

LCA

Machine Room-less Elevator Planning Guide

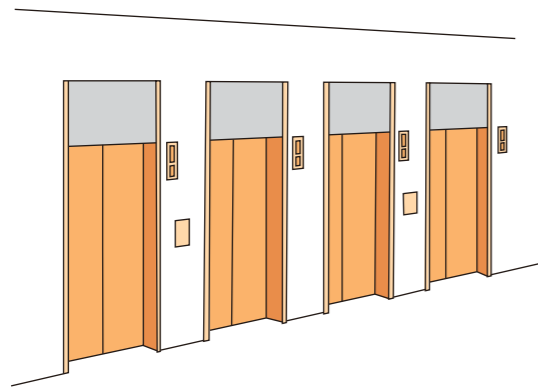
The information in this catalogue is subject to change without notice. The information and diagram in this catalogue reflect the technical feature and configuration of the elevator model at press time (refer to the version number). In line with the principle of continuous development of products, our company reserves the right to change the selection of product technical parameters and colour at any time. The existing image technology cannot accurately reproduce the elevator component structure and decoration colour. Therefore, this catalogue only provides general information, not as a contract document. The specific configuration parameters are subject to the formal agreement.

If you need detailed information, please contact us.

02 Specification
 03 Layout
 04 FI System
 07 Elevator Function
 09 Hoistway
 12 Overhead Height and Pit Depth
 13 Entrance Design
 15 Electrical Information
 16 Electrical Data
 17 Civil Works Matters

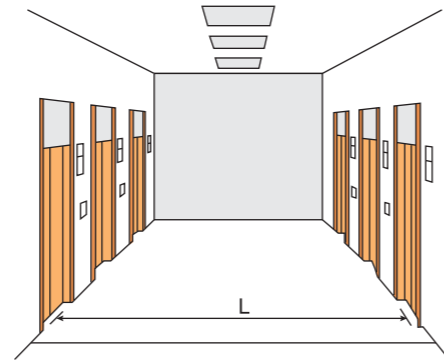
| Load (kg) | No. of Passengers ① | Speed (m/min) | Maximum Number of Stops | Maximum Travel (m) | Maximum Travel with Fireman Operation (m) | Minimum Floor Height (mm) |
|-----------------|---------------------|-------------------|---|---|---|---------------------------|
| 450 | 6 | 60 | 8 | 20 | — | 2800 |
| 630 | 8 | 60/90/105 | 60m/min:22 90m/min:36 105m/min:36 120m/min:40 150m/min:40 | 60m/min:60 90m/min:90 105m/min:90 120m/min:120 150m/min:120 | 60m/min:58 90m/min:86 105m/min:90 120m/min:115 150m/min:120 | |
| 825 | 11 | 60/90/105/120/150 | | | | |
| 900 | 12 | | | | | |
| 1000 | 13 | | | | | |
| 1050 (Deep Car) | 14 | 60/90/105 | | | | |
| 1150 | 15 | 60/90/105/120/150 | | | | |
| 1350 | 18 | | | | | |
| 1600 | 21 | | | | | |
| 1800 | 24 | 60/90/105 | | | | |
| 2000 | 26 | | | | | |

Note:
 ① Passenger numbers calculated at 75kg per person.
 ② The information above are based on GB standards.

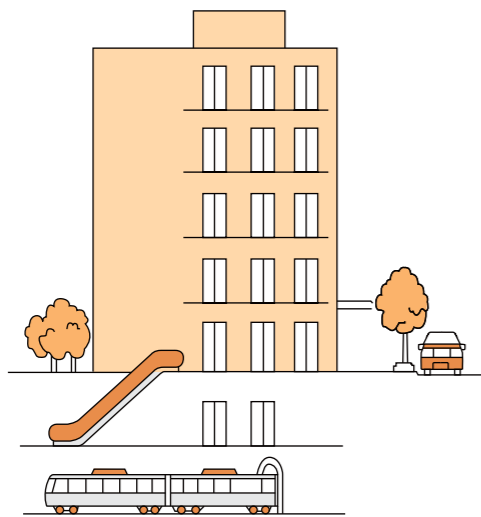


- Maximum in-line arrangement is 4 elevators.
- Elevators in different groups should not be set in the same line.
- Avoid placing the elevators entrance near pillars.

- More than 5 units in the same group, the elevators should be set face-to-face. And the distance of facing elevators (L) should be 3.5~4.5m.
- Different group elevators with face-to-face arrangement, the distance of facing elevators (L) should be more than 6m.



- Elevators in same group should have same stops.
- Elevators in same group should be set the same floor as basement and not recommend to set several entrance.



<FI-600 Features> Future Reference-Trajectory Control

A group control system groups multiple elevators for achieving a well-balanced operation by taking waiting times into account. Such a system requires flexibility so that it can be used in various types and sizes of buildings and be responsive to changing traffic demand.

| (FI-600) | (FI-100) | (FI-10) |
|---|---|--|
| (3-8 Cars) | (3-6 Cars) | (3-4 Cars) |
| Allows a flexible control for elevator car allocation and the required number of cars according to the congestion state in the building and the type of building. | Elevator cars are allocated at equal time intervals according to "Reference-Trajectory Control" for shortening the average waiting times and reducing the probability of a long wait. | Provides a ring control to allocate the elevator car closest to the floor where a new hall call is registered. |

| | | | |
|---------------------------------------|---|--|------------------------------------|
| Basic Specification | Instantaneous reservation and service forecasting | | |
| | Intelligent function | | |
| | Generation of new traffic flow modes Generation of optimum operation programs | | |
| | Congested floor recognition | | |
| | Learning function | | |
| | <ul style="list-style-type: none"> • Collection of usage data • Recognition of traffic flow mode (40/2 modes) • Search for optimum operation program | | |
| | Arrival notice indication (hall lantern and chimes) | | |
| | Bunching prevention ① | | |
| | Future reference-trajectory control | Reference-trajectory control | Ring control |
| | Forecasting dynamic allocation control | Zone distribution control | Fixed floor distribution control |
| System name | FI-600 | FI-100 | FI-10 |
| Recommended number of cars in a group | 3~8 cars | 3~6 cars | 3~4 cars |
| Type of building | Large office buildings and hotels | Small office building, department stores, hotels and hospitals | Building with small traffic demand |
| Optional | VIP service, independent automatic operation | | |
| | Service floor selection | | |
| | Destination floor reservation system Centralized control for special floors Zoning express service | | |

Note:

① Bunching prevention: Using the "future reference-trajectory control" or the "reference-trajectory control" in the FI-600 or FI-100, elevator cars are operated at equal time intervals to prevent local bunching.

