

# 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 features 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.

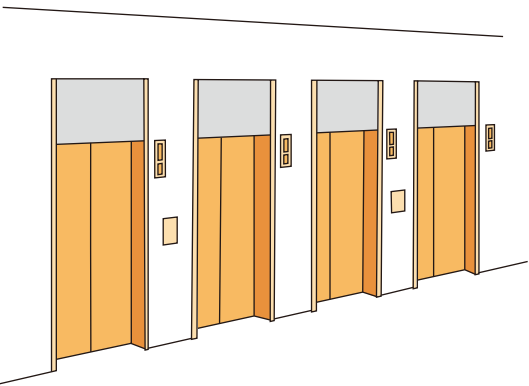
If you need detailed information, please contact us.



02	Elevator 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

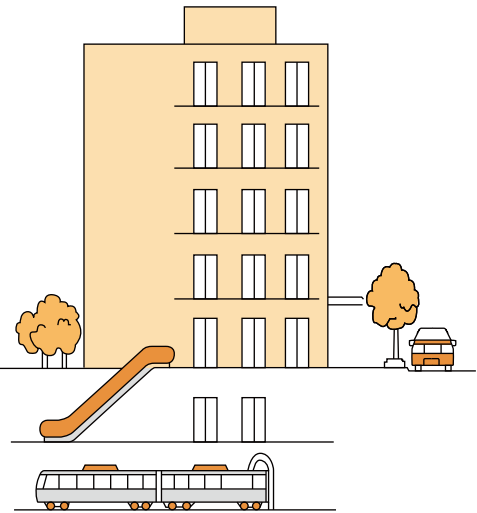
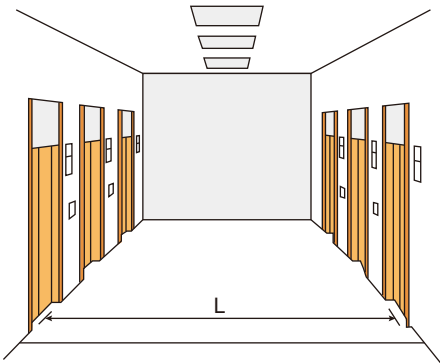
Rated Load (kg)	Number of Passengers ①	Rated Speed (m/min)	Maximum Number of Stops	Maximum Travel (m)	Maximum Travel with Fireman Operation (m)	Minimum Floor Height (mm)
400	5	60	12	30	—	2800
450	6					
630	8	60/90/105	60m/min: 22 90m/min: 36 105m/min: 36 120m/min: 40 150m/min: 40	60m/min: 60 90m/min: 90 105m/min: 90 120m/min: 120 150m/min: 120		
825	11	60/90/105/ 120/150				
900	12					
1000	13	60/90/105/ 120/150				
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 above information are based on GB7588-2003 standards.



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

- Elevators in the same group with face-to-face arrangement, the distance of facing elevators (L) should be 3.5~4.5m.
- Elevators not in the same group with face-to-face arrangement, the distance of facing elevators (L) should be more than 6m.



- Elevators in the same group is recommended to have the same service floors.
- Elevators in the same group is recommended to have one base floor instead of having multiple access floors.

<FI Series> Implements Group Control in Response to Different Requirements of Different Buildings.

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.

Please select the most suitable elevator system for the building you are planning.

FI-600 / FI-700	FI-100	FI-10
(3-8 Cars) ②	(3-6 Cars)	(3-4 Cars)
Allows a flexible control for elevator car allocation and the required number of cars according "Human Flow Prediction" and "Future Reference-Trajectory Control" for shortening the average waiting times.	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		
	Human flow prediction		
	• Generation of new traffic flow modes		
	• Generation of optimum operation programs		
	Congested floor recognition		
	Energy-saving preference control		
	Learning Function		
	• 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		
	Human flow prediction + 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-700	FI-100	FI-10 (Simplified Group Control)
Recommend Number of Cars in a Group	3~8 Cars ②	3~6 Cars	3~4 Cars
Type of Building	Large office building Luxurious hotel	Small office building Department store, hotel, hospital	Buildings with small traffic demand
Optional Specification	VIP service, Independent automatic operation		
	Service floor selection		
	Destination floor reservation system (DFRS) Centralised 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 / FI-700 or FI-100, elevator cars are operated at equal time intervals to prevent local bunching.  
② The FI-700 system supports a maximum of 16 operation control elevators.

