Baked Painting (1-51)
Matching	with Creamy White Acrylic
5 partitions	Inside Width ≥ 1400mm
3 partitions	Inside Width < 1400mm

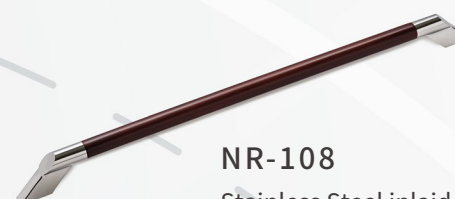


H4 Option

Bottom Layer	Steel Plate with Baked Painting (J161)
Middle Layer	Steel Plate with Baked Painting (J179)
Upper Layer	Steel Plate with Baked Painting (J179)
LED Light	Central White Light with Multi-Gradations
	Meteor Shower Type with Indirect
	Peripheral Yellow Light
Size Limits	Inside Width ≥ 1400mm
	Inside Depth ≥ 1350mm

Handrail

Matching with diverse styles and tastes of different constructions
A brand-new visual feast with an ingenious touch



NR-108

Stainless Steel inlaid with Solid Wood (imitation walnut)
Diameter : 38mm Φ
Optional for Antibacterial Material



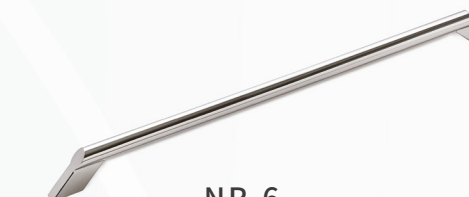
NR-113

Stainless Steel inlaid with Hairline Stainless Steel
Diameter : 38mm Φ



NR-112

Stainless Steel inlaid with Solid Wood (imitation sen)
Diameter : 38mm Φ
Optional for Antibacterial Material



NR-6

Mirror Finished Stainless Steel
Diameter : 38mm Φ



NR-125

Stainless Steel inlaid with Genuine Leather
Diameter : 38mm Φ

Hall Operating Panel

FOX Series

Ultra-Thin Hall Indicator, Breathing Light with Rhythmic Flash.
Extreme Slim and Thin, Extreme Exquisiteness.

• Operating Panel



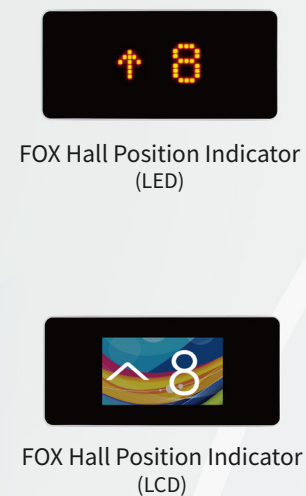
• For Wheelchair Use

Option



• Indicator

Option



YT Series

Option

The design is sharp and straightforward, focusing on the texture as well as pursuing the quality.

• Operating Panel



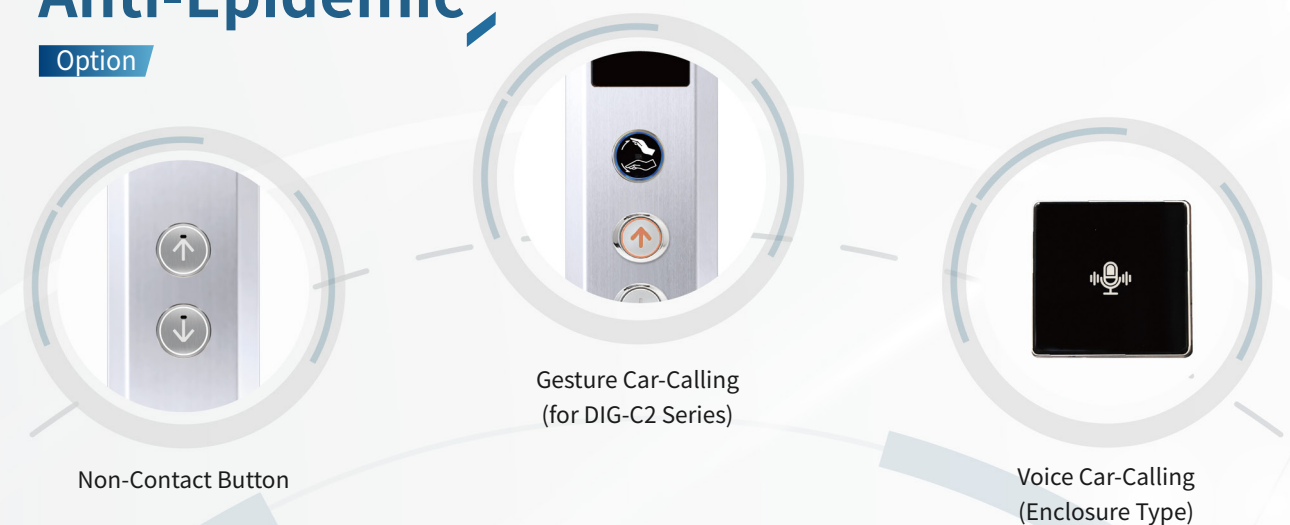
• For Wheelchair Use

• Indicator



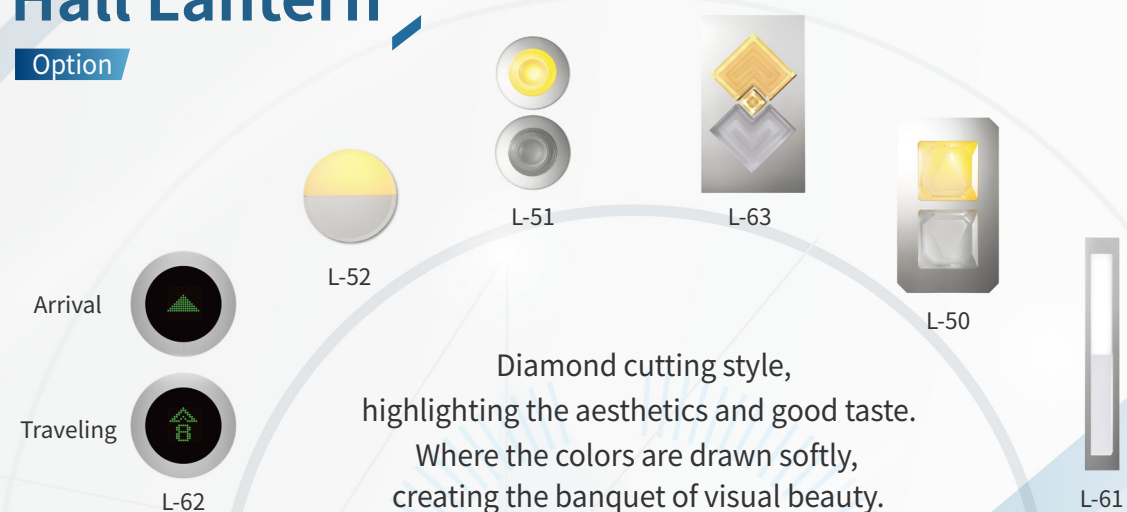
Anti-Epidemic

Option



Hall Lantern

Option



Diamond cutting style,
highlighting the aesthetics and good taste.
Where the colors are drawn softly,
creating the banquet of visual beauty.

Car Operating Panel

FOX Series

Innovative Embedded Breathing Light Design with Rhythmic Flash.



KF-L4F
Embedded Operating Panel
(RETURN-PANEL)
Option



FOX OPB (LCD)
Rotational Operating Panel
(RETURN-PANEL)
Option

YT Series

Stainless Steel Material Qualities
Solid, Aesthetic and Practical.