Basic Function

● : Basic spec. ▲ : Option spec. — : Not applicable

| No. | Item | Content | FI-600 | FI-100 | FI-10 |
|-----|--|--|--------------|-------------|-------|
| 1 | Instantaneous reservation and service forecasting (FI-HRF) | Upon receipt of a hall call, this function activates and elevator to serve this call, and at the same time the call is acknowledged by the hall lantern and chime. | ● | — | — |
| 2 | Arrival notice indication (FI-ANI) | Four to five seconds prior to the arrival of an elevator, this function will activate the hall lantern flickering and the chime sound. | ● | ● | ▲ |
| 3 | Basic call assignment control | Future reference-trajectory control (FI-FRTC) | ● | — | — |
| | | Reference-trajectory control (FI-RTC) | — | ● | — |
| 4 | Personalized control | Through the hall call assignment control of waiting time priority assignment, constantly carry out operation management in accordance with waiting time priority. | ● | ● | — |
| | Waiting time priority assignment | Prevent long waiting time of passengers by implementation of hall call assignment. | ● | ● | — |
| | Riding time priority assignment | Prevent long riding time of passengers by implementation of hall call assignment. | ▲ | ▲ | — |
| | Bunching prevention (FI-BP) | This function prevents local bunching of elevator cars using the "future reference-trajectory control" or the "reference-trajectory control" for operating cars at equal time intervals. | ● | ● | — |
| 5 | Learning function | Collection of usage data (FI-CUD) | ● | ● | — |
| | | Recognition of traffic flow mode (FI-RTM) | ● (40 modes) | ● (2 modes) | — |
| | | Search for optimum operation program (FI-SOP) | ● | ● | — |
| 6 | Congested floor recognition (FI-CFR) | Identifies congested floors according to the usage data learned in each traffic flow mode. | ● | — | — |
| 7 | Service forecasting for hall call assignment (FI-SFH) | This function assigns elevator cars to hall calls more precisely by forecasting the arrival time and number of passengers in the car according to the learning-based traffic demand. | ● | — | — |
| 8 | Intelligent function | Generation of new traffic flow modes (FI-GNT) | ● | — | — |
| | | Generation of optimum operation programs (FI-GOP) | ● | — | — |
| 9 | Energy saving preference control (FI-ESC) | This system reduces the number of elevator cars in service when traffic demand is low. | ● | — | — |
| 10 | Floor standby control | Forecasting dynamic allocation control (FI-FDA) | ● | — | — |
| | | Zone distribution control (FI-ZD) | — | ● | — |
| | | Fixed floor distribution (FI-FD) | — | — | ● |

Basic Function

● : Basic spec. ▲ : Option spec. — : Not applicable

| No. | Item | Content | FI-600 | FI-100 | FI-10 |
|-----|--|--|--------|--------|-------|
| 11 | Learning based concentrated service (FL-LCS) | Centralizes the service to the learning-based congested floors during peak times including morning, lunch time and evening peaks while taking the service for other floors into account. | ● | — | — |
| 12 | Rush-hour schedule operation | All the elevators will automatically return to the start floor after serving the last call during this preset rush-hour timing. | ● | — | ▲ |
| 13 | Destination floor priority control | The allocation will be priority when the destination floor and the hall call is the same floor. | ● | ● | — |
| 14 | Full car forecasting control | Control the new allocation according to the number of passengers in car and the times of new calls. | ● | ● | — |
| 15 | Full car control | Stop new allocation or re-allocate the car when full load. | ● | ● | — |
| 16 | Long waiting time allocation control | Re-allocate the cars when long waiting time situation is forecasted. | ● | ● | — |
| 17 | Notice function | Keep the service elevator car door open with hall lantern flickering to guide the passengers. | ▲ | ● | — |
| 18 | Automatic door open time control (FI-ADT) | This function automatically controls the duration of the door open time according to the floor and the kind of call (hall call or car call) as well as the elevator condition. | ● | ● | — |

Operating Function

| No. | Item | Content | FI-600 | FI-100 | FI-10 |
|-----|---|---|--------|--------|-------|
| 1 | Centralized control for special floors (FI-CCF) | This function preferentially assigns an elevator to the special floor. (e.g. the director's room) | ▲ | — | — |
| 2 | Service floor selection (FI-SFS) [Floor lock-out operation] | Allows the operator to select the service and non-service floors using, for example, the switches on the control panel. | ▲ | ▲ | — |
| 3 | VIP service (FI-VIP) | When welcoming or sending off important guest, this function permits an elevator to be summoned directly to the desired car call floor by pushing a specially provided switch. | ▲ | ▲ | ▲ |
| 4 | DFRS | Each passenger registers their destination floor on the registration device located at the landing hall and know in advance the designated elevator to take. System assigned one elevator for the passengers with the same destination floor. This helps to reduce congestion in the elevator lobby and improve efficiency. | ▲ | — | — |
| 5 | Zoning express service (FI-EZS) | Start a divided express service when the peak traffic demand takes place in the present time zones. | ▲ | — | — |

Man-machine Function

| No. | Item | Content | FI-600 | FI-100 | FI-10 |
|-----|--|---|--------|--------|-------|
| 1 | Malicious operation cancelled function | Cancel the allocation when system identifies the call is malicious. | ● | ● | — |
| 2 | Hall information (FI-HI) | General and elevator operation information is indicated on the LED or LCD hall indicator. | — | — | ● |

Elevator Function

Standard Function

| Control System | | | |
|--------------------|--|------|--|
| SA1 | Simplex Collective Control | SA2 | Floor Height Self Measurement |
| SA3 | On-Cage(Car Top) Maintenance Operation | SA4 | In-Cage Slow Speed Operation |
| System Protection | | | |
| SB1 | Over Speed Electrical Protection | SB2 | Overspeed Mechanical Protection |
| SB3 | Rope Slipping Running Protection | SB4 | Motor Overload (Thermal) Protection |
| SB5 | Automatic Fault Detection | SB6 | Automatic Fault Recording |
| SB7 | Standby Regular Auto-Check | SB8 | Double Brake-Safety Check Operation |
| SB9 | Synchronous Motor Magnetic Pole Static Test | SB10 | Lift-Position Abnormally Auto-Correction Function |
| SB11 | Nearest Landing Operation | SB12 | Anti-electromagnetic Interference |
| Safe Communication | | | |
| SC1 | Interphone System (5 ways) ① | | |
| Safe Riding | | | |
| SD1 | Out of Door-Open Zone Alarm | SD2 | Alarm System |
| SD3 | Door Safety Return System | SD4 | Full Load Bypass Operation |
| SD5 | Overload Detection System | SD6 | Overload Alarm |
| SD7 | Next Drive (Door Open Abnormity) | SD8 | Door Opening/Closing Time Abnormity Protection |
| SD9 | Automatic Door Dwell Time Control | SD10 | Automatic Door Dwell Time Adjustment |
| SD11 | Number of Runs Indicator | SD12 | Multi-Beam Protection (Applicable for center opening door without glass panel) |
| SD13 | Inspection Indication in Hall Indicator | SD14 | Overload Indicator (In Car) |
| SD15 | Unintented Car Movement Protection (UCMP) Function | | |
| Emergency Solution | | | |
| SE1 | Car Emergency Lighting | SE2 | Fire Emergency Operation (Automatic) |
| SE3 | Emergency Electric Operation Function (In Hall) | | |
| Design for Comfort | | | |
| SF1 | Parking Operation | SF2 | Automatic Return Function |
| SF3 | Start Torque Auto-Adjustment | SF4 | Door-Stop Function (Maintenance) |
| SF5 | Micro Levelling (Travel ≥ 30m) | SF6 | Car Call Deselect Function |
| SF7 | Mischievous Call Cancellation | SF8 | Opposite Direction Car Call Cancellation |
| SF9 | Car Light Auto Turn-off | SF10 | Car Fan Auto Turn-off |
| SF11 | Abnormal Duration Hall Call Detection (Applicable for Simplex, Duplex and FI-10 only.) | SF12 | Door Bypass Detection |