Basic Function

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

No.	Item	Content	FI-600/ FI-700	FI-100	FI-10
1	Instantaneous Reservation and Service Forecasting (FI-IRF)	Upon receipt of a hall call, this function activates an 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)	Controls the allocation of elevator cars to hall calls according to the future reference trajectory resulting from learning-based daily traffic flows.	●	—	—
	Reference-Trajectory Control (FI-RTC)	Controls the allocation of elevator cars to hall calls based on the theory used in FI-600 / FI-700, and the intelligent-based data containing our know-how accumulated over a long period of time.	—	●	—
4	Personalised Control	Through the hall call assignment control of waiting time priority assignment, constantly carry out operation management in accordance waiting time priority.	●	●	—
	Waiting Time Priority Assignment	Prevent long riding 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.	▲	▲	—
	Priority Allocation Based on Car Congestion Level	This system reduces the number of elevator cars in service when traffic demand is low.	▲	▲	—
5	Learning Function				
	Collection of Usage Data (FI-CUD)	Collects the traffic status information by floor and direction for a unit time based on the elevator information such as car positions and the number of passengers getting on and off, and hall call information.	●	●	—
	Recognition of Traffic Flow Mode (FI-RTM)	Extracts characteristics at any given moment, including congested floors, from the collected usage data, and identifies the traffic flow mode at that moment.	(40 modes)	(2 modes)	—
6	Search for Optimum Operation Program (FI-SOP)	Searches for the optimum operation program of the moment based on the identified traffic mode.	●	●	—
	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 elevators 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	Generation of New Traffic Flow Modes (FI-GNT)	Extracts new characteristics according to the learning-based usage data, and registers them as a building-specific new traffic flow mode.	●	—	—
	Generation of Optimum Operation Programs (FI-GOP)	Generates an optimum operation program for a building by simulating the elevator operation according to the usage data learned in each traffic mode and preferential control target.	●	—	—
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)	Dynamically allocates elevator cars in response to continuously changing situations in the building by determining the area assigned to each car according to the forecasted number of passengers and car usage.	●	—	—
	Zone Distribution Control (FI-ZD)	Distributes the waiting elevator cars to the pre-assigned zones.	—	●	—
	Fixed Floor Distribution Control (FI-FD)	Distributes the waiting elevator cars to the pre-assigned floors.	▲ (FI-700 only)	—	●

Basic Function

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

No.	Item	Content	FI-600/ FI-700	FI-100	FI-10
11	Human Flow Prediction (FI-HEP)	The next number of users is predicted from the elevator operation status. This is used to increase the predictive accuracy for congested time slots and improve service efficiency.	●	—	—
12	Learning-Based Concentrated Service (FI-LCS)	Centralises 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.	●	—	—
13	Rush-Hour Schedule Operation (RHSEO)	All the elevators will automatically return to the start base floor, after serving the last call during the preset rush-hour timing.	●	—	▲
14	Destination Floor Priority Control	The allocation will be priority when the destination floor and hall call floor is the same floor.	●	●	—
15	Full Car Forecasting Control	Control the new allocation according to the number of passengers in car and the times of new calls.	●	●	—
16	Full Car Control	Stop new allocation or re-allocate the car when full load.	●	●	—
17	Long Waiting Time Allocation Control	Re-allocate the cars when long waiting time situation is forecasted.	●	●	—
18	Notice Function	Keep the service elevator car door open with hall lantern flickering to guide the passengers.	▲	●	—
19	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.	●	●	—

Optional Function

No.	Item	Content	FI-600/ FI-700	FI-100	FI-10
1	Centralised 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)	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 guests, this function permits an elevator to be summoned directly to the desired car call floor by operating a specially provided switch.	▲	▲	▲
4	Destination Floor Reservation System (DFRS)	Each passenger registers their destination floor on the registration device located at the landing hall and knows 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 Services (FI-EZS)	Starts a divided express service when the peak traffic demand takes place in the preset time zones.	▲	—	—

Man-Machine Function

No.	Item	Content	FI-600/ FI-700	FI-100	FI-10
1	Mischievous Call Cancellation	When large numbers of calls are registered by small number of passengers, the calls are determined to be mischievous and will be automatically cancelled.	●	●	—
2	Hall Indicator	Inform passengers at the lobby the position of the elevator.	—	—	●

Elevator Function

Standard Function

Control System			
SA1	Selective Collective Control	SA2	Floor Height Self Measurement
SA3	On-Cage (Car Top) Maintenance Operation	SA4	In-Cage Slow Speed Operation
System Protection			
SB1	Overspeed 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 Test	SB10	Lift Position Abnormity Auto-Correction Function
SB11	Nearest Landing Operation	SB12	Anti-Electromagnetic Interference
SB13	Unintended Car Movement Protection, UCMP Function (SIL3) ①	SB14	Intelligent Auxiliary Brake Function
SB15	Ascending Car Overspeed Protection, ACOP Function (SIL3)	SB16	Motor Energy Saving Control
SB17	Self Diagnosis Inverter		
Safe Communication			
SC1	Car Intercom Communication	SC2	Car Top Intercom Communication
SC3	Pit Intercom Communication		
Safe Riding			
SD1	Alarm System	SD2	Door Safety Return System
SD3	Full Load Bypass Operation	SD4	Overload Detection System
SD5	Overload Alarm	SD6	Next Drive (Door Open Abnormity)
SD7	Door Opening/Closing Time Abnormity Protection	SD8	Automatic Door Dwell Time Control
SD9	Automatic Door Dwell Time Adjustment	SD10	Number of Runs Indicator
SD11	Intelligent Multi-Beam Protection	SD12	Current Floor Push-Button Reopening Function
SD13	Maintenance Indication at Hall Indicator	SD14	Overload Indicator (In Car)
Emergency Solution			
SE1	Out of Door-Open Zone Alarm	SE2	Car Emergency Lighting
SE3	Fire Emergency Operation (Automatic)	SE4	Emergency Electric Operation (SIL3)
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	Mischievous Call Cancellation (Applicable for Simplex, Duplex, FI-100, FI-600 and FI-700 only)
SF7	Opposite Direction Car Call Cancellation	SF8	Car Light Auto Turn-Off
SF9	Car Fan Auto Turn-Off	SF10	Abnormal Duration Hall Call Detection (Applicable for Simplex, Duplex and FI-10 only)
SF11	Car Floor Button Flashing	SF12	Car Call Deselect Function
SF13	Step-Less Speed Control	SF14	Door Bypass Detection
SF15	Overloading Hall Call Recovery Function (Applicable for Simplex, Duplex and FI-10 only)	SF16	Manual Micro Levelling
SF17	Quick Door Closing Function (In Car)		

Note:  
① For details, please contact us.