OPY-HD2
Rotational Operating Panel
(RETURN-PANEL)
Option



YE-HD
(Touch button)
(Not Optional for
Accessible Elevator)
Option



OPY-HD2F



W.FOX OPB
Option

Materials



Entrance Design



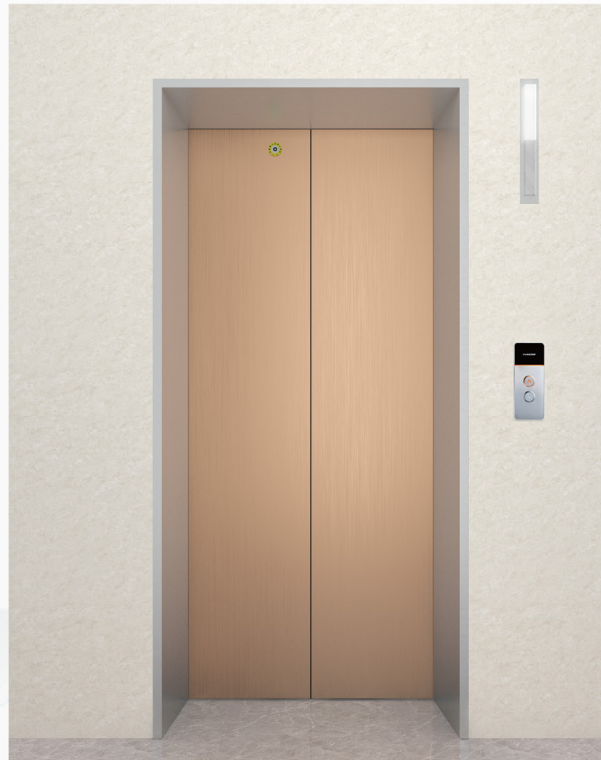
Door Panel	Center - opening Doors Steel Plate with Baked Painting (1-84)
Hall IND	FOX LED
Jamb Frame	Narrow Type Stainless Steel with Hairline Finish
Sill	Extruded hard aluminum



Door Panel	Center-opening Doors Stainless Steel with Hairline Finish Option
Hall IND	FOX LCD Option
Jamb Frame	Narrow Type Transom Attached Option Stainless Steel with Hairline Finish
Sill	Extruded hard aluminum



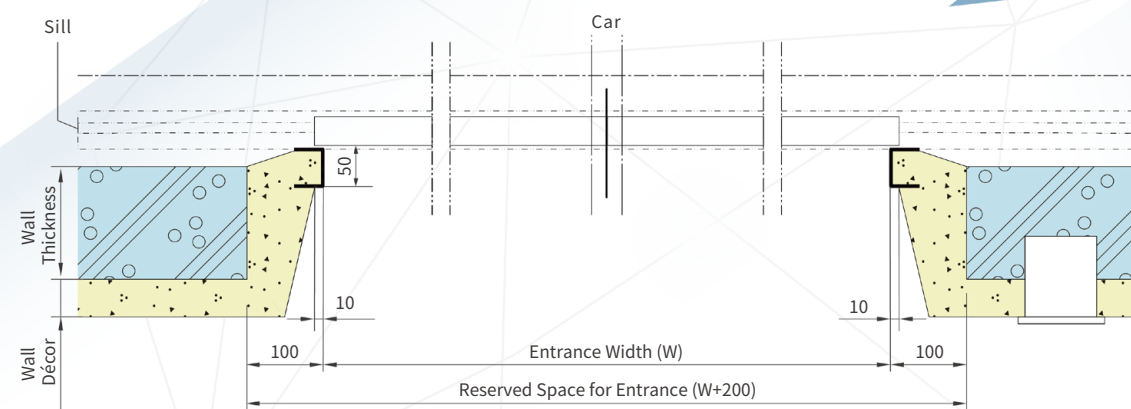
Door Panel	Center-opening Doors Stainless Steel with Option Hairline Etching Finish (HJ-313)
Hall IND	FOX BL Option
Jamb Frame	Wide Type Option Transom Attached Option Stainless Steel with Hairline Finish
Sill	Extruded hard aluminum
Light	L-63 Option



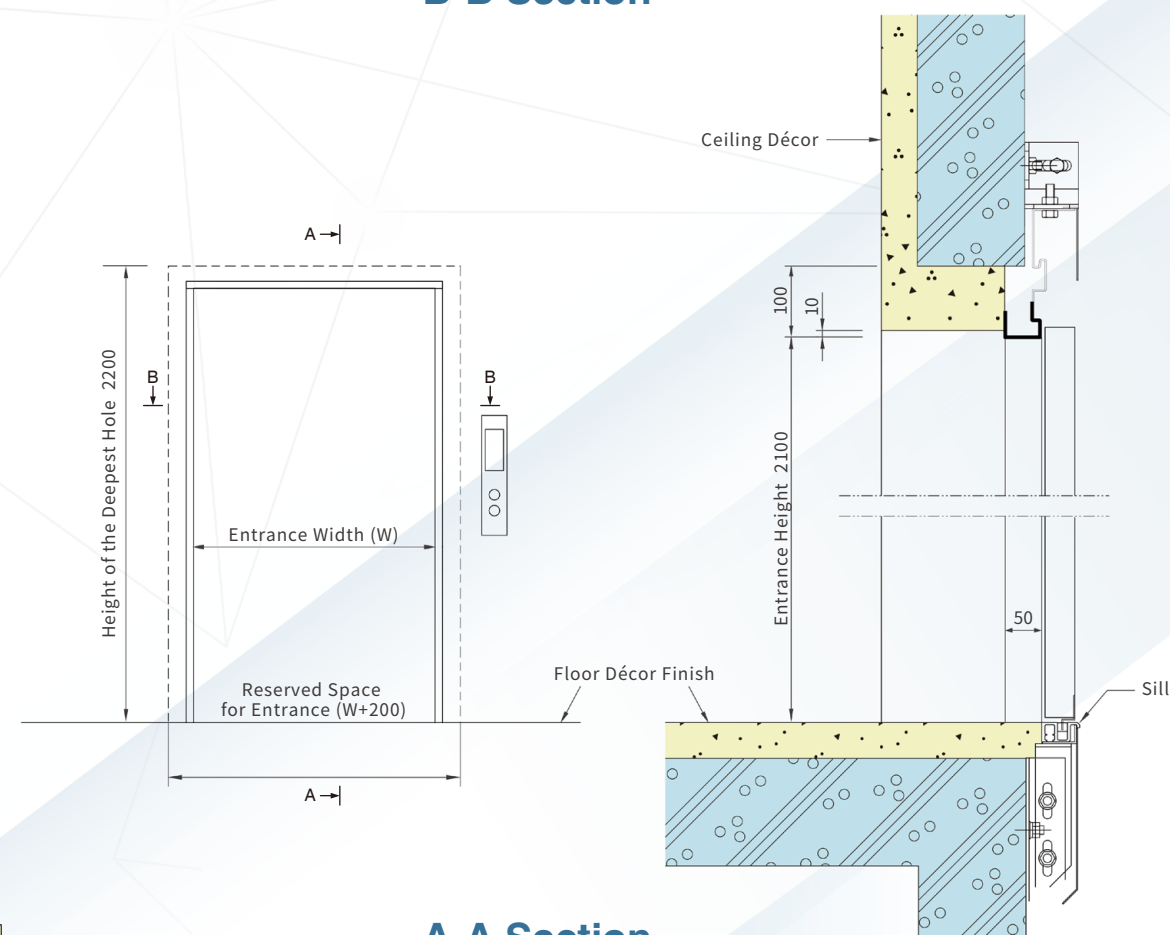
Door Panel	Center-opening Doors Titanium Steel Plate Option with Hairline Finish (TK-ED-012)
Hall IND	FOX BL Option
Jamb Frame	Wide Type Option Stainless Steel with Hairline Finish
Sill	Extruded hard aluminum
Light	L-61 Option