Note:

① 5 ways: Monitoring Room, Inspection Panel, In Car, Car Top & Pit.

Elevator Function

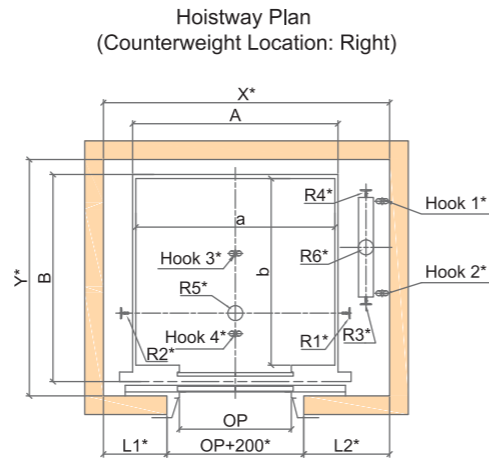
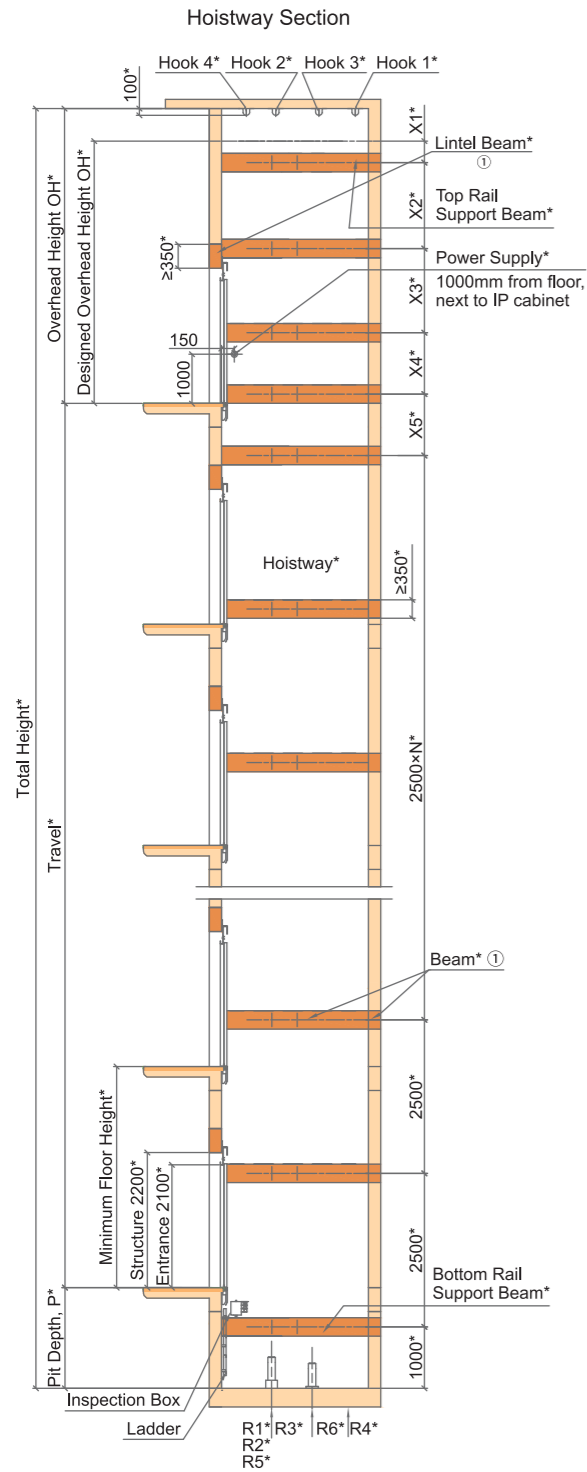
Optional Function

| Control System | | | |
|--------------------|---|------|---|
| OA1 | Simplex Down Collective Control | OA2 | Duplex Collective Control |
| OA3 | Duplex Down Collective Control | OA4 | FI-10 ① |
| OA5 | FI-100 ① | OA6 | FI-600 ① |
| OA7 | Independent Automatic Operation ① | OA8 | VIP Service |
| OA9 | Rush Hour Schedule Operation ① (Not applicable for FI-100) | | |
| Safe Communication | | | |
| OB1 | Contact at Control Panel (RS485) | OB2 | Elevator Monitoring System (Computer Type) |
| OB3 | Supervisory Panel (Dry Contact Type) | OB4 | Twisted Pair Cable (1 pair) for CCTV |
| OB5 | Twisted Pair Cable (1 pair) for BGM | OB6 | Contact at Control Panel (Dry Contact) |
| OB7 | Camera Device Inside the Car | | |
| Safe Riding | | | |
| OC1 | Multi-Beam + Safety Edge Protection | OC2 | Card Reader Interface (In Car) (RS485) ① (Not applicable when OE5 is selected.) |
| Emergency Solution | | | |
| OD1 | Fireman Operation (Load≥825kg) | OD2 | Automatic Rescue Device (ARD) ① (Maximum travel distance ≤ 30m) |
| OD3 | EM. Operation for Power Failure (Manual) | OD4 | EM. Operation for Power Failure (Auto) |
| OD5 | Earthquake Emergency Operation | OD6 | Pit Flood Operation |
| OD7 | Mechanical Manual Release Device ① ② | | |
| Design for Comfort | | | |
| OE1 | Attendant Operation | OE2 | Independent Operation |
| OE3 | Voice Synthesizer | OE4 | Arrival Chime (Car Top and Bottom) |
| OE5 | Floor Lock Out Operation ① (Not applicable when OC2 is selected.) | OE6 | Door Opening Prolong Button |
| OE7 | Hall Call Registration in Car Operating Panel (Applicable when OE1 is selected) | OE8 | Car Floor Button Flashing |
| OE9 | Sub Car Operating Panel | OE10 | Double Opening Function ① (Not applicable for FI-100, FI-600 and FI-10 (>32 stops)) |
| OE11 | Horizontal Car Operating Panel | OE12 | Braille Button |
| OE13 | Regenerative System Function ① | OE14 | EMC ① (Only applicable together with OE13) |
| OE15 | Micro Levelling (Travel<30m) | OE16 | Advance Door Opening |
| OE17 | Operation Status Indication at Hall Indicator | OE18 | Hall Call Deselect Function (Applicable for Simplex, Duplex and FI-10 only) |
| OE19 | Overloading Hall Call Recovery Function | | |