Elevator Function

Optional Function

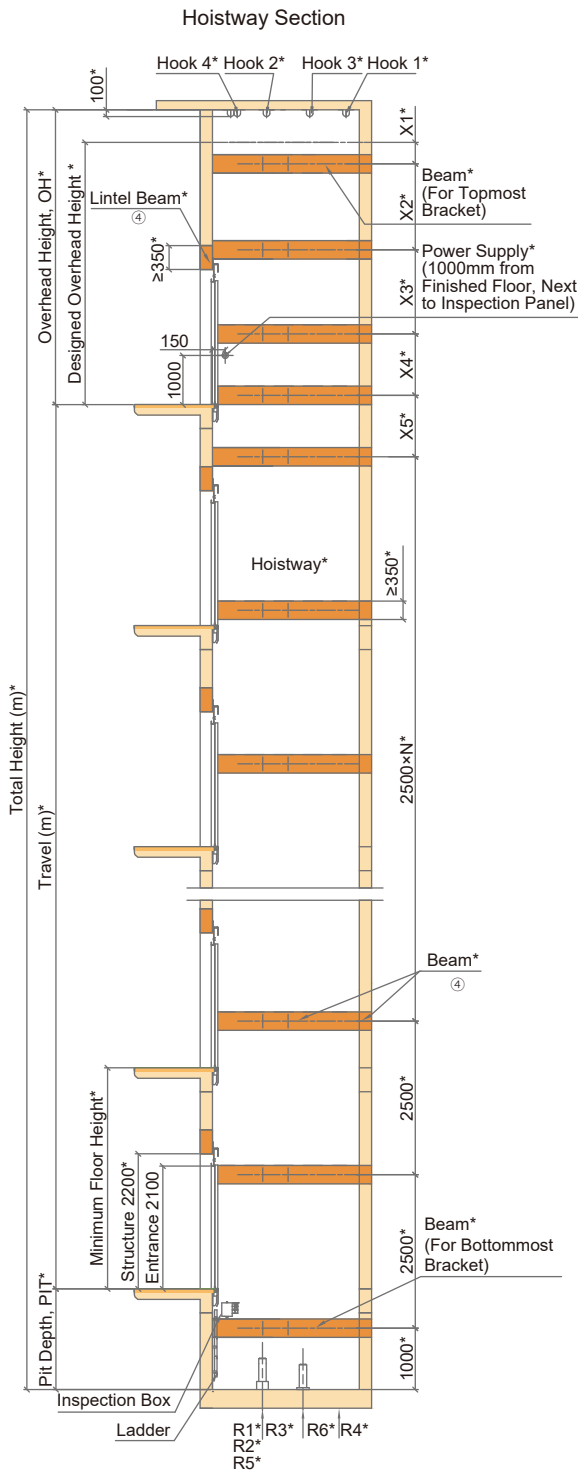
Control System			
OA1	Down Collective Control	OA2	Duplex Collective Control
OA3	FI-10 Group Control System ①	OA4	FI-100 Group Control System ①
OA5	FI-600 Group Control System ①	OA6	FI-700 Group Control System ①
OA7	Independent Automatic Operation ① (For Duplex and Group Control)	OA8	VIP Service (For Duplex and Group Control)
OA9	Rush Hour Schedule Operation (Applicable for FI-10, FI-600 and FI-700 only)		
Safe Communication			
OB1	Interphone System (5 Ways) (5 Ways: Monitoring Center, Inspection Panel, In Car, Car Top and Pit.)		
Safe Riding			
OC1	IC Card Security System (In Car) ① (Not Applicable with OC2, OC4, OC5 or OE5)	OC2	IC Card Security System (Hall) ① (Not Applicable with OC1, OC4, OC5 or OE5)
OC3	Multi-Beam + Safety Edge Protection	OC4	Hitachi Smart Security [ITM] Interface (Not Applicable with OC1, OC2, OC5 or OE5)
OC5	Intercom Linkage Interface for Elevator Access (Not Applicable with OC1, OC2, OC4 or OE5)	OC6	Contact at Control Panel (RS485)
OC7	Contact at Control Panel (Dry Contacts) (Not Applicable with OC8)	OC8	Supervisory Panel (Dry Contact Type) (Not Applicable with OC7)
OC9	Elevator Monitoring System (Computer Type)	OC10	Twisted Pair Cable (1 Pair) for CCTV Interface
OC11	Twisted Pair Cable (1 Pair) for BGM Interface		
Emergency Solution			
OD1	Fireman Operation (Rated Load ≥ 825Kg)	OD2	Automatic Rescue Device (ARD) ① (Maximum travel distance between landings ≤ 30m.)
OD3	Emergency Operation for Power Failure (Manual)	OD4	Emergency Operation for Power Failure (Auto)
OD5	Earthquake Emergency Operation	OD6	Pit Flood Operation
OD7	Mechanical Manual Brake Release Device ①		
Design for Comfort			
OE1	Attendant Operation	OE2	Independent Operation
OE3	Voice Synthesiser ① (Not Applicable with OE17)	OE4	Arrival Chime (Car Top and Bottom)
OE5	Floor Lockout Operation (Not Applicable with OC1, OC2, OC4 or OC5)	OE6	Door Opening Prolong Button
OE7	Nighttime Protective Operation ①	OE8	Sub Car Operating Panel
OE9	Double Opening Function ① (Applicable for Simplex, Duplex or FI-10 only)	OE10	Electromagnetic Compatibility (EMC) Function (Only Applicable with OE13)
OE11	Horizontal Car Operating Panel ①	OE12	Braille Button
OE13	Regenerative System Function ①	OE14	Operation Status Indication at Hall Indicator ①
OE15	Ultraviolet, UV Sterilisation Function ①	OE16	Hall Call Deselect Function ① (Applicable for Simplex, Duplex or FI-10 with Single Opening only)
OE17	Intelligent Broadcast System ①	OE18	Hall Lantern with Arrival Chime ①
OE19	Micro Levelling (Travel < 30m)	OE20	Advance Door Opening