Dimensions of Entrance

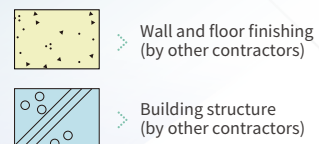
Narrow-Type



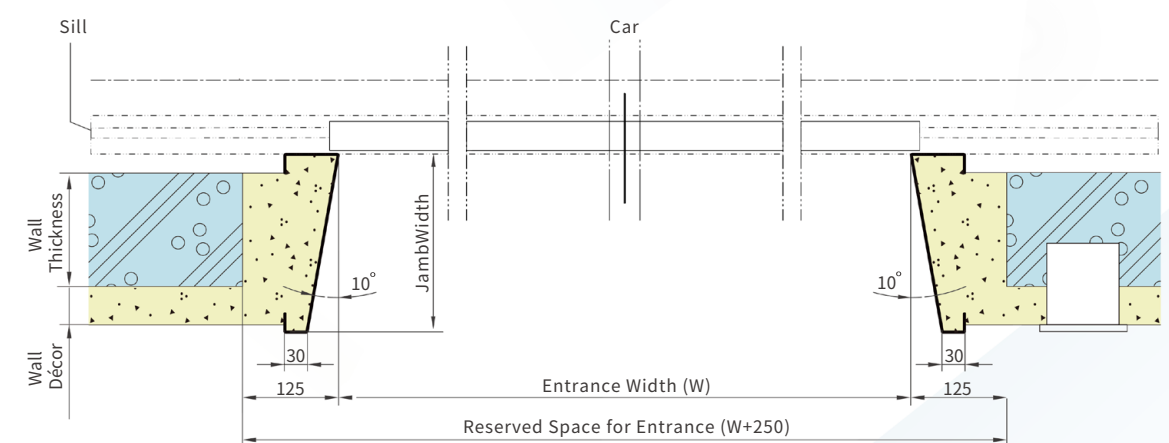
B-B Section



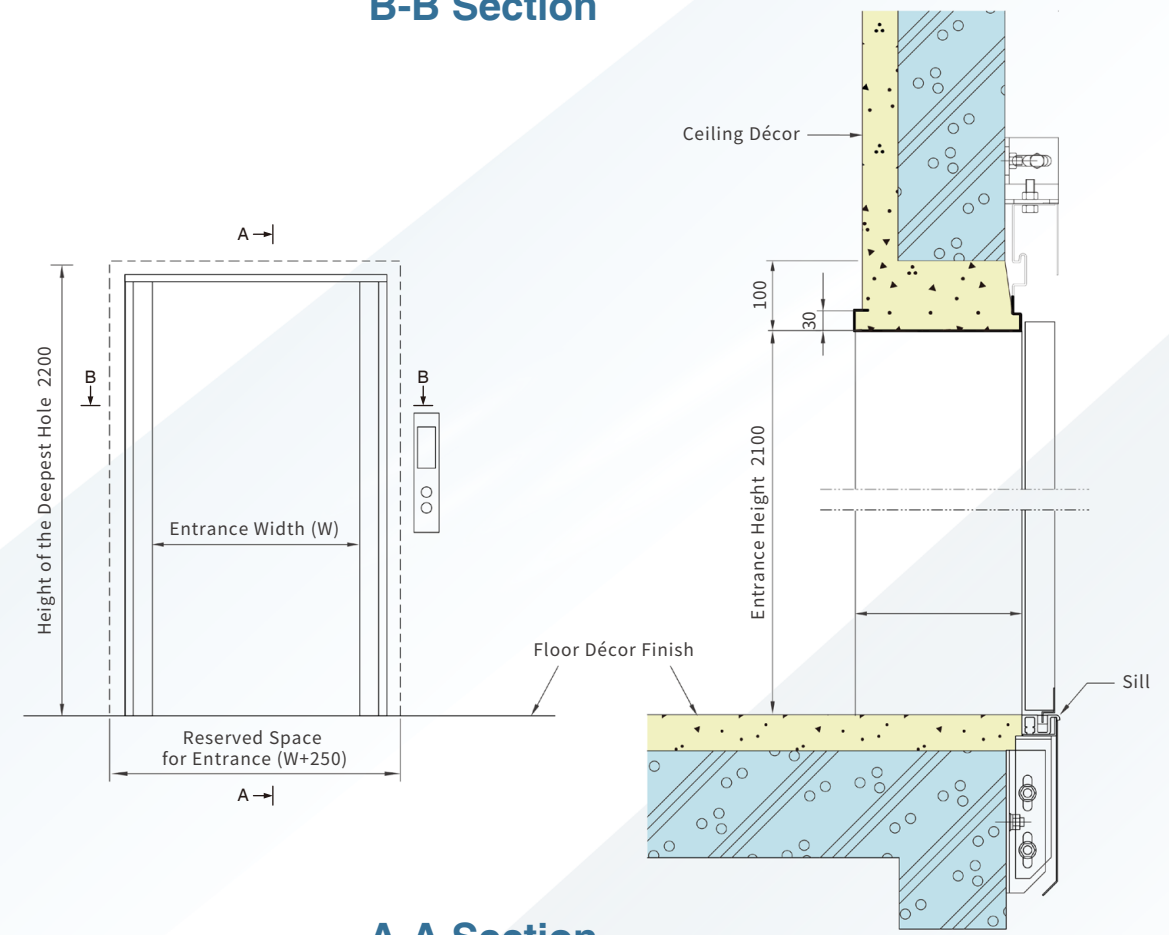
A-A Section



Wide-Oblique Optional



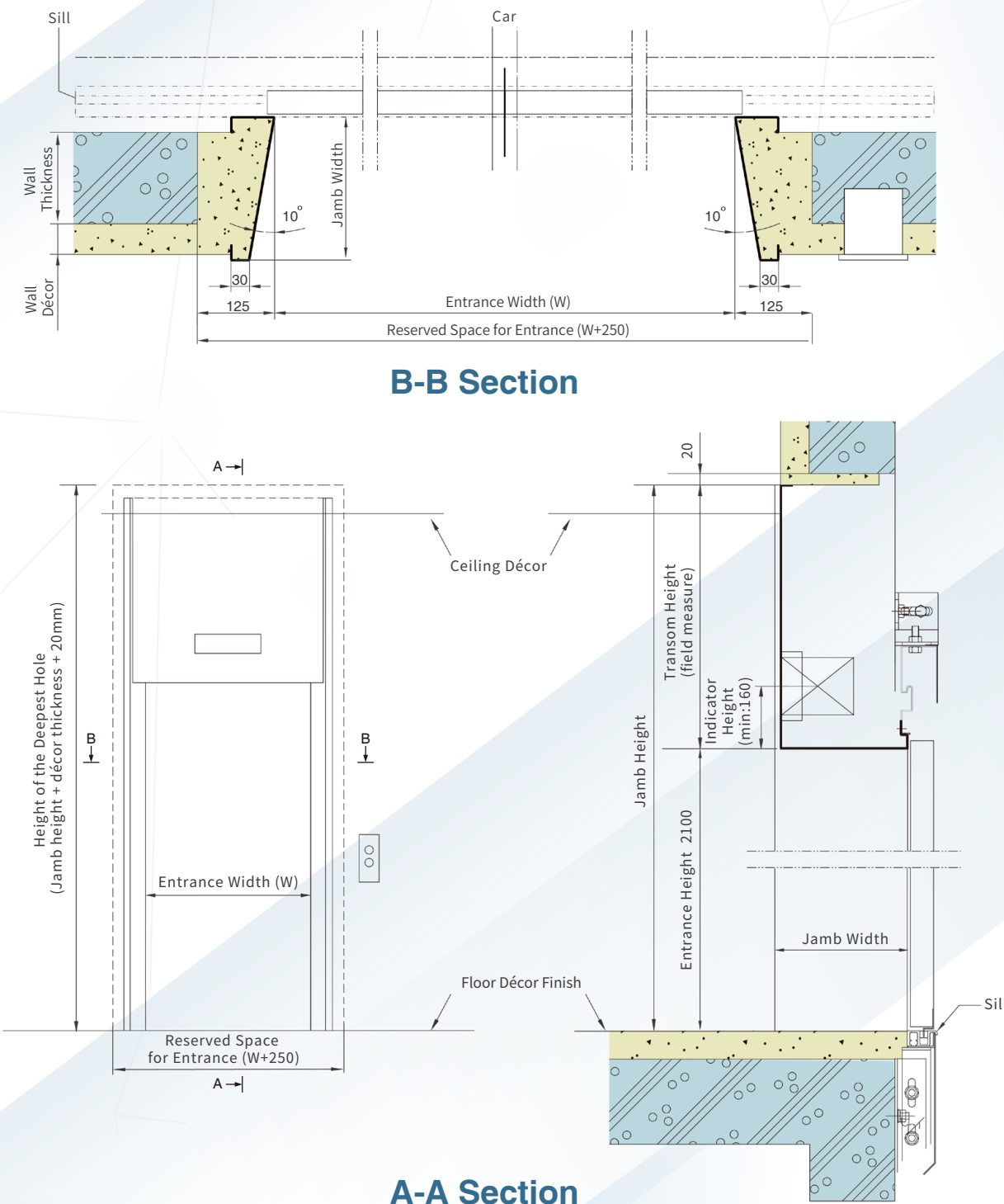
B-B Section



A-A Section

Electrical Data

Wide Type - with Transom Option



Note :

1. If the transom is attached with a floor indicator, the minimum jamb height should be above 2450mm.
2. The height of the jamb is limited by the material, up to 3000mm.
3. The hole size for the hall indicators depends on the type of indicator.

*Power Supply: AC 3Φ, 220V/380V, 60Hz

Passenger (KG)	Rated Speed (m/min)	Breaker Ampere(A) 220V/380V	Transformer capacity (KVA)	Wire Gauge Cross sectional area(mm²) 220V/380V	Ground Wire Cross sectional area(mm²) 220V/380V
6 (450)	60	30 / 20	4	14 / 5.5	5.5 / 2
8 (550)	60 90 105	40 / 20 40 / 20 50 / 30	4 6 6	14 / 5.5 14 / 5.5 14 / 5.5	5.5 / 2 5.5 / 2 5.5 / 2
9 (600)	60 90 105	40 / 20 40 / 20 50 / 30	4 6 6	14 / 5.5 14 / 5.5 14 / 5.5	5.5 / 2 5.5 / 2 5.5 / 2
10 (700)	60 90 105	40 / 20 50 / 30 50 / 30	5 6 7	14 / 5.5 14 / 5.5 14 / 5.5	5.5 / 2 5.5 / 2 5.5 / 2
11 (750)	60 90 105	40 / 20 50 / 30 50 / 30	5 6 7	14 / 5.5 14 / 5.5 14 / 5.5	5.5 / 2 5.5 / 2 5.5 / 2
12 (800)	60 90 105	40 / 20 50 / 30 60 / 40	6 7 8	14 / 5.5 22 / 14 22 / 14	5.5 / 2 5.5 / 5.5 5.5 / 5.5
