

HITACHI
Inspire the Next

Hitachi, Ltd.
14-1, Sotokanda 4-chome
Chiyoda-ku, Tokyo, 101-8010 Japan
<http://www.hitachi.co.jp/urban/>

Please contact

HITACHI
Inspire the Next

HITACHI STANDARDIZED FREIGHT ELEVATORS



Wide Range Models are Available to Meet your Requirement

Specifications [JIS Standard]

Model	Load (kg)	Speed (m/min)	Door Type	Car Interior (mm)		Entrance (mm)	
				Width	Depth	Width	Height
F-600-2S30	600	30	Two-panel horizontal sliding	1300	1750	1100	2100
F-600-2S45		45					
F-750-2S30	750	30		1300	2300	1100	2100
F-750-2S45		45					
F-750-2S60		60					
F-1000-2S30	1000	30		1700	2300	1400	2100
F-1000-2S45		45					
F-1000-2S60		60					
F-1500-2S30	1500	30		2200	2400	1700	2100
F-1500-2S45		45					
F-1500-2S60		60					
F-2000-2S30	2000	30		2200	2800	1700	2100
F-2000-2S45		45					
F-2000-2S60		60					
F-2500-3S30	2500	30	Three-panel horizontal sliding	2500	3000	2300	2500
F-2500-3S45		45					
F-3000-3S30	3000	30		2500	3400		
F-3000-3S45		45					
F-2500-2U30	2500	30	Two-panel Vertical sliding	2500	3000	2500	2500
F-2500-2U45		45					
F-3000-2U30	3000	30		2500	3400		
F-3000-2U45		45					

Easy and Convenient operation to load the goods to the elevator

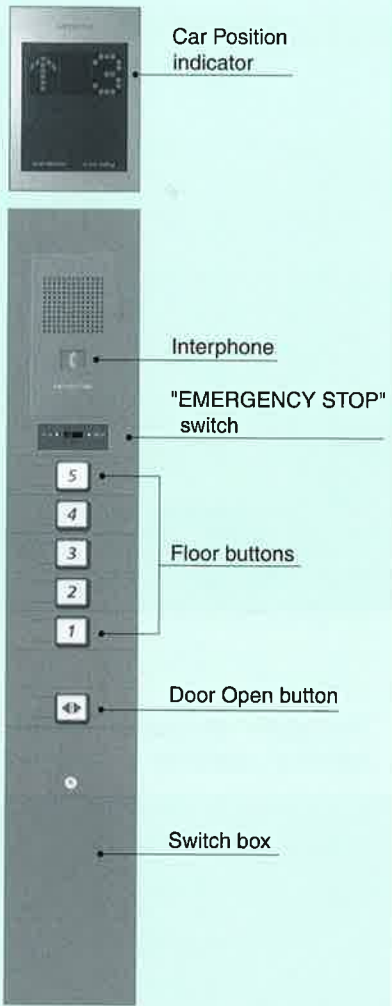
Hall Indicator Panel & Car Operating Panel

Light-Emitting Diodes (LED) are used for all panel indications.

Hall Indicator (Button Switch Control)



Car Operating Panel (Button Switch Control)



Operating Systems

Button Switch Control

Standard operating system for freight elevators. Gives exclusive control of the elevator to one person until finish using it.

- (1) Push "CALL" button on the hall indicator panel.
- (2) After get into the Car, door closes automatically after floor button inside the car is pushed. The elevator will start run immediately.
- (3) After using the lift, push "CLOSE" button on hall indicator panel to release the elevator for the other person's use. A buzzer sounds if the door is left open for more than three minutes, then the door closes automatically for fire safety.

Collective Control (optional function)

It is the operation to serve the elevator based on the elevator direction and also to serve for multiple calls. It is suited to carry in and out the small goods to many floors rather than to use fork lifts.

- (1) The door closes automatically after five seconds.
- (2) If the loading of the goods cannot be completed within settled time, by pressing the Door Open button, the elevator door will remain open for maximum 3 minutes.