Note:  
① For details, please contact us.

Hoistway

The followings shall be furnished by building contractors:

- Building Structure
- Wall and Floor Finishes
- Beam



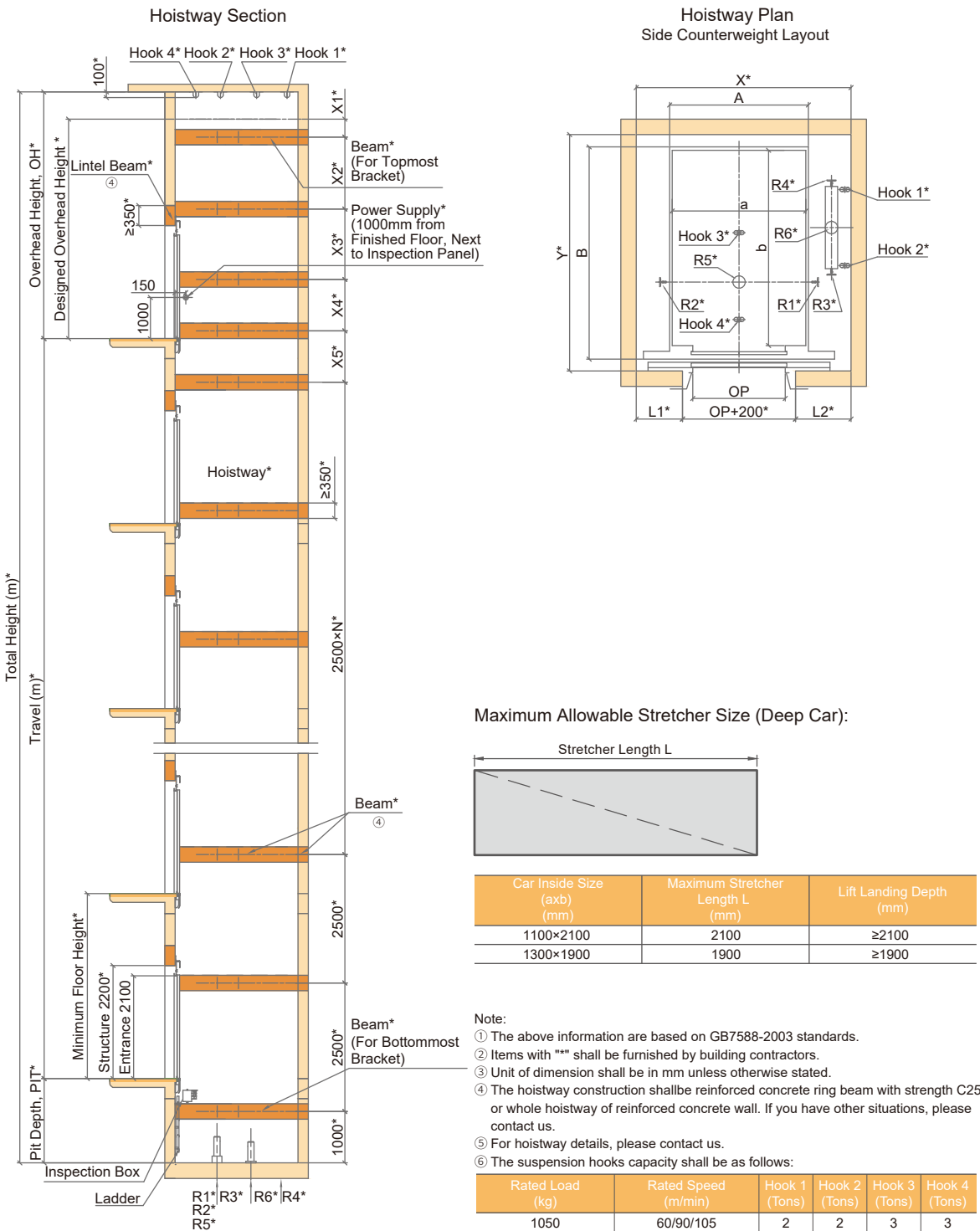
Note:  
① The above information are based on GB7588-2003 standards.  
② Items with "\*" shall be furnished by building contractors.  
③ Unit of dimension shall be in mm unless otherwise stated.  
④ The hoistway construction shall be reinforced concrete ring beam with strength C25 or whole hoistway of reinforced concrete wall. If you have other situations, please contact us.  
⑤ For hoistway details, please contact us.  
⑥ The suspension hooks capacity shall be as follows:

Rated Load (kg)	Rated Speed (m/min)	Hook 1 (Tons)	Hook 2 (Tons)	Hook 3 (Tons)	Hook 4 (Tons)
400/450	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

Hoistway

The followings shall be furnished by building contractors:

- Building Structure
- Wall and Floor Finishes
- Beam



Rated Load (kg)	Rated Speed (m/min)	Car Size (mm)		Door Opening (mm)		Front Wall Arrangement (mm)		Hoistway Size (mm)	Pit Reaction Force (KN)					
		Car Inside (a×b)	Car Outside (A×B)	Type	Width OP	L1	L2		R1	R2	R3	R4	R5	R6
400	60	1000×1100	1050×1260	2P-CO (Door Offset)	700	365	385	1650×1500	40	30	30	25	100	90
450	60	1000×1300	1050×1460	2P-CO (Door Offset)	700	385	415	1700×1700	40	30	30	25	100	90
630	60	1100×1400	1150×1560	2P-CO (Door Offset)	800	385	415	1800×1800	65	50	50	45	110	100
	90/105					395	405	1800×1850						
825	60/90/105	1350×1400	1400×1560	2P-CO	800	420	580	2000×1850	70	55	55	45	120	105
		1250×1500	1300×1660			420	530	1950×1900						
		1300×1500	1350×1660			395	555	1950×1900						
		1200×1600	1250×1760			395	505	1900×2000						
	120/150	1350×1400	1400×1560			500	700	2200×2000	95	80	80	70	120	100
900	60/90/105	1500×1400	1550×1560	2P-CO	900	445	605	2150×1850	75	60	55	50	130	110
	120/150					525	725	2350×2000	100	85	80	70	125	110
1000	60/90/105	1600×1400	1650×1560	2P-CO	900	495	655	2250×1850	80	65	60	50	135	115
		1600×1500	1650×1660			495	655	2250×1900						
		1500×1500	1550×1660			445	605	2150×1900						
		1400×1600	1450×1760			445	555	2100×2000						
		1500×1600	1550×1760			445	605	2150×2000						
	120/150	1600×1400	1650×1560			575	775	2450×2000	105	85	85	70	140	115
1050 (Deep Car)	60/90/105	1100×2100	1150×2260	2P-CO	900	410	410	1920×2500	80	65	60	50	135	115
		1300×1900	1350×2060			440	510	2050×2300						
		1100×2100	1150×2298	2S-2P		145	505	1750×2550						
		1300×1900	1350×2098			145	705	1950×2350						
1150	60/90/105	1800×1500	1850×1660	2P-CO	1000	605	745	2550×2000	95	75	70	60	155	130
	120/150					615	885	2700×2050	115	95	90	80	160	140
1350	60/90/105	2000×1500	2050×1660	2P-CO	1100	655	795	2750×2000	100	80	70	65	170	150
	120/150					665	935	2900×2050	125	105	95	85	180	155
1600	60/90/105	2000×1700	2050×1860	2P-CO	1100	655	795	2750×2100	105	85	75	65	170	150
	120/150					665	935	2900×2150	120	110	100	85	200	165
1800	60/90/105	2000×1850	2050×2015	2P-CO	1100	630	870	2800×2250	110	90	80	75	195	160
2000	60/90/105	2000×2000	2050×2165	2P-CO	1100	630	870	2800×2400	120	100	90	80	215	175

- Note:
- ① The above information are based on GB7588-2003 standards.
  - ② The above information and dimensions are based on right side counterweight.
  - ③ Configuration is without counterweight safety gear.
  - ④ For rated load 400 ~ 630kg, it is based on 50mm door offset configuration.

Rated Load (kg)	Rated Speed (m/min)	Overhead Height, OH (mm)	Pit Depth, PIT (mm)
400	60	3750	1350
450	60	3750	1350
630	60	3750	1350
	90	3900	1400
	105	3950	1450
825	60	3750	1350
	90	3900	1400
	105	3950	1450
	120	4200	1900
900	150	4500	2100
	60	3750	1350
	90	3900	1400
	105	3950	1450
	120	4200	2000
1000	150	4500	2100
	60	3750	1600
	90	3900	1650
	105	3950	1650
	120	4200	2100
1050 (Deep Car)	150	4500	2150
	60	3750	1600
	90	3900	1650
1150	105	3950	1650
	60	3750	1600
	90	3950	1700
	105	3950	1700
	120	4200	2200
1350	150	4500	2400
	60	3750	1600
	90	3950	1700
	105	3950	1700
	120	4200	2300
1600	150	4500	2400
	60	3750	1700
	90	3950	1800
	105	3950	1800
	120	4200	2350
1800	150	4500	2450
	60	3750	1550
	90	3950	1850
	105	3950	1850
2000	60	3750	1550
	90	3950	1850
	105	3950	1850

- Note:
- ① The above information are based on GB7588-2003 standards.
  - ② The overhead height, OH is based on bare ceiling height of 2350mm.
  - ③ The pit depth, PIT is based on vinyl tile finish without recess.
  - ④ Configuration is without counterweight safety gear.
  - ⑤ Configuration is based on the following decoration weight provision:
    - For rated load 400 / 450kg, decoration weight provision shall be up to 200kg.
    - For rated load 630 ~ 1050kg, decoration weight provision shall be up to 300kg.
    - For rated load 1150 ~ 2000kg, decoration weight provision shall be up to 500kg.