13 (900)	60 90 105 120 150	40 / 20 50 / 30 60 / 40 50* 50*	6 7 8 15 17	14 / 5.5 22 / 14 22 / 14 14* 30*	5.5 / 2 5.5 / 5.5 5.5 / 5.5 5.5* 5.5*
15 (1000)	60 90 105 120 150	40/30 50/40 60/40 50* 60*	6 8 9 16 19	14 / 5.5 22 / 14 22 / 14 14* 30*	5.5 / 2 5.5 / 5.5 5.5 / 5.5 5.5* 5.5*
17 (1150)	60 90 105 120 150	40* 50* 50* 50* 60*	7 9 11 18 22	14* 14* 14* 30* 30*	5.5* 5.5* 5.5* 5.5* 5.5*
20 (1350)	60 90 105 120 150	40* 50* 50* 60* 75*	8 11 12 20 25	14* 14* 14* 22* 30*	5.5* 5.5* 5.5* 5.5* 5.5*
24 (1600)	60 90 105 120 150	50* 60* 60* 75* 100*	9 13 15 25 31	14* 22* 22* 38* 38*	5.5* 5.5* 5.5* 14* 14*

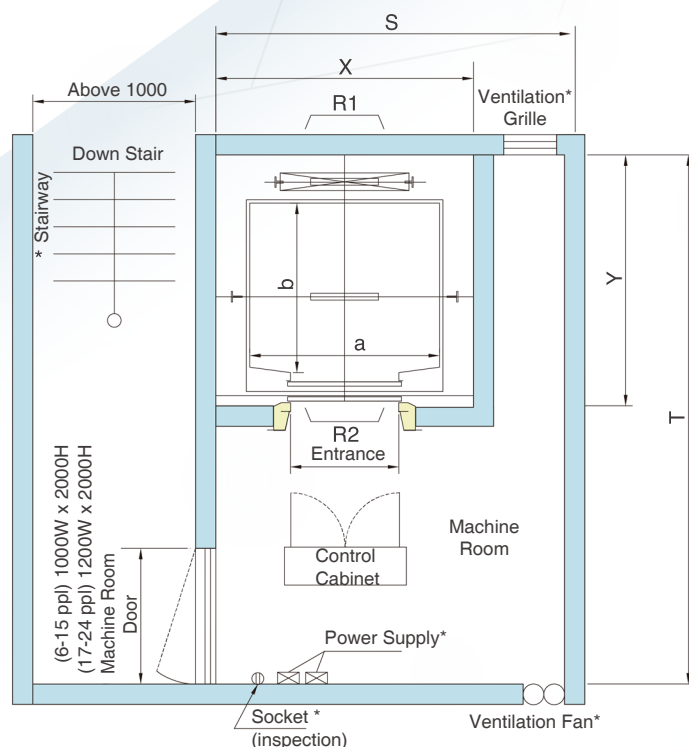
* The diameter of the wire is calculated based on the distance between the building's electrical substation and the elevator machine room within 50 meters.

* If the on-site power supply is 220V, an additional transformer for the elevator (220V→380V) must be added.

Hoistway and Machine Room

Hoistway Dimension and Reaction Loading

Hoistway and Machine room floor plan



Note:

1. The part marked with an asterisk is the excluded project, which is the owner's responsibility.
2. The Overhead Height (OH) and Pit Depth (P) listed in the graph are all 50mm larger than regulations.
3. The minimum height of each floor shall not be less than 2600mm.
4. The above regulations are for reference only. Please get in touch with our company for detailed specifications.