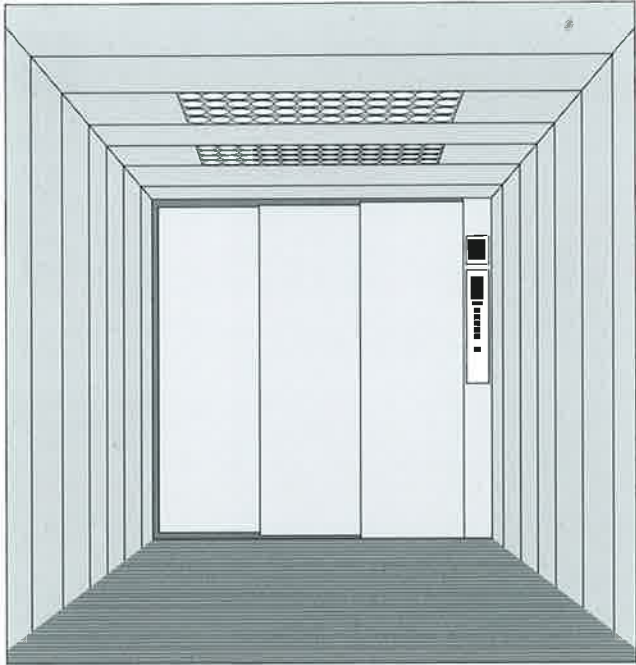
Car Designs and Entrance Designs

Car Designs

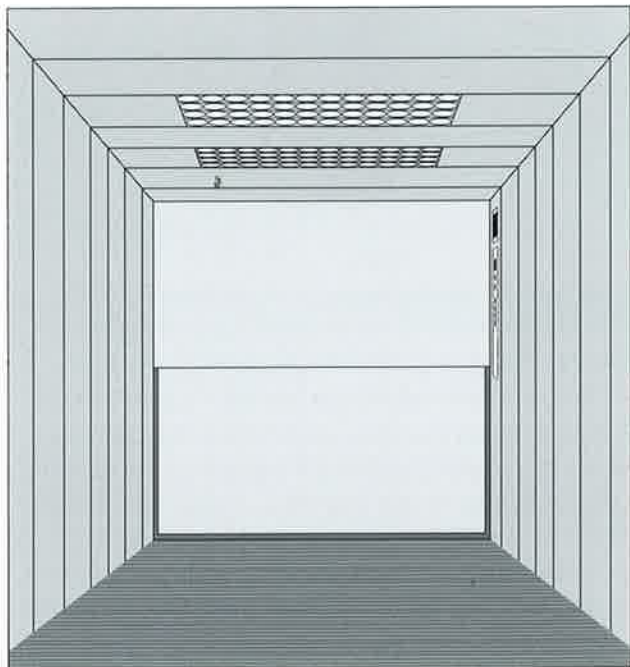
Two-panel horizontal sliding door
(600kg ~ 2000kg)



Three-panel horizontal sliding door
(2500kg , 3000kg)



Two-panel vertical up sliding door
(2500kg , 3000kg)

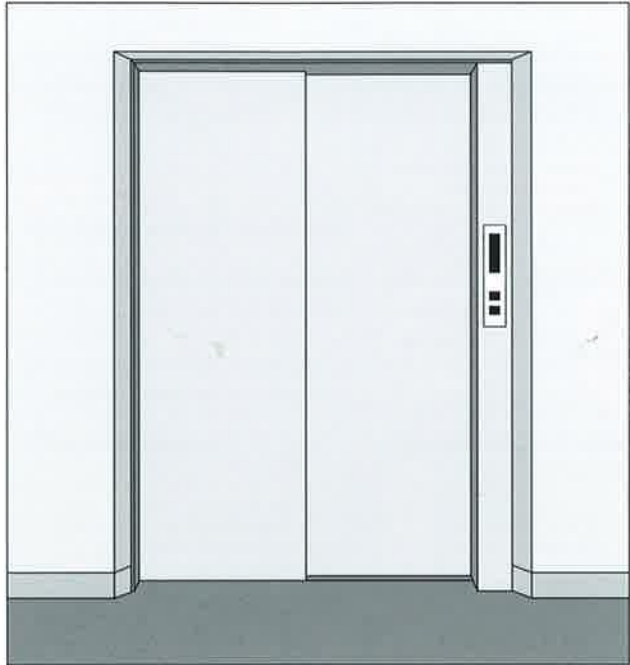


Specifications

Load	600kg, 750kg, 1000kg 1500kg, 2000kg	2500kg, 3000kg
Items		
Ceiling Car Wall	Decorative sheet steel	Painted sheet steel
Door	Painted sheet steel	
Flooring	Checkered steel plate	
Sill	Hard aluminium	Steel plate
Lighting	Fluorescent lamps	
Operating Panel	Face plate:Formed resin Button :Push type (Light-emitting diodes) Digital indicator incorporated	