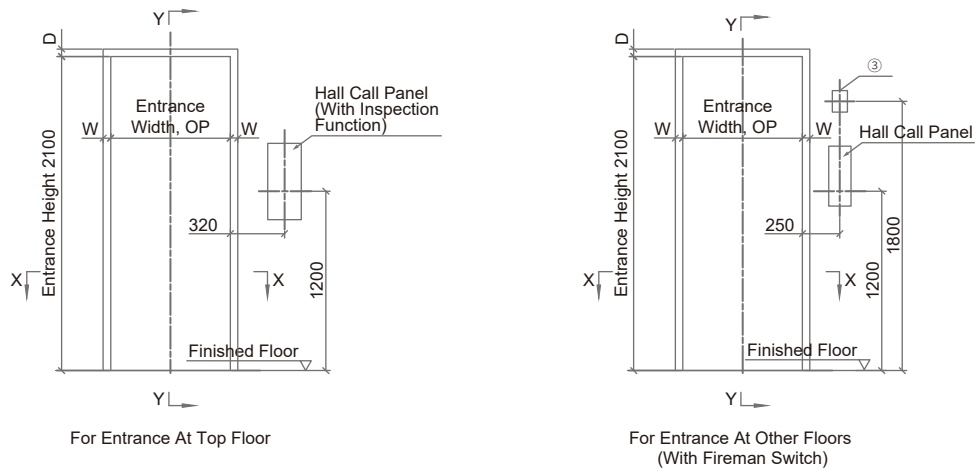


Entrance Design

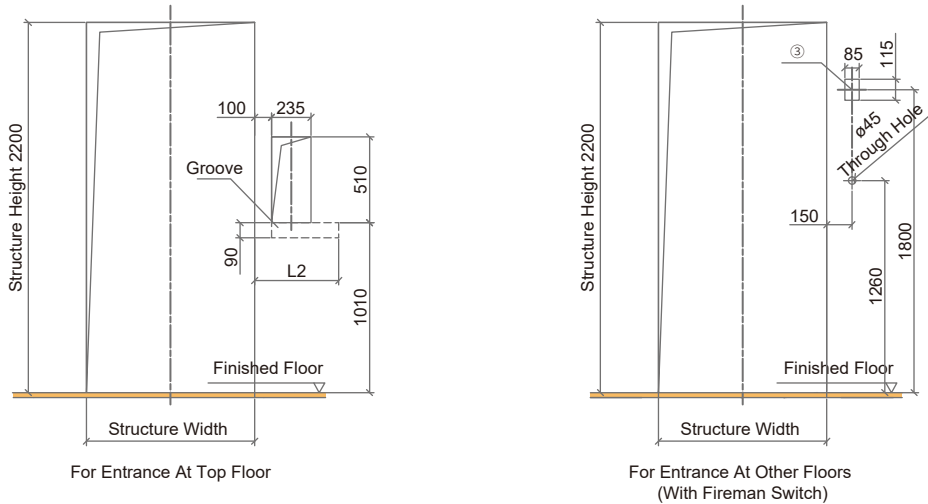
The followings shall be furnished by building contractors:

Wall and Floor Finishes

Elevation of Entrance



Structure Opening of Entrance



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

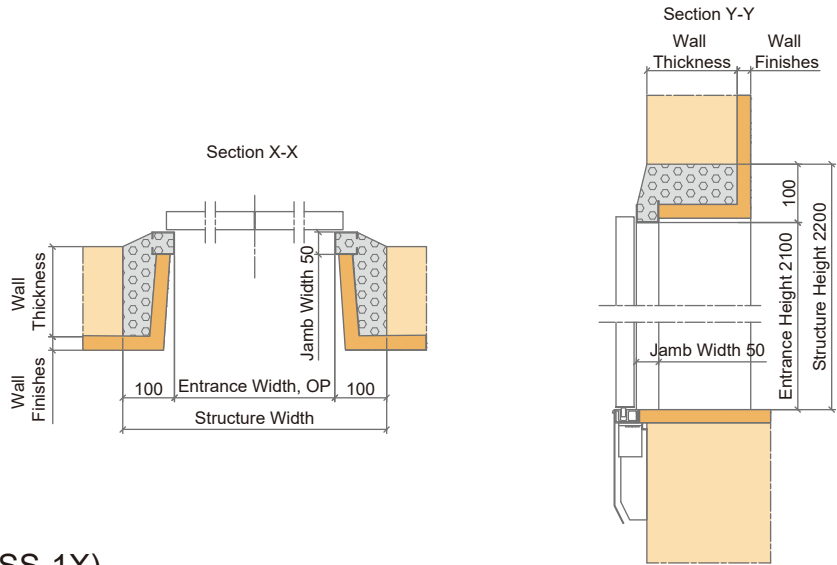
- Note:
- ① The above information are based on GB7588-2003 standards.
  - ② Unit of dimension shall be in mm unless otherwise stated.
  - ③ Applicable only when fireman operation with switch is located at lift landing.
  - ④ Structure opening of entrance shall be furnished by building contractor.
  - ⑤ For value of L2, please refer to page 11.