Note:

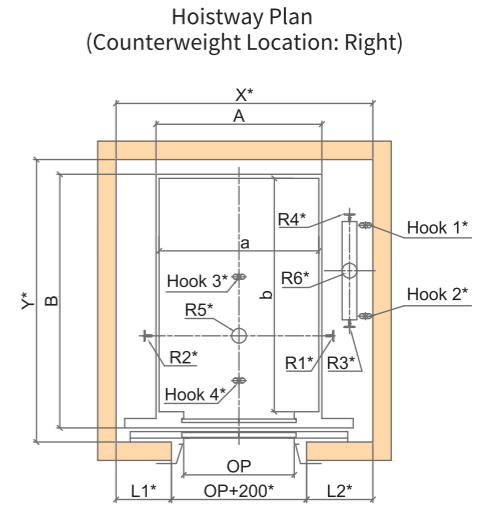
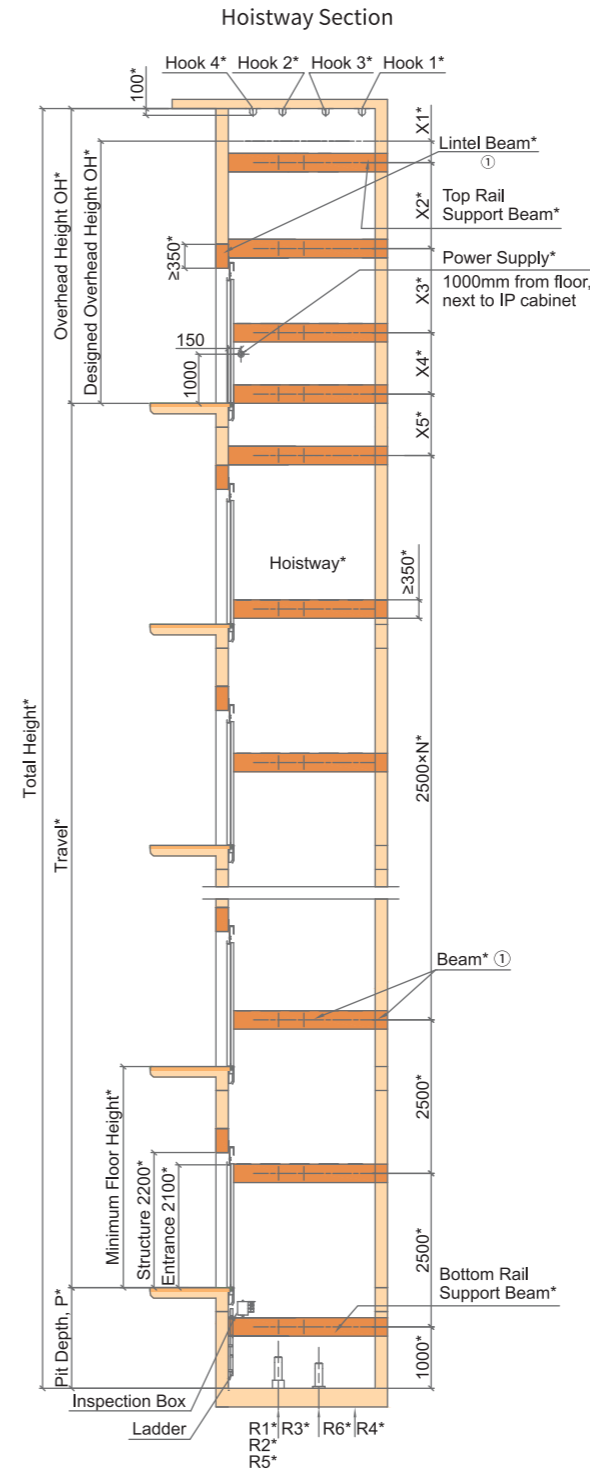
① Details, please contact us.

② Applicable for load ≤1600kg and speed ≤105m/min. Increase in overhead height of 350mm is required.



- Note:
- ① The hoistway construction shall be reinforced concrete ring beam with strength C25 or whole hoistway of reinforced concrete wall. If you have other situations, please contact us.
 - ② Items with "*" shall be furnished by building contractors.
 - ③ For hoistway details, please contact us.
 - ④ Unit of dimension shall be in mm unless otherwise stated.
 - ⑤ The suspension hooks capacity shall be as follows:

| Load (kg) | Speed (m/min) | Hook 1 (Tons) | Hook 2 (Tons) | Hook 3 (Tons) | Hook 4 (Tons) |
|------------------|-------------------|---------------|---------------|---------------|---------------|
| 450 | 60 | 2 | 2 | 3 | 3 |
| 630/825/900/1000 | 60/90/105 | 2 | 2 | 3 | 3 |
| 825/900/1000 | 120/150 | 2 | 2 | 4 | 4 |
| 1150/1350/1600 | 60/90/105/120/150 | 2 | 2 | 4 | 4 |
| 1800/2000 | 60/90/105 | 2 | 2 | 4 | 4 |



Maximum Allowable Stretcher Size (Deep Car):

| Car Internal Size (a×b) (mm) | Maximum Stretcher Length (mm) | Lift Landing Depth (mm) |
|------------------------------|-------------------------------|-------------------------|
| 1100×2100 | 2100 | ≥2100 |
| 1300×1900 | 1900 | ≥1900 |

- Note:
- ① The hoistway construction shall be reinforced concrete ring beam with strength C25 or whole hoistway of reinforced concrete wall. If you have other situations, please contact us.
 - ② Items with "*" shall be furnished by building contractors.
 - ③ For hoistway details, please contact us.
 - ④ Unit of dimension shall be in mm unless otherwise stated.
 - ⑤ The suspension hooks capacity shall be as follows:

| Load (kg) | Speed (m/min) | Hook 1 (Tons) | Hook 2 (Tons) | Hook 3 (Tons) | Hook 4 (Tons) |
|-----------|---------------|---------------|---------------|---------------|---------------|
| 1050 | 60/90/105 | 2 | 2 | 3 | 3 |