Entrance Designs

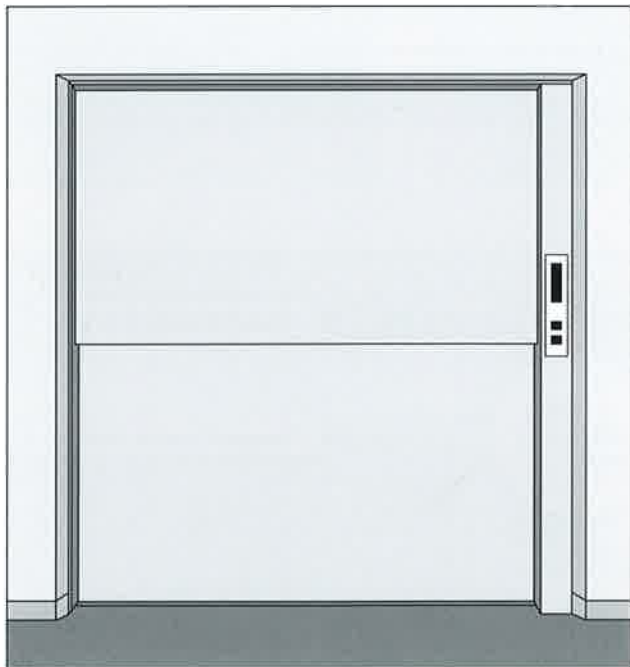
Two-panel horizontal sliding door
(600kg ~ 2000kg)



Three-panel horizontal sliding door
(2500kg , 3000kg)



Two-panel vertical up sliding door
(2500kg , 3000kg)



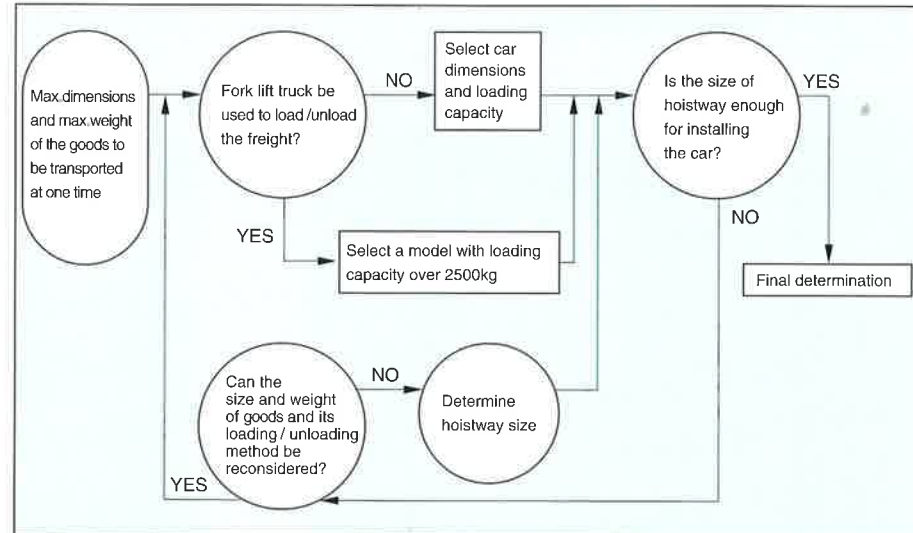
Standard Specifications

Load	600kg, 750kg, 1000kg 1500kg, 2000kg	2500kg, 3000kg
Items		
Jamb	Narrow, Painted sheet steel	
Door	Painted sheet steel	
Sill	Hard aluminium	Steel plate
Indicator	Face plate:Formed resin Button :Push type (Light-emitting diodes) Digital Indicator incorporated	