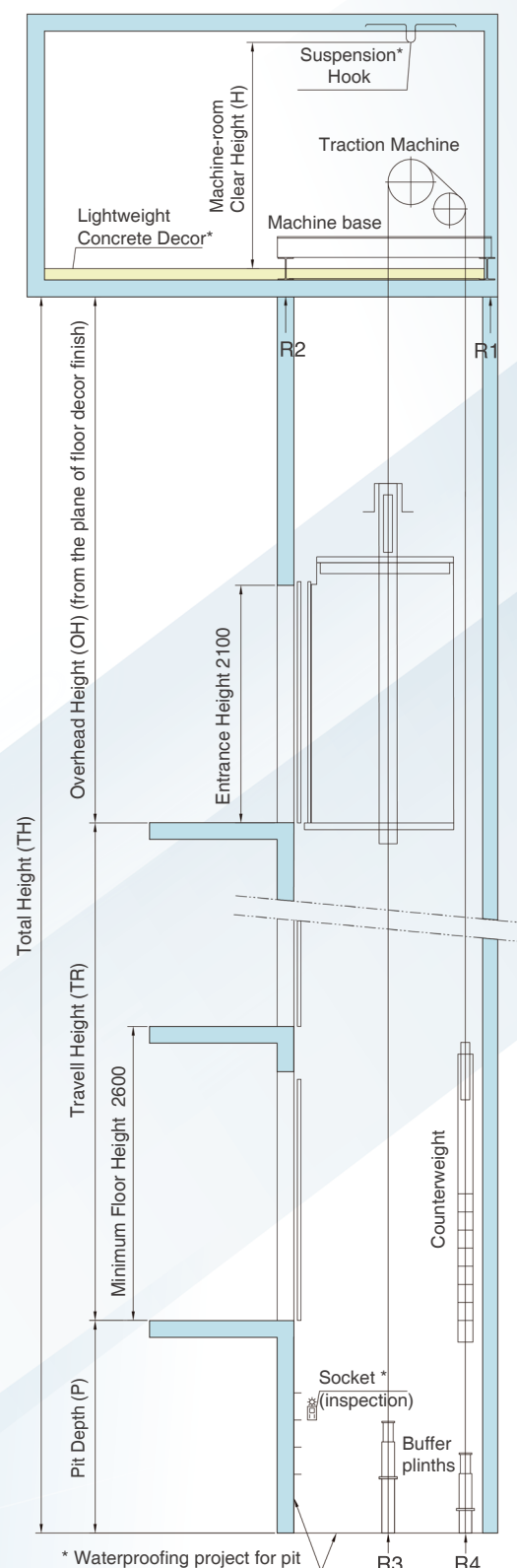
Machine-room dimensions of Clear height (H), Overhead height (OH), Pit Depth (P)									
Passenger	06-15	17-24	08-15	17-24	08-15	17-24	13-15	17-24	13-24
Speed (m/min)	60		90		105		120		150
Machine Room Clear Height (H)	2000		2200		2200		2200		2200
Overhead Height (OH)	4450	4850	4650	5050	4850	5250	5250		5450
Pit Depth (P)	1550		1850		2150		2150		2450

Note :

1. The overhead height (OH) dimension is based on the standard car ceiling height of 2300mm. Therefore, if the ceiling height increases, the OH dimension should be relatively increased.
2. If there are any problems, such as inconsistent size configuration or speed exceeding 150m/min, please contact our company.

- Wall and floor finishing (by other contractors)
- Building structure (by other contractors)

Hoistway section



Passenger (Load KG)	Speed (m/min)	Door Opening Width (mm)	Car Size axb (mm)	Hoistway(XxY) Machine Room(SxT) (mm)	Reaction Loading				Heat Output (Kcal/hr)	
					Machine Room		Pit			
					R1(KG)	R2(KG)	R3(KG)	R4(KG)		
6 (450)	60	800	1400x850	1900x1450 (2400x3200)	3800	2400	4900	3800	668	
8 (550)	60	800	1400x1030	1900x1630 (2400x3200)	3900	2700	5200	4000	808	
	90						5500	4500	1145	
	105						6500	5200	1305	
9 (600)	60	800	1400x1100	1900x1700 (2400x3300)	4000	2800	5300	4100	847	
	90						5750	4600	1225	
	105						6800	5400	1404	
10 (700)	60	800	1400x1250	1900x1850 (2400x3500)	4500	2800	6400	4400	947	
	90						6400	5100	1364	
	105						7600	5900	1563	
11 (750)	60	800	1400x1350	1900x1950 (2400x3600)	4600	3000	6600	4500	1026	
	90						6800	5300	1483	
	105						7950	6200	1722	
12 (800)	60	800	1400x1400	1900x2000 (2400x3600)	4900	3200	6800	4600	1145	
	90						7100	5500	1642	
	105						8300	6500	1881	
13 (900)	60	900	1600x1350	2150x1950 (2700x3600)	5400	3200	7200	4900	1225	
	90						7650	5900	1742	
	105						10650	8400	2040	
	120						11600	9400	2457	
	150			2150x2100 (2700x3800)	7300	4600	11600	9400	3054	
	15 (1000)	60	900	1600x1500	2150x2100 (2700x3800)	5500	3500	9500	7200	1344
		90						8300	6400	1941
105		9800						7500	2298	
120		10500						8000	2716	
	150			2150x2250 (2700x3900)	7400	5000	12300	9800	3372	
17 (1150)	60	1000	1600x1650	2300x2350 (2700x4000)	7900	4900	11200	8600	1603	
	90						9200	7100	2438	
	105						10700	8200	2835	
	120						12400	9500	3133	
	150						8400	5200	13300	10500
20 (1350)	60	1000	1800x1700	2450x2500 (3000x4200)	8300	5500	12600	9600	1941	
	90						10300	7800	2835	
	105						12000	9100	3292	
	120						13900	10600	3730	
	150						8800	5800	14800	11500
24 (1600)	60	1100	2000x1750	2650x2550 (3200x4300)	8900	6100	14100	10500	2294	
	90						11500	8600	3352	
	105						13400	10000	3889	
	120						15600	11600	4406	
	150						9400	6300	16500	12500

Specifications

Rated Speed (m/min)	120	150	180	210	240
Maximum Floors to Stop	45	45	56	56	56
Maximum Travel Height (m)	120	120	150	150	150
Lowest Floor Height (mm)	2600				

Functions and Equipment

Energy Efficiency

Standard

Car Call Cancellation	Deregister a mistaken floor by pressing the same floor button twice within 3 seconds.
Nuisance Call Cancellation	When the car is vacant, but multiple floor buttons on the operation panel are still registered with signals, the microcomputer system will automatically detect this abnormal state and cancel the registered to save energy.
Car Call Cancellation at Reversal	When the elevator changes direction, the system will cancel the previously registered floor, which can avoid invalid stops and save electricity.
LED Lighting	Greenlight sources with high efficiency, energy saving, environmental protection, low carbon emission, safety, and durability are applied to replace traditional lighting to save energy consumption.
Energy Saving for Floor Indicator	The floor displayer's brightness will decrease to one-third of the regular level to reduce energy consumption when the elevator has been idle for a while.
Energy Saving Function	The car lighting and fans will stop running to save energy when the car is vacant for a while and will restart running if there is any calling from other floors.

Optional

Destination Dispatch	Register the destination floor before boarding the elevator, and distribute the passengers to each elevator through AI computing distribution, reduce the number of elevator stops, improve operation efficiency, and shorten the waiting time of passengers. (This function can also link with the access control system)
Duplex Selective Collective Operation	Two elevators can be linked for the group control operation.
FT3X Group Control	In each car call from the hall, according to the relative position of each elevator and the registered car-calling signal, calculate the optimal dispatching arrangement, reducing the overall average waiting time and the probability of passengers waiting for a long time.
Energy Feedback Device	The regenerative power generated by the Energy Feedback Device can feed back to the building power grid to supply electricity for the building when the elevator runs in light-load upward or heavy-load downward. In addition, the device can return clean electric energy to achieve green energy-saving benefits.
Automatic Bypass Operation (Fully-Loaded Car)	When the elevator car is fully loaded, it will change to an auto-bypass state, executing the car calls only but ignoring the hall calls to improve efficiency.