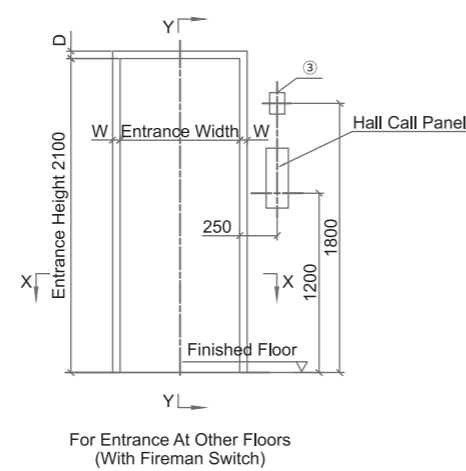
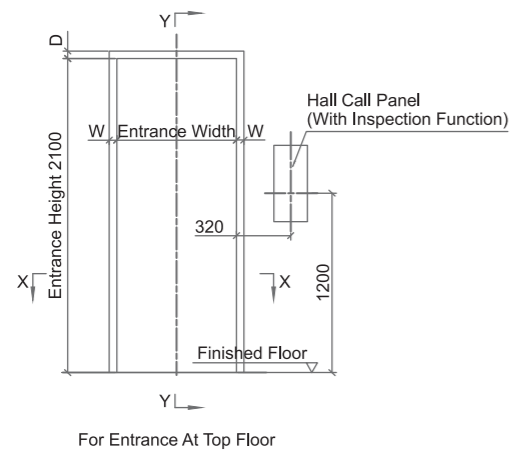
| Load (kg) | Speed (m/min) | Car Size (mm) | | Door Opening (mm) | | Front Wall Arrangement (mm) | | Hoistway (mm) | Reaction Loading (KN) | | | | | |
|-----------------|---------------|----------------|----------------|-------------------|-----------|-----------------------------|-------|---------------|-----------------------|-----|----|-----|-----|-----|
| | | Internal (a×b) | External (A×B) | Type | Width | L1 | L2 | | X×Y | R1 | R2 | R3 | R4 | R5 |
| 450 | 60 | 1000×1300 | 1050×1465 | 2P-CO | 700 | 325 | 425 | 1700×1700 | 40 | 30 | 30 | 25 | 100 | 90 |
| 630 | 60/90/105 | 1100×1400 | 1150×1565 | 2P-CO | 800 | 445 | 405 | 1850×1800 | 60 | 45 | 40 | 35 | 110 | 100 |
| 825 | 60/90/105 | 1350×1400 | 1400×1565 | 2P-CO | 800 | 415 | 585 | 2000×1800 | 65 | 50 | 45 | 35 | 120 | 105 |
| | | 1250×1500 | 1300×1665 | | | 415 | 535 | 1950×1900 | | | | | | |
| | | 1300×1500 | 1350×1665 | | | 390 | 560 | 1950×1900 | | | | | | |
| | | 1200×1600 | 1250×1765 | | | 390 | 510 | 1900×2000 | | | | | | |
| 900 | 60/90/105 | 1500×1400 | 1550×1565 | 2P-CO | 900 | 440 | 610 | 2150×1800 | 70 | 55 | 45 | 40 | 130 | 110 |
| | 120/150 | 1500×1400 | 1550×1565 | | | 495 | 755 | 2350×2000 | 90 | 75 | 65 | 55 | 125 | 110 |
| 1000 | 60/90/105 | 1600×1400 | 1650×1565 | 2P-CO | 900 | 490 | 660 | 2250×1800 | 75 | 60 | 50 | 40 | 135 | 115 |
| | | 1600×1500 | 1650×1665 | | | 490 | 660 | 2250×1900 | | | | | | |
| | | 1500×1500 | 1550×1665 | | | 440 | 610 | 2150×1900 | | | | | | |
| | | 1400×1600 | 1450×1765 | | | 440 | 560 | 2100×2000 | | | | | | |
| | | 1500×1600 | 1550×1765 | | | 440 | 610 | 2150×2000 | | | | | | |
| | | 120/150 | 1600×1400 | | | 1650×1565 | 2P-CO | 900 | | | | | | |
| 120/150 | 1600×1500 | 1650×1665 | 545 | 805 | 2450×2000 | 95 | | | 75 | 70 | 55 | 140 | 115 | |
| 1050 (Deep Car) | 60/90/105 | 1100×2100 | 1150×2265 | 2P-CO | 900 | 430 | 430 | 1960×2500 | 75 | 60 | 50 | 40 | 135 | 115 |
| | | 1300×1900 | 1350×2065 | | | 440 | 510 | 2050×2300 | | | | | | |
| | | 1100×2100 | 1150×2303 | 2S-2P | | 145 | 505 | 1750×2550 | | | | | | |
| | | 1300×1900 | 1350×2103 | | | 145 | 705 | 1950×2350 | | | | | | |
| 1150 | 60/90/105 | 1800×1500 | 1850×1665 | 2P-CO | 1000 | 580 | 770 | 2550×1950 | 90 | 70 | 60 | 50 | 155 | 130 |
| | 120/150 | | | | | 595 | 905 | 2700×2050 | 105 | 85 | 75 | 65 | 160 | 140 |
| 1350 | 60/90/105 | 2000×1500 | 2050×1665 | 2P-CO | 1100 | 630 | 820 | 2750×1950 | 95 | 75 | 60 | 55 | 170 | 140 |
| | 120/150 | | | | | 645 | 955 | 2900×2050 | 115 | 95 | 80 | 70 | 180 | 155 |
| 1600 | 60/90/105 | 2000×1700 | 2050×1865 | 2P-CO | 1100 | 630 | 820 | 2750×2100 | 100 | 80 | 65 | 55 | 170 | 150 |
| | 120/150 | | | | | 645 | 955 | 2900×2150 | 120 | 100 | 85 | 70 | 200 | 165 |
| 1800 | 60/90/105 | 2000×1850 | 2050×2015 | 2P-CO | 1100 | 630 | 870 | 2800×2250 | 105 | 85 | 70 | 65 | 195 | 160 |
| 2000 | 60/90/105 | 2000×2000 | 2050×2165 | 2P-CO | 1100 | 630 | 870 | 2800×2400 | 115 | 95 | 75 | 65 | 215 | 175 |

- Note:
- ① The above information and dimensions are based on GB standards.
 - ② The above information and dimensions are based on right side counterweight.
 - ③ Configuration is without counterweight safety gear.
 - ④ For load 450kg, layout is based on 50mm door offset configuration.
 - ⑤ For load 630kg, layout is based on 50mm (Number of Stops ≤ 24) or 125mm (24 < Number of Stops ≤ 36) door offset configuration.