How to Select the Best Freight Elevator

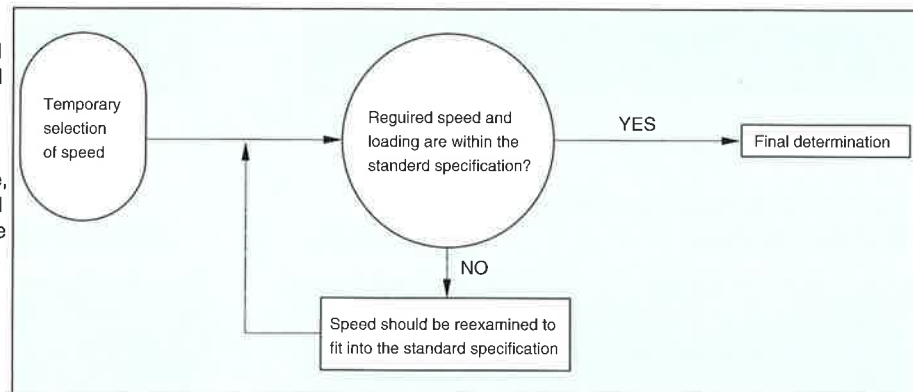
Car Dimensions and Loading Capacity

- 1) Freight elevators shall be selected according to size and weight of the goods and method of loading and unloading the goods.
- 2) Fork Lift can be used to load the goods for those elevator loading capacity 2500kg or more.
- 3) Goods including fork lift shall not exceed 150% of the lift rated load.



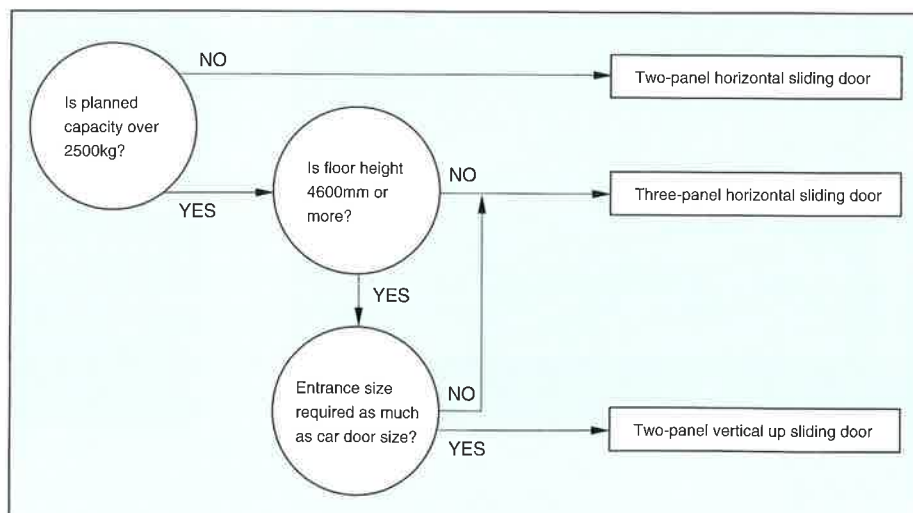
Speed

- 1) Speed should be selected by considering the transport volume and the time required for loading and un-loading. Prefeable speed is usually 30 to 45m/min.
- 2) When the loading weight is 2500kg or more, since loading and unloading the goods will be taking time, elevator speed is preferable to be 30m/min or 45m/min.



Door Type

- 1) All Hitachi Freight Elevators are equipped with automatic doors.
- 2) If fork lifts are used for loading and unloading, two-panel vertical up sliding door is more convenient.



For Planning

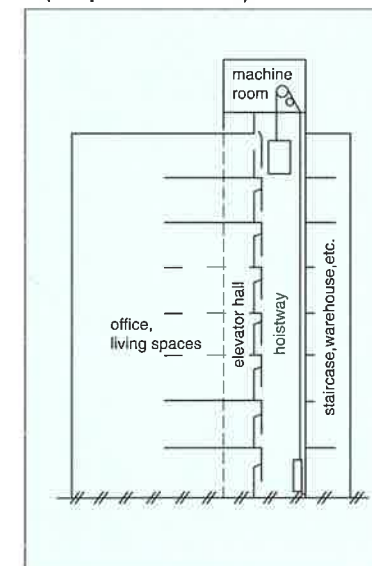
Loading and Unloading

- 1) Any model with a loading capacity of 2500 kg or more is manufactured so that goods can be loaded by fork lift. When loading or unloading, the total weight of the goods plus the fork lift must not exceed 150% of the rated load of the elevator. The fork lift should have pneumatic tires with a diameter of not less than 200 mm.
- 2) For those freight elevators with a loading capacity less than 2500kg, basically the loading of the goods shall be done by using handcart (Please inform if use fork lift). Furthermore, goods weight shall not be more than a quarter of the rated load of the elevator. Handcart wheel diameter shall be 100mm or more, width shall be 40mm or more.