Entrance Design

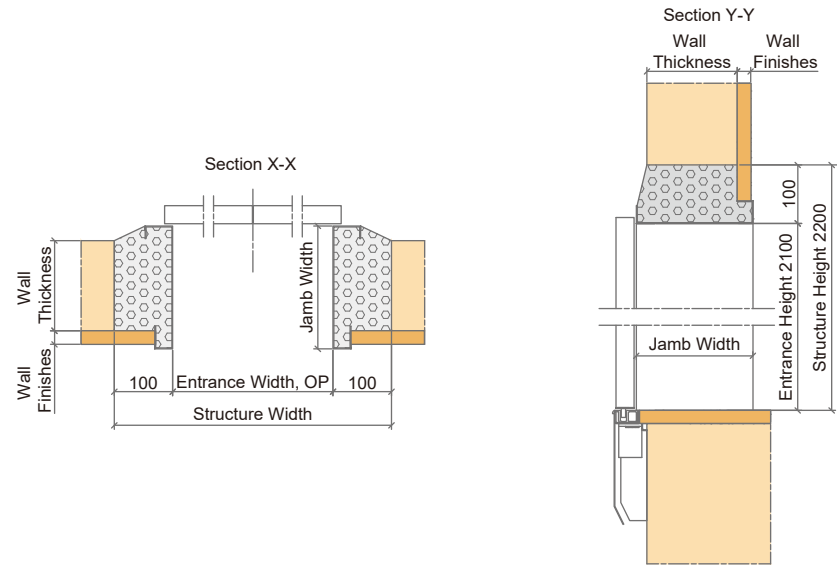
The followings shall be furnished by building contractors:

Building Structure  
Wall and Floor Finishes  
Grouting Work

Narrow Jamb (AS-1X)



Wide Jamb (SS-1X)



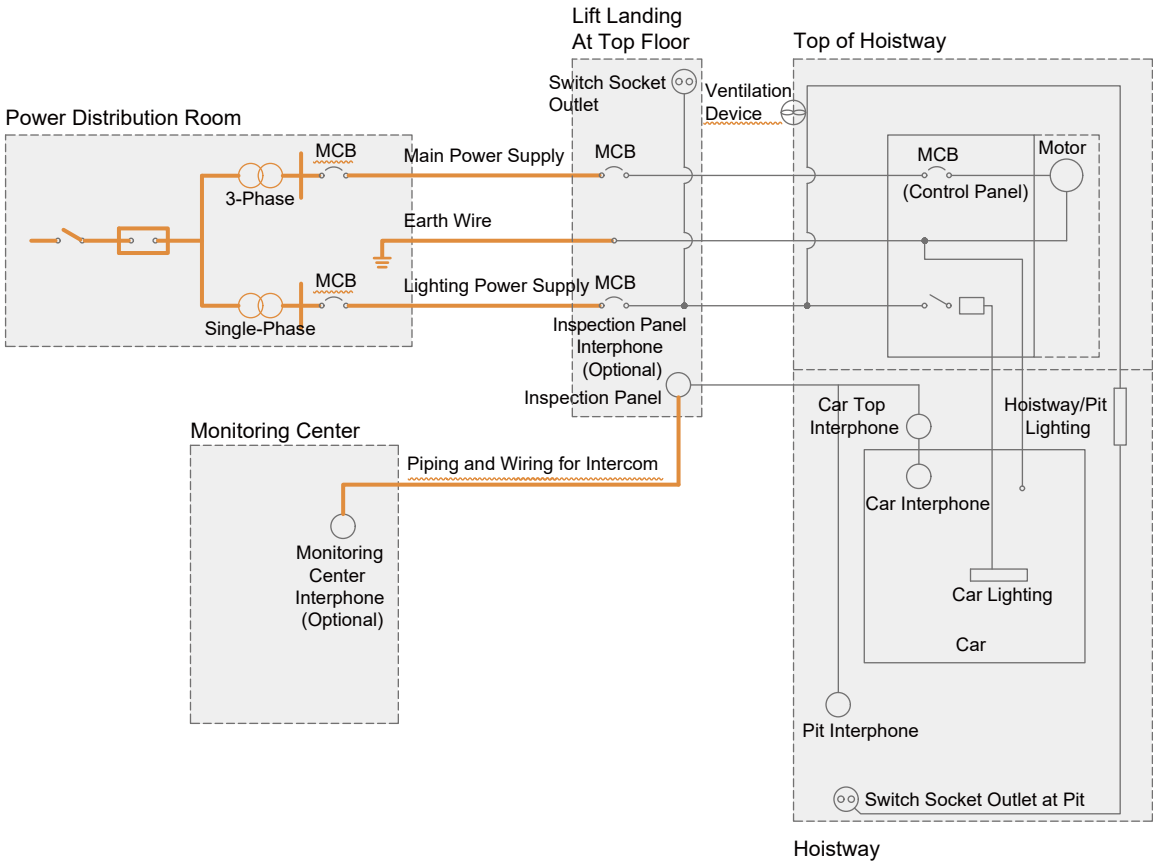
- Note:
- ① Unit of dimension shall be in mm unless otherwise stated.