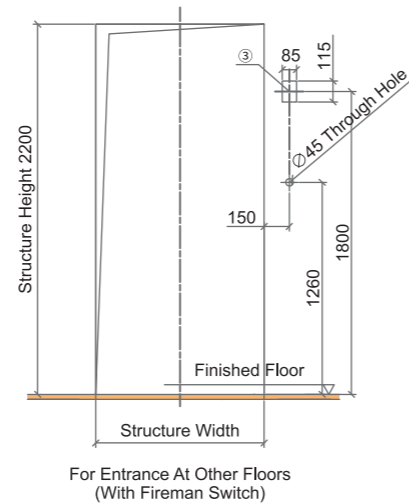
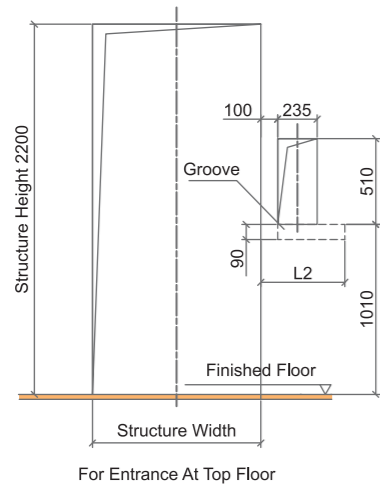
| Load (kg) | Speed (m/min) | Overhead Height OH (mm) | Pit Depth P (mm) |
|-----------------|---------------|-------------------------|------------------|
| 450 | 60 | 3750 | 1350 |
| | 60 | 3750 | 1350 |
| 630 | 90 | 3900 | 1400 |
| | 105 | 3950 | 1450 |
| | 60 | 3750 | 1350 |
| 825 | 90 | 3900 | 1400 |
| | 105 | 3950 | 1450 |
| | 120 | 4200 | 1900 |
| | 150 | 4500 | 2100 |
| | 60 | 3750 | 1350 |
| 900 | 90 | 3900 | 1400 |
| | 105 | 3950 | 1450 |
| | 120 | 4200 | 2000 |
| | 150 | 4500 | 2100 |
| 1000 | 60 | 3750 | 1600 |
| | 90 | 3900 | 1600 |
| | 105 | 3950 | 1600 |
| | 120 | 4200 | 2100 |
| | 150 | 4500 | 2150 |
| 1050 (Deep Car) | 60 | 3750 | 1600 |
| | 90 | 3900 | 1600 |
| | 105 | 3950 | 1600 |
| | 60 | 3750 | 1500 |
| 1150 | 90 | 3950 | 1600 |
| | 105 | 3950 | 1600 |
| | 120 | 4200 | 2200 |
| | 150 | 4500 | 2400 |
| | 60 | 3750 | 1500 |
| 1350 | 90 | 3950 | 1600 |
| | 105 | 3950 | 1600 |
| | 120 | 4200 | 2300 |
| | 150 | 4500 | 2400 |
| | 60 | 3750 | 1500 |
| 1600 | 90 | 3950 | 1650 |
| | 105 | 3950 | 1650 |
| | 120 | 4200 | 2350 |
| | 150 | 4500 | 2450 |
| 1800 | 60 | 3750 | 1550 |
| | 90 | 3950 | 1850 |
| | 105 | 3950 | 1850 |
| 2000 | 60 | 3750 | 1550 |
| | 90 | 3950 | 1850 |
| | 105 | 3950 | 1850 |

- Note:
- ① The above information and dimensions are based on GB standards.
 - ② Configuration is without counterweight safety gear.
 - ③ The overhead height, OH is based on bare ceiling height of 2300mm.
 - ④ The pit depth, P is based on standard vinyl tile finish without floor recess.
 - ⑤ Configuration is based on the following decoration weight provision:
 For load 450kg, decoration weight provision shall be up to 200kg.
 For load 630 / 825kg, decoration weight provision shall be up to 250kg.
 For load 900~1050kg, decoration weight provision shall be up to 300kg.
 For load 1150~2000kg, decoration weight provision shall be up to 400kg.

Elevation of Entrance



Structure Opening of Entrance



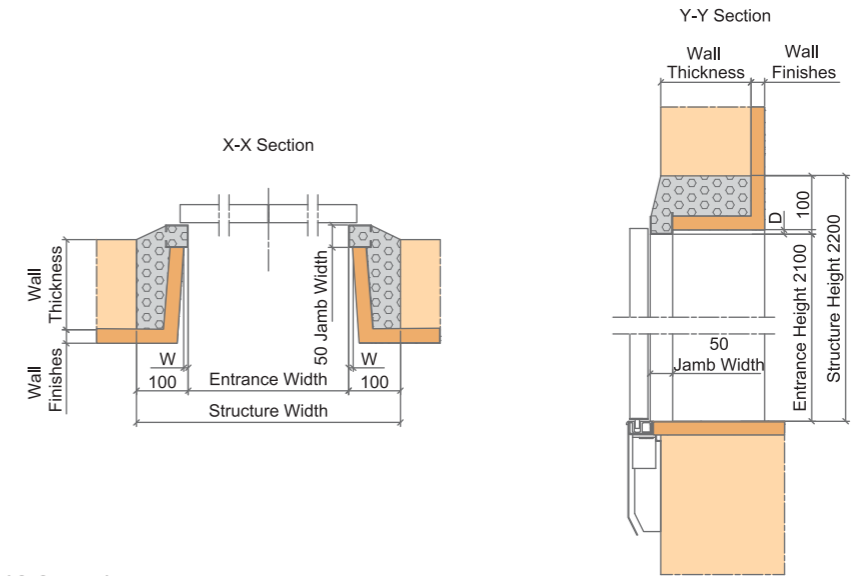
| Type | AS-1X | SS-1X |
|------|-------|-------|
| W | 10 | 25 |
| D | 10 | 25 |

- Note:
- Structural opening of entrance shall be furnished by building contractor.
 - Unit of dimension shall be in mm unless otherwise stated.
 - Applicable only when fireman operation function with fireman switch is located at lift landing.