Preventive Maintenance

Optional

Internet of Things (IoT)	IoT collects, analyzes, and utilizes elevator data through the network to optimize the intelligent elevator system and achieve the elevator functions of intelligent monitoring, preventive maintenance, and instant rescue.
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Artificial Intelligence

Optional

Face Recognition	After confirming the passenger's identity through the facial recognition system, the right to register the floor is granted, or the system can directly register to the preset destination floor. The system can also combine with the Destination Dispatch system to guide the identified passenger to the designated elevator. (The owner provides the face recognition machine, and Hitachi Yungtay Elevator provides the communication interface)
Voice Car-Calling	Passengers can register the destination floor in the car by voice, replacing the traditional touch button, reducing the risk of germ transmission.
People Flow Control	The system can automatically detect the number of people waiting in the hall. The intelligent group control dispatching system can flexibly increase the number of service elevators, which can instantly evacuate the crowd and shorten passengers' waiting and boarding time.
Smartphone Car-Calling	It uses the APP and BlueTooth from a smartphone or tablet to accurately locate the floor and quickly complete the elevator call and the destination floor registration.
Destination Dispatch	Log in to the destination floor before boarding the elevator, and distribute the passengers to each elevator through AI computing distribution, reduce the number of elevator stops, improve operation efficiency, and shorten the waiting time of passengers. (This function can also link with the access control system)
FT3X Group Control	In each car call from the hall, according to the relative position of each elevator and the registered car-calling signal, calculate the optimal dispatching arrangement, reducing the overall average waiting time and the probability of passengers waiting for a long time.

Functions and Equipment

Safety

Standard

Braking Force Detection System	Safety technology invention patent. The braking force detection of the elevator motor is automatically performed daily on a preset schedule. When the braking force becomes weakened, a warning code will be issued to notify the maintenance personnel to take preventive measures. Furthermore, suppose the braking force is insufficient, the elevator will stop service and generate a fault code for the maintenance personnel to troubleshoot to ensure the brakes' reliability and effectiveness.
Unintended Car Movement Protection (UCMP)	When the elevator door is opened for passengers to enter and exit, the brakes are immediately activated to stop the elevator service once the elevator moves unexpectedly. The elevator will resume regular operation only after maintenance and inspection by professionals.
Ascending Car Overspeed Protection (ACOP)	When the elevator goes up, suppose the speed limiter detects that the up speed exceeds the limit value, it will start the brake to stop the elevator to ensure that it runs safely at the rated speed.
Self-rescue System while Car Slipping	Safety technology invention patent. The system monitors the car's status when the elevator is in the door-opening zone. If the car is slipping, the computer host automatically outputs the holding torque to keep the car in the door-opening zone, immediately opening the door and reminding passengers to leave the elevator. When the car is vacant, the elevator closes the door and runs to the top floor (the safest position), generating a fault code and stopping service.
Infrared Light Curtain	The elevator will promptly detect any people or objects blocking the infrared light curtain and reopen the door during the closing process, improving passengers' safety.
Overload Protection Function	The load inspection apparatus installed on the bottom of the elevator car will send a warning and cannot be operated whenever overload is detected.
Alarm Function in Non-door-open Area	Suppose the elevator halts in the non-door-open area due to power failure or malfunction. In that case, the buzzer will alarm to show that the elevator door cannot open because the elevator is not landing in the floor area. Therefore, the car door cannot be opened unless the rescuers land the elevator in the door-open area to rescue the trapped personnel. The buzzer will stop alarming when the elevator reaches the door-open area.
Intercom	In the event of an emergency, press the emergency button to communicate with the administrator.

Overload Return Safety Device (ORS)	If an external force interferes during the door closing/opening, and this force exceeds the specified threshold, the elevator door will move in the reverse direction to ensure safety.
Next Floor Landing Function	When the car arrives on the floor but cannot fully open the door for any reason, such as object blocking, the car will travel to the next floor and automatically open the door. Also, when the car cannot successfully close the door due to the object stuck in the sill, the door will automatically open repeatedly until the object is removed.
Low-Speed Safe Landing while Malfunction	If the car has stopped between floors due to equipment malfunction, the car will automatically move to the nearest floor at low speed and open the door. Meanwhile, the elevator will stop service when the car is vacant.
Emergency Lighting	In the event of power failure, the emergency lighting installed on the car ceiling will automatically ignite.
Automatic Return to the Lowest Floor when Abnormal Position	For a running elevator, if the floor position judged by the system does not match the correct floor, it will be considered abnormal. At this time, the elevator will automatically move to the lowest floor (or the highest floor) at a slow speed and stop. After the system resets to the correct floor number, it can resume normal operation to ensure safety.

Optional

Anti-pry Car Doors	Additional automatic door locking function further protects safety by preventing in-car passengers from opening the door and falling into the hoistway.
Automatic Landing Device for Power Failure (ALP)	In the event of a power failure, the device will replace the regular power supply, and the elevator will automatically move to the nearest floor to allow passengers to exit the car safely, thereby avoiding the situation where passengers are locked in the elevator during a power failure.
Absolute Positioning System (APS)	The sensor above the elevator car reads the tape installed in the hoistway in a non-contact way to detect the current absolute position of the car. Avoid measurement errors caused by rope slippage or dynamic rope effects; even unfavorable environmental conditions (such as the presence of thick black smoke) do not affect the measurement results. In addition, it can increase the functions of upstream and downstream overspeed protection and check end-stage deceleration, greatly improving safety.
Mechanical Safety Shoe	During the door-closing process of the elevator, when the door safety shoe collides with a person or item, the elevator will stop closing and reopen the door immediately.
Mechanical Safety Shoe + Ultra-thin Light Curtain	During the door-closing process, if the person or object blocks the infrared rays emitted by the light curtain or collides with the safety shoes at the end of the elevator door, the elevator immediately stops and reopens the closing the door, which doubles the safety of passengers.

Functions and Equipment

Optional

Earthquake Emergency Operation	When the earthquake sensor is activated, the running elevator will automatically run to the nearest step and stop service. Simultaneously, "Earthquake Control" will be displayed in the operation panel.
Fire Alarm Operation	When a fire occurs, the elevator will automatically run to the refuge floor after receiving the fire alarm signal from the building equipment, allowing passengers to leave the car.
Fire Emergency Operation	When a fire occurs, the elevator will automatically run to the preset fire escape floor through the fire switch and then stop.
Firefighters' Emergency Operation	When a fire occurs, the elevator will automatically run to the preset floor of the fire escape through the fire switch. After the door opens, the fire-fighters will operate the elevator with a unique key.
Operating by Building Emergency Power	Suppose the building itself has power generation equipment, but only some elevators are allowed to be used. In that case, the elevators can be safely run to the refuge floor (lobby floor) according to the preset sequence, allowing passengers to leave. Finally, one or several elevators are reserved for transportation during a power outage. The elevator will automatically resume operation when the power supply returns to normal.