Electrical Information

The following shall be furnished by building contractors:

- Electrical Equipment
- Cable



- Note:
- ① Main Power Supply: AC380V, 50Hz, Three-Phase, Five Wires System
  - ② Lighting Power Supply: AC220V, 50Hz, Single-Phase, Three Wires System

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 the 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.

Electrical Data

No.	Rated Load (kg)	Rated Speed (m/min)	Supply Voltage	Circuit Breaker Capacity (A)		Transformer Capacity (kVA)		Main Power Wire Size (mm²)		Earth Wire Size (mm²)	
				1 unit	2 units	1 unit	2 units	1 unit	2 units	1 unit	2 units
1	400	60	3Φ380V 1Φ220V 50Hz	25	32	6	10	6	8	6	8
2	450	60		25	32	6	10	6	8	6	8
3	630	60		25	40	7	12	6	8	6	8
		90		32	50	9	15	6	10	6	10
		105		40	50	10	17	6	10	6	10
4	825	60		32	40	8	14	6	8	6	8
		90		40	50	11	18	8	10	8	10
		105		40	63	12	20	8	16	8	16
		120		40	63	11	13	8	25	8	16
		150		50	63	18	22	10	25	10	16
5	900	60		32	40	9	14	6	8	6	8
		90		40	63	11	19	8	10	8	10
		105		40	63	12	21	8	16	8	16
		120		40	63	12	14	10	25	10	16
		150		50	80	20	24	16	25	16	16
6	1000	60		32	50	9	15	6	8	6	8
		90		40	63	12	20	8	16	8	16
		105		40	80	13	22	8	16	8	16
		120		50	63	13	22	10	25	10	16
		150		63	80	16	26	16	25	16	16
7	1050	60		32	50	9	16	6	10	6	10
		90		40	63	12	21	8	16	8	16
		105		40	80	14	23	8	16	8	16
8	1150	60		32	50	10	17	6	10	6	10
		90		40	80	14	23	8	16	8	16
		105		50	80	15	25	10	25	10	16
		120		50	80	14	24	10	25	16	16
		150		63	100	17	29	16	30	16	16
9	1350	60		40	63	11	19	8	14	8	14
		90		50	80	15	26	10	25	10	16
		105		63	100	17	29	14	25	14	16
		120		50	80	16	27	16	25	16	16
		150		63	100	20	33	25	30	16	16
10	1600	60		40	63	13	21	8	16	8	16
		90		63	100	17	29	14	25	14	16
		105		63	100	20	33	16	30	16	16
		120		63	100	19	31	16	25	16	16
		150		80	125	23	38	25	30	16	16
11	1800	60		50	63	13	22	8	16	8	16
		90		63	100	18	30	14	25	14	16
		105		63	100	20	34	16	30	16	16
12	2000	60		50	80	14	24	8	16	8	16
		90		80	100	20	33	14	25	14	16
		105		80	125	22	37	25	30	16	16

- Note:
- ① The above information are based on GB7588-2003 standards.
  - ② The above information on the Supply Voltage, Circuit Breaker Capacity (A), Transformer Capacity (kVA), Main Power Wire Size (mm²) and Earth Wire Size (mm²) are the requirements at building side.
  - ③ 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] x [Wire size in above table]
  - ④ The calorific value (kcal/hr) for one elevator is calculated using the following formula:  
Calorific Value (kcal/hr) = Rated Load (kg) x Rated Speed (m/min) x [1/45]

Working environment of the elevator shall be as follow:

1. Hoistway 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  $\pm 7\%$ .
4. Surrounding environment shall be free from explosive and corrosive hazard, anti-insulation and conductive particles atmosphere.

About hoistway:

1. Hoistway shall not be used for purposes other than those connected with the elevators.
2. Hoistway walls (including reinforced concrete ring beams) should be vertical, and the allowable deviation for the hoistway verticality is 0~+30mm.
3. Hoistway walls, floors and roofs should be able to absorb a large amount of elevator operation noise.
4. 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.
5. Hoistway walls shall be 200mm concrete walls.
6. If elevator hoistway is steel structure construction, please contact us.
7. Elevator hoistway is preferably not located in the space above accessible area. If the actual situation cannot meet the regulations, please contact us.

Work to be done by Building Contractors:

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.

1. Prepare hoistway with proper framing and enclosure, suitable pit of proper depth with drains and waterproofing if required, properly lighted with concrete floor, access door, ladder and guards as required.
2. Provide and/or cut all necessary holes, chases, and openings and finish after equipment installation.
3. Supply and secure all supports, reinforced concrete slabs, etc., necessary for installation of the machinery, doors, buffers, etc.
4. Furnish all necessary cement and/or concrete for grouting-in of brackets, bolts, machine beams etc.
5. Suspension hooks at top of hoistway with required loading as shown in this catalogue.
6. 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.
7. Supply electric power for lighting of work area, installation work, elevator testing and spray painting.
8. Provide, free of charge, a suitable theft-proof storage area for materials and tools during erection work.
9. Prepare and erect suitable scaffolding and protective measures for the works in progress.