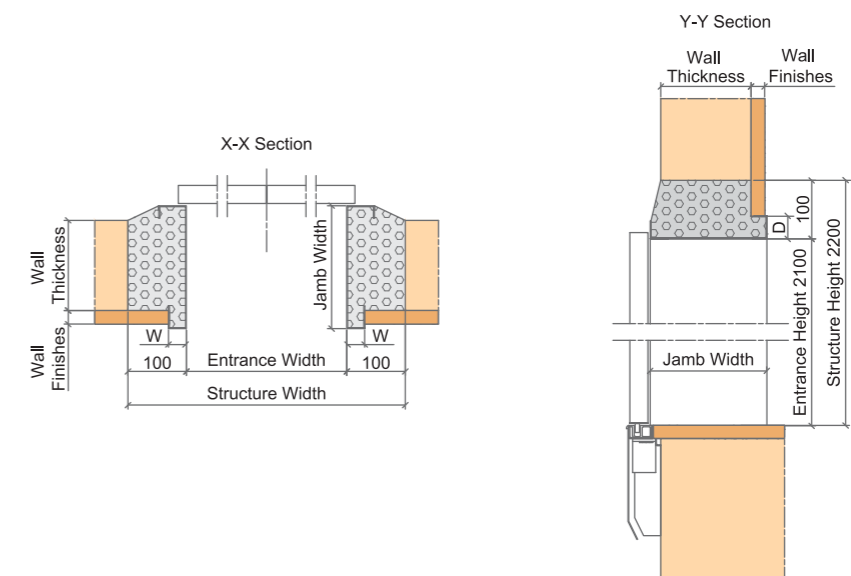
The followings shall be furnished by building contractors:

- Building Structure
- Wall and Floor Finishes
- Grouting Work

Narrow Jamb (AS-1X)



Wide Jamb (SS-1X)

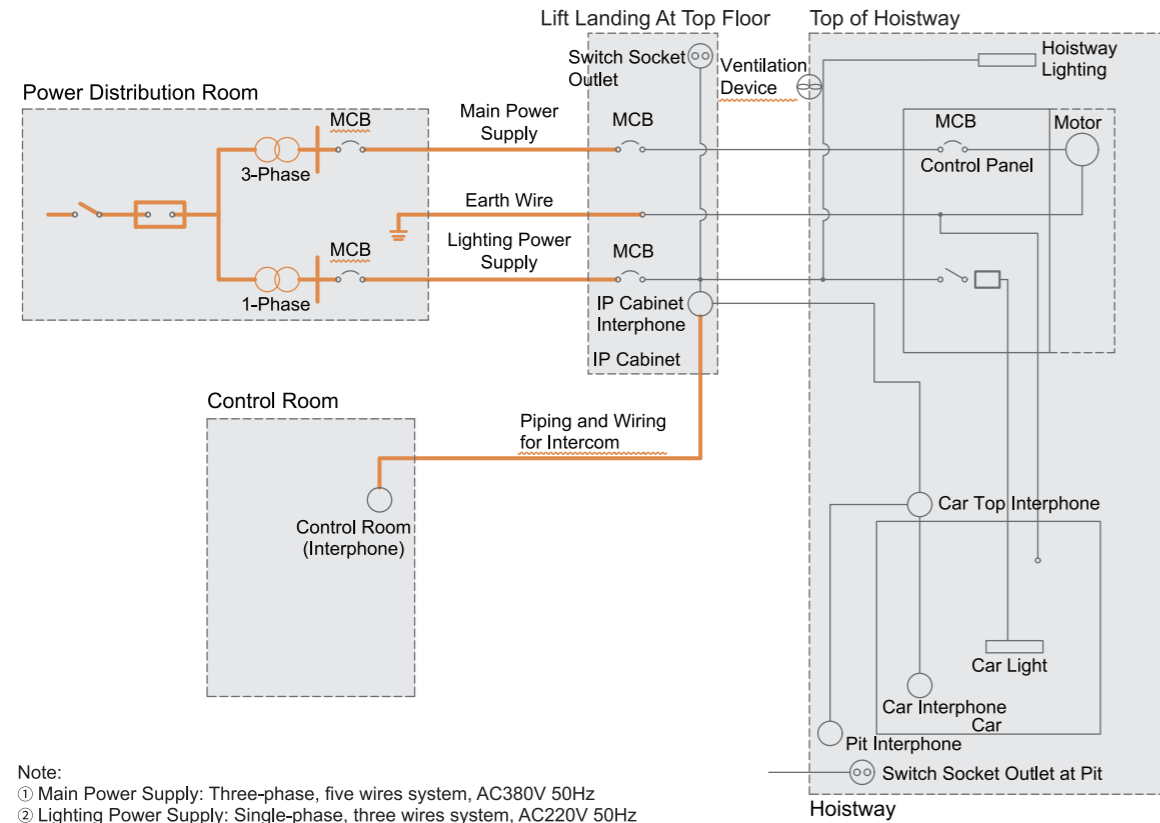


Electrical Information

The followings shall be furnished by building contractors:

Electrical Equipment

Cable



Note:
 ① Main Power Supply: Three-phase, five wires system, AC380V 50Hz
 ② Lighting Power Supply: Single-phase, three wires system, AC220V 50Hz

| Item | Works to be provided by building contractor |
|---------------------------------|---|
| Main Power Supply | To provide power supply switch around the entrance of top floor. To install facilities to ensure that power supply voltage fluctuation shall be within ±7%. |
| Lighting Power Supply | To provide lighting power supply for car lighting, fan and indicator. |
| Ventilation Device | To provide mechanical ventilation to the hoistway to ensure that the temperature in the hoistway is maintained at below 40°C. |
| Pit light, Switch Socket Outlet | To provide single phase AC 220V, 10A switch socket outlet and pit lighting with switch below the entrance floor level for maintenance purposes. |