Security

Optional

Face Recognition	After confirming the passenger's identity through the facial recognition system, the right to register the floor is granted, or the system can directly register to the preset destination floor. The system can also combine with the Destination Dispatch system to guide the identified passenger to the designated elevator. (The owner provides the face recognition machine, and Hitachi Yungtay Elevator provides the communication interface)
Internet of Things (IoT)	IoT collects, analyzes, and utilizes elevator data through the network to optimize the intelligent elevator system and achieve the elevator functions of intelligent monitoring, preventive maintenance, and instant rescue.
Central Control and Monitoring System (YECM)	The YECM system transmits the elevator operation signal in the operation panel to the monitoring computer through digital communication. The administrator can monitor the running status of the elevator, set the running mode, issue control commands, perform statistical analysis of the elevator operation, make reservations, and record the faults of the elevator.
Smartphone Car-Calling	It uses the APP and BlueTooth from a smartphone or tablet to accurately locate the floor and quickly complete the elevator call and the destination floor registration.

Security Mode	When there is an intruder in the home, the user can enter the password through the floor button on the car control panel so that the elevator will move to the non-leveling floor and stand by, and the lighting and fans will continue to run. At this time, the system will automatically notify the service center through the IoT function, making the elevator a safe refuge.
Car Monitoring	The car monitoring device can automatically detect the situation in the car. For example, suppose the passenger falls over or cannot move; the elevator will automatically run to the lobby floor to open the door, sound an alarm, and notify the service center through the IoT function to minimize the damage of an accident.
Car Disinfection	"Positive and Negative Ions Air Purifier," "Antibacterial Handrail," and "UV Germicidal Lamp" provide clean space for the elevator and additional protection for the health of passengers.
Non-Contact Button	When moving the finger toward the button within 1 cm, passengers can trigger the button signal to call a car by induction. As a result, passengers do not need to press buttons directly, reducing the risk of germ infection.
Emergency Visible System	When an emergency occurs in the car, passengers can press the emergency video intercom button on the car's control panel to communicate with the outside. People outside the car can also know the situation in the car in real-time through the visual system to ensure the safety of passengers.
Elevator Multimedia Cam System (OPYM4)	It can display the dynamic position of the elevator and import information such as weather conditions or financial stock markets through the Internet. In addition, it provides passengers with real-time and valuable information and can provide functions such as audio and video advertisements and electronic announcements.
Card Reader Interface	Provide contact points for card reader machines in elevator halls or cars, reserve holes in the inner wall panels of the car, and assist in the installation of card reader machines so cardholders can use the elevator.
Password Call for Specific Floor	For specific floors, such as private residences and storage rooms, the owner can set password operation control after following specific steps and require personnel to call the elevator after operating the password. First, press the button of a specific floor, and then enter the three-digit password. Only when the password is correct can passengers reach the designated floor.
Monitoring and Control System (CCTV)	Through this device, the superintendent of the building can observe the situation in the elevator car to prevent the occurrence of crimes.
Supervisory Panel	The device consists of a display part for monitoring the running status of the elevator, an operation part for elevator operations, and an intercom for communication with the car.
Interphone System	When an emergency occurs in the car, press the emergency call button for more than 3 seconds, and the system will dial the preset outside line to ask for help. (six groups of phone numbers can be preset)

Functions and Equipment

Operating Functions

Standard

Sonic Car Button	When the passenger presses the hall control panel button, the button lights up with a response sound of "beep." The door will reopen if the button is pressed again during the door-closing process.
Inspection Operation	Start this function during elevator maintenance, and the elevator will run at a low speed.
Adjustable Door Opening Time	Depending on the number of people using the elevator on each floor, the owner can adjust the duration of the door opening freely.
Extended Door Opening Time Button	Pressing the door opening button can extend the elevator door opening hold time.

Optional

Out-of-Service Operation	For building management needs such as nights and holidays, the elevator needs to be parked; or when the elevator demand is low, the elevator is called back to the parked floor and stopped to save energy.
Attendant Operation (ATT)	Department stores and other crowded places can provide passengers service through elevator attendants.
VIP Operation	This operation provides a way to service the VIPs. Under this operation, the elevator will only respond to car calls but ignore hall calls.
Scheduled automatic stop/start management	Through the time setting of the timer, the elevator can automatically stop and start running within the preset time.
Signal Registration through Switch Key	On a specific floor, the switch key is used to replace the hall operation button to register the car call signal.
Non-Service for Specific Floor	Through the non-stop switch, the elevator can directly terminate the service of a specific floor.
Auxiliary Car Operating Panel	In addition to the primary car operating panel, install another operating panel to assist the floor register.
Extended Door Opening Time Through Accessible Operating Panel Calling	The door opening time of the elevator can be extended when passengers register the car call signal from the accessible operation panel (including the car panel and the hall panel).
Independent operation (For group management)	A designated elevator can be temporarily separated from the group control system and used as an independent operating elevator.

Signal and Display

Standard

Arrival Lighting in Hall (floor indicator blinking)	As the elevator travels, the directional arrows begin to flow. When the building name flashes, the elevator is about to arrive. During running: the running direction arrow moves with the running direction of the elevator. Before arrival: the button and the floor number flash.
Arrival Lighting in Car (landing floor button blinks)	The floor button in the car will flash to notify passengers in the car that the elevator is about to arrive. During running: the running direction arrow moves with the running direction of the elevator. Before Arrival: The button and the name of the building flash.

Optional

Arrival Chime (Electronic)	Electronic bells notify passengers that the elevator is about to arrive.
Arrival Lighting (hall lantern blinks)	The hall lantern flashes to notify passengers that the elevator is about to arrive.
Speech Synthesis (floor landing notice)	The female-friendly voice is used to broadcast station announcements through the voice synthesizer.
BGM Broadcast	The broadcast device of the building can be directly connected to the car and broadcast in the car.

Other Functions

Standard

Hall Indicator Inspection	The boarding indicators on each elevator floor can quickly screen out damaged indicators through the operation and inspection of maintenance personnel.
Elevator Door Stop Switch	The elevator door stop switch is installed in the operation box of the car operation panel. Maintenance personnel can carry out daily maintenance work by using this switch.
Running Time Display	Through the maintenance mobile phone to check the running time of the elevator.

Purchase Information and Excluded constructions

Our Company will charge the design, manufacture, and installation of the elevator. However, any items listed as follows do not include in the elevator quotation. As a result, please entrust other contractors about construction or electricity engineering to handle these parts.

Purchase Information > Please provide the information as follows when purchasing the elevator or inquiring about the related specifications.

- 01. Construction Name
- 02. Construction Site Location or Address
- 03. Elevator Dimensions (passenger or weight load, rated speed, door opening measure, and control measure)
- 04. Number of Elevator Installations
- 05. Number of Landing Floors and Height of Each Floor
- 06. Power Supply Voltage and Frequency.
- 07. Car, Hall Fixtures, and Design.
- 08. Architectural Drawing for Elevator Installation Desired (steel structure of the whole building is necessary)
- 09. Due Date in Expectation (should there be any other questions, please contact us, we will answer and explain to you as soon as possible.)

Excluded Constructions

I. Machine room

- 01. (1) The construction of the machine room shall be based on the drawings provided by Party B, the hooks for installation and maintenance shall be embedded in the ceiling, and the holes shall be reserved for excavation on the ground; (2) The paint on the ceiling, the wall, and the dust-proof paint after the elevator is installed; (3) The lightweight concrete and powder on the floor and recommended additional EPOXY (epoxy resin) engineering.
- 02. The machine room's primary side power supply equipment (including power supply, vehicle lighting power supply, independent grounding system, switch, and the power receiving panel) and piping and wiring works.
- 03. The machine room shall provide the ventilation grille and ventilation fan.
- 04. The machine room's entrance and exit size is 100cm × height 200cm or more to facilitate the transportation of the elevator host motor.