Electrical Data

| No. | Load (kg) | Speed (m/min) | Voltage | Circuit Breaker Capacity (A) | | Transformer Capacity (kVA) | | Main Power Wire Size (mm ²) | | Earth Wire Size (mm ²) | |
|-----|-----------|---------------|--------------------------|------------------------------|---------|----------------------------|---------|---|---------|------------------------------------|---------|
| | | | | 1 unit | 2 units | 1 unit | 2 units | 1 unit | 2 units | 1 unit | 2 units |
| 1 | 450 | 60 | 3Φ380V 1Φ220V 50Hz | 20 | 32 | 4 | 6 | 6 | 8 | 6 | 8 |
| | | 60 | | 20 | 32 | 5 | 8 | 6 | 8 | 6 | 8 |
| 2 | 630 | 90 | | 20 | 40 | 7 | 10 | 6 | 10 | 6 | 10 |
| | | 105 | | 32 | 40 | 8 | 12 | 6 | 10 | 6 | 10 |
| 3 | 825 | 60 | | 20 | 40 | 6 | 9 | 6 | 8 | 6 | 8 |
| | | 90 | | 32 | 40 | 8 | 13 | 8 | 16 | 8 | 16 |
| | | 105 | | 40 | 50 | 10 | 14 | 8 | 16 | 8 | 16 |
| | | 120 | | 40 | 50 | 11 | 16 | 10 | 25 | 10 | 16 |
| | | 150 | | 40 | 63 | 13 | 20 | 16 | 30 | 16 | 16 |
| 4 | 900 | 60 | | 20 | 40 | 7 | 10 | 6 | 8 | 6 | 8 |
| | | 90 | | 32 | 50 | 9 | 14 | 8 | 16 | 8 | 16 |
| | | 105 | | 40 | 50 | 10 | 16 | 8 | 16 | 8 | 16 |
| | | 120 | | 40 | 63 | 11 | 17 | 16 | 25 | 16 | 16 |
| | | 150 | | 40 | 80 | 14 | 21 | 16 | 30 | 16 | 16 |
| 5 | 1000 | 60 | | 20 | 40 | 7 | 11 | 6 | 10 | 6 | 10 |
| | | 90 | | 40 | 50 | 10 | 16 | 8 | 16 | 8 | 16 |
| | | 105 | | 40 | 63 | 12 | 18 | 10 | 25 | 10 | 16 |
| | | 120 | | 40 | 63 | 13 | 20 | 16 | 25 | 16 | 16 |
| | | 150 | | 50 | 80 | 16 | 24 | 16 | 30 | 16 | 16 |
| 6 | 1050 | 60 | | 20 | 40 | 7 | 11 | 6 | 10 | 6 | 10 |
| | | 90 | | 40 | 50 | 10 | 16 | 8 | 16 | 8 | 16 |
| | | 105 | | 40 | 63 | 12 | 18 | 10 | 25 | 10 | 16 |
| | | 120 | 32 | 40 | 8 | 12 | 6 | 10 | 6 | 10 | |
| | | 150 | 40 | 63 | 11 | 17 | 10 | 25 | 10 | 16 | |
| 7 | 1150 | 60 | 40 | 63 | 13 | 19 | 16 | 25 | 16 | 16 | |
| | | 90 | 40 | 63 | 13 | 19 | 16 | 25 | 16 | 16 | |
| | | 105 | 40 | 80 | 14 | 22 | 25 | 30 | 16 | 16 | |
| | | 120 | 50 | 100 | 17 | 26 | 25 | 35 | 16 | 16 | |
| | | 150 | 32 | 50 | 9 | 14 | 8 | 16 | 8 | 16 | |
| 8 | 1350 | 60 | 40 | 63 | 13 | 19 | 16 | 25 | 16 | 16 | |
| | | 90 | 50 | 80 | 14 | 22 | 16 | 30 | 16 | 16 | |
| | | 105 | 50 | 80 | 16 | 25 | 25 | 35 | 16 | 16 | |
| | | 120 | 63 | 125 | 20 | 30 | 30 | 50 | 16 | 25 | |
| | | 150 | 40 | 50 | 10 | 16 | 8 | 16 | 8 | 16 | |
| 9 | 1600 | 60 | 50 | 80 | 15 | 22 | 16 | 30 | 16 | 16 | |
| | | 90 | 50 | 100 | 17 | 26 | 25 | 30 | 16 | 16 | |
| | | 105 | 63 | 100 | 19 | 29 | 25 | 35 | 16 | 16 | |
| | | 120 | 80 | 125 | 23 | 36 | 30 | 50 | 16 | 25 | |
| | | 150 | 40 | 63 | 11 | 17 | 10 | 25 | 10 | 16 | |
| 10 | 1800 | 60 | 50 | 80 | 16 | 25 | 16 | 30 | 16 | 16 | |
| | | 90 | 63 | 100 | 19 | 29 | 25 | 30 | 16 | 16 | |
| | | 105 | 40 | 63 | 13 | 19 | 10 | 25 | 10 | 16 | |
| | | 120 | 63 | 100 | 18 | 27 | 25 | 30 | 16 | 16 | |
| 11 | 2000 | 60 | 63 | 125 | 21 | 32 | 25 | 35 | 16 | 16 | |
| | | 90 | 63 | 125 | 21 | 32 | 25 | 35 | 16 | 16 | |

Note:
 ① The main power wire size specified above is applicable for wire length less than 150m.
 For main power wire length more than 150m, please calculate using the following formula:
 Main power wire size (mm²) = [Actual wire length / 150] × [Wire size in above table]

Working environment of the elevator shall be as follow

1. Ambient temperature shall be between 5°C to 40°C.
2. Maximum relative humidity is 90%, and the monthly mean minimum temperature should be below 25°C.
3. Supply voltage fluctuation shall be within $\pm 7^{\circ}\text{C}$.
4. Surrounding environment shall be free from explosive & corrosive hazard, anti-insulation and conductive particles atmosphere.

About hoistway

1. Hoistway walls (including reinforced concrete ring beams) should be vertical, and the allowable deviation for the hoistway verticality is:
 Total Height $\leq 30\text{m}$: 0~+25mm.
 30m < Total Height $\leq 60\text{m}$: 0~+35mm
 Total Height > 60m: 0~+50mm
2. Hoistway walls shall be 200mm concrete walls.
3. Elevator hoistway is preferably not located in the space above accessible area. If the actual situation cannot meet the regulations, please contact us.
4. If elevator hoistway is of steel structure construction, please contact us.
5. Hoistway walls, floors and roofs should be able to absorb a large number of elevator operation noise.
6. Hoistway should not be located directly adjacent to bedrooms, classrooms, wards, library or any other places where low noise is required. Where such arrangements need to be imposed, the building contractors must be responsible for taking measures of sound insulation and cushioning.

Work to be done by Building Contractors

1. The preparatory work for elevator installation outlined below should be undertaken by building contractors in accordance with Hitachi drawing and applicable national or local codes and regulation.
2. Prepare hoistway with proper framing and enclosure, suitable pit of proper depth with drains and water-proofing if required, properly lighted with concrete floor, access door, ladder and guards as required.
3. Provide and/or cut all necessary holes, chases, and openings and finish after equipment installation.
4. Supply and secure all supports, reinforced concrete slabs, etc., necessary for installation of the machinery, doors, buffers, etc.
5. Furnish all necessary cement and/or concrete for grouting-in of brackets, bolts, machine beams etc.
6. Prepare and erect suitable scaffolding and protective measures for the works in progress.
7. Furnish main for three-phase electric power and single-phase lighting supply to hoistway, following the instructions of the elevator contractors on outlet position and wire size.
8. Provide, free of charge, a suitable theft-proof storage area for materials and tools during erection work.
9. Supply electric power for lighting of work area, installation work, elevator testing and spray painting.
10. Suspension hooks at top of the hoistway with required loading as shown in this catalogue.