II. Hoistway

- 01. The construction of the hoistway is based on the drawings provided by Party B. It includes the entrances and exits of each floor, the preserve holes for buttons and indicators, and the caulking of the door frame after installation.
- 02. If the hoistway is of steel structure or light partition wall, support beams and columns for fixing guide rails, door frames, buttons, indicators, and other equipment; and primary iron parts for intermediate beams and reinforcing beams.
- 03. Piping and wiring work for emergency telephones or other equipment (such as monitors, remote monitoring systems, monitoring panels, multimedia, card reader machines and fire alarm switchboards) from the hoistway to the guard room (or administrator room, monitoring room).
- 04. Suppose the elevator entrance and exit doors have fire prevention functions. In that case, the piping and wiring work from the fire alarm reception switchboard to the elevator recall button to the evacuation level, and reserve a no-voltage A contact on the fire alarm reception switchboard.
- 05. Waterproof and drainage work for pits and concrete foundation works for buffers.

III. Others

- 01. Before the elevator enters the site for construction, the surrounding of the hoistway should be truly closed, and party B should install related guardrail protection equipment at the entrances and exits of each floor. If the hoistway is a glass curtain or cannot be reliably closed due to other factors, party B should provide other anti-fall measures (such as guardrails, safety nets, and other anti-fall measures). Party B must clear sundries such as formwork, wooden strips, safety nets, and steel bars in the machine room and the hoistway (if this item is not completed, due to the safety of the operation, personnel will not be dispatched to the site for construction).
- 02. After the machine parts are delivered to the construction site, party B should provide a storage place for the goods and tools. However, if the installation cannot be performed due to the reasons of Party A, the responsibility for keeping the machine parts shall be responsible to Party A.
- 03. After unpacking and installing the goods, Party B shall dispose of them at the designated place. Party A shall be responsible for clearing and transporting them to the construction site.
- 04. Party B shall provide the cement, sand and gravel, water, and electricity required in the construction and the power supply for installation and operation consistent with the official electricity consumption.
- 05. Party B shall provide the height reference line of the elevator entrance and exit and the complete reference line of the elevator wall as the basis for the elevator installation.

Related Regulations

National Standards of the Republic of China (CNS) and related regulations

- 01. Except for the necessary equipment, it shall not install or support other objects in the machine room. 【CNS2866 4.1.1.(2)】
- 02. The machine room should have lighting and ventilation equipment to facilitate management and inspection. The illumination should be above 100 lx (meter candlelight), and the ventilation equipment should be able to keep the temperature below 40° C. 【CNS2866 4.1.1.(3)】
- 03. The entrance and exit of the machine room should be locked, and the device should be in good condition. 【CNS2866 4.1.1.(4)】
- 04. From the machine room to the corridor, the staircase should be easy to pass, the stair should equip with handrails, and its inclination angle with the horizontal should not exceed 60 degrees. 【CNS2866 4.1.1.(5)】
- 05. The height of the machine room should be at least two meters. 【CNS2866 4.1.1.(6)】
- 06. The area of the machine room should be at least twice the projected area of the elevator path. However, it applies to those that do not hinder maintenance, inspection, and management. 【CNS2866 4.1.1.(7)】
- 07. The bottom plate of each machine room must be fire-proof (not less than a two-hour fire rate), and the roof must be sturdy and fire-resistant (not less than a two-hour fire rate). 【CNS2866 4.1.1.(9)】
- 08. The structure of the entrance and exit of the machine room shall have the following devices: 【CNS2866 4.1.1.(10)】
 - a. Those who can automatically shut down.
 - b. There is a spring lock or similar device so that the door can open without a key.
 - c. Except for the roof opening, the walls of the machine room should be fire-resistant (two-hour rate).
- 09. If the height of the bottom plate differs by more than 60 cm in any machine room, appropriate guardrails and ladders must install in the place where has a height difference. 【CNS2866 4.1.1.(11)】
- 10. The power receiving panel's main switch should be located near the machine room's entrance and exit, which must be easy to operate and safe. 【CNS2866 4.1.2.(1)】
- 11. When using emergency elevators, backup power should provide. Furthermore, the building structure of the lift for emergency use shall comply with the provisions of the building's technological rules and relevant regulations. Besides, it should respect the indication of letter No. 8904590 of the National Fire Agency, Ministry of the Interior. It stipulates that "emergency elevators should not equip with car readers machine for riding." 【CNS2866 4.1.2. (4)】
- 12. Piping and wiring unrelated to the elevator shall not install in the hoistway. 【CNS2866 4.1.9. (11)】
- 13. There should be no water leakage in the elevator pit, and it needs to clean. 【CNS2866 4.1.10. (1)】
- 14. The bottom plate of the elevator pit should be able to withstand the fully-loaded car or counterweight. 【CNS2866 4.1.10. (11)】
- 15. The hoistway and the inner wall of the elevator pit should be flat and smooth without any protrusions. 【CNS2866 4.1.10. (12)】
- 16. Each hoistway must be completely closed except for the openings of entrances and exits and ventilation equipment. 【CNS2866 4.1.10. (14)】
- 17. When any part of the lower part of any hoistway is used for human use or similar use, emergency safety devices must also be installed on the counterweight side compared to the car. 【CNS2866 4.1.10. (21)】
- 18. Dry-type transformers should be installed in the substation, or the windings and terminal joints of the transformer should be enclosed in a closed metal enclosure without ventilation or openings. 【Article 314 of User electrical equipment installation rules】
- 19. Equipment grounding: The non-live metal parts of electrical equipment and appliances should be grounded. 【Article 24-2 of User electrical equipment installation rules】
- 20. Except for the car and its attached equipment, no objects shall install or set up in the hoistway. Also, appropriate space shall be set aside to keep the car safe. 【Article 110-1 of the Architectural Equipment of Building Technical Regulations】
- 21. Except for the entrance door and ventilation holes, the hoistway should be enclosed walls with a fire-proof structure and have sufficient strength to support the guide rails of the car and counterweight. 【Article 110-3 of the Architectural Equipment of Building Technical Regulations】
- 22. The pit below the ground should be of waterproof structure, and appropriate space should be reserved to maintain safe operation. Since there may be other users on the ground directly below the pit, the bottom of the pit should have sufficient safety strength to resist any impact from the car. 【Article 112-1 of the Architectural Equipment of Building Technical Regulations】
- 23. The beam or floor supporting the elevator should be able to bear the total weight of the elevator. 【Article 118 of the Architectural Equipment of Building Technical Regulations】
- 24. The elevator shall be equipped with a device to land on the nearest floor when a power failure occurs. 【Article 110-6 of the Architectural Equipment of Building Technical Regulations】

Excluded Constructions

According to the following laws and regulations, elevator equipment must obtain a use permit before it can use. Furthermore, in line with the rules of the competent authority, Party A needs to submit a copy of the construction license and other relevant documents, while Party B can submit an application for completion inspection to the professional inspection unit on behalf of Party A :

- 01. After the installation of the elevator equipment is completed, it is not allowed to use it unless it has passed the completion inspection and obtained the use license. 【Article 3 of the Certificate of Administrative Regulations on Installment and Inspection of Elevator in Building】
- 02. The administrator shall entrust a professional manufacturer to be responsible for the maintenance of the elevator equipment. Technicians shall implement it monthly according to the general maintenance procedures. 【Article 4 of the Certificate of Administrative Regulations on Installment and Inspection of Elevator in Building】
- 03. Unless the owners have obtained a use permit after completing the inspection, the building elevator and mechanical parking equipment shall not be used. 【Article 77-4 of Building Act】

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