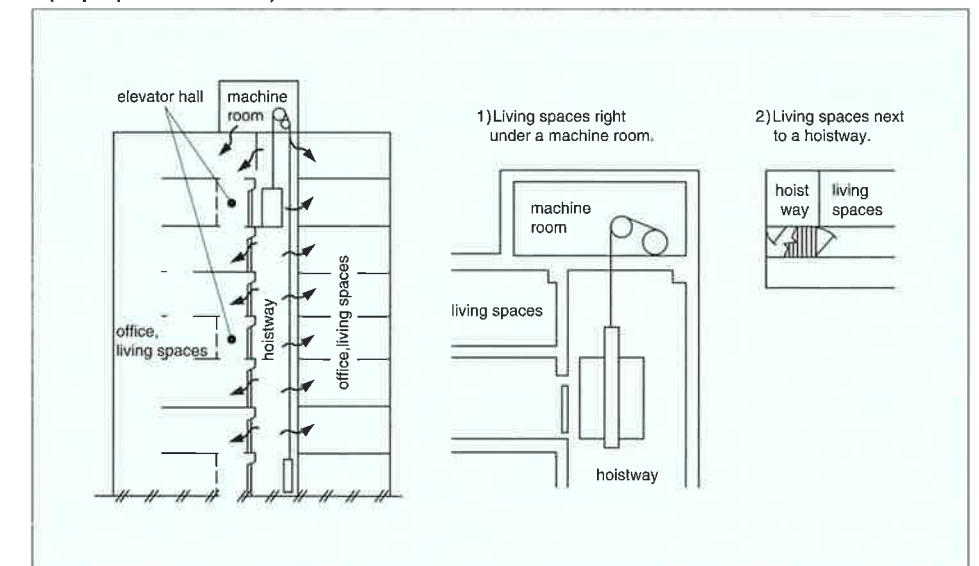
Arrangement of Hoistway

- 1) As the elevator travels, machinery noise can be transmitted to the hoistway or near the machine room. Therefore please try not to locate living spaces near the hoistway or machine room.
- 2) In case where two entrances are on one floor, in order to avoid the car being used as a passage, it is recommended to provide a passage adjacent to the car entrance.

(Proper Installation)



(Improper Installation)



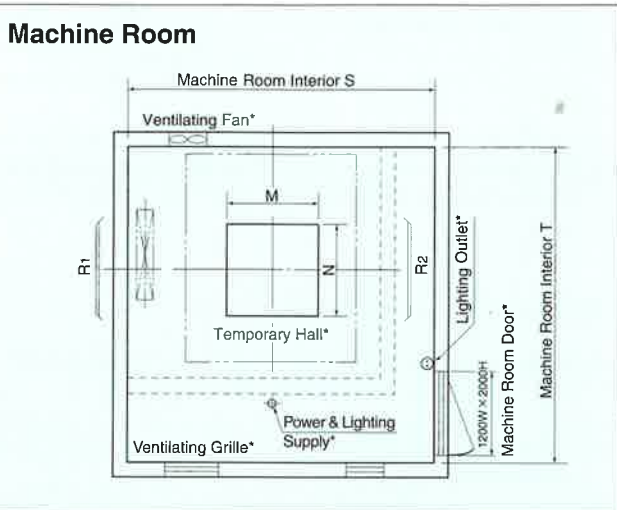
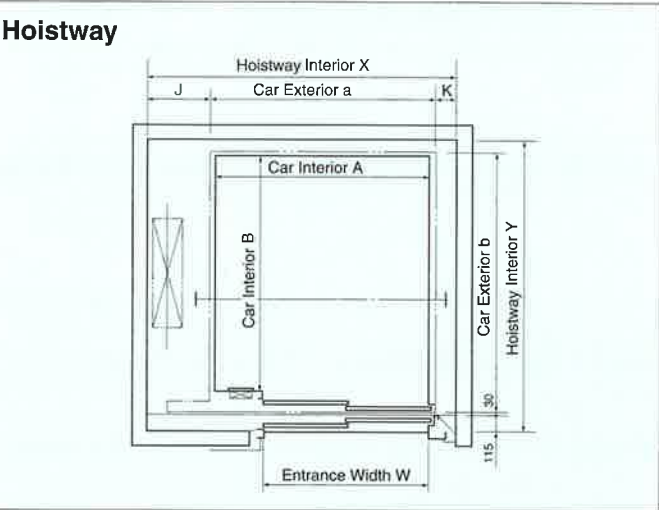
Remarks

Freight elevator shall be used for carrying goods and accompanied by a worker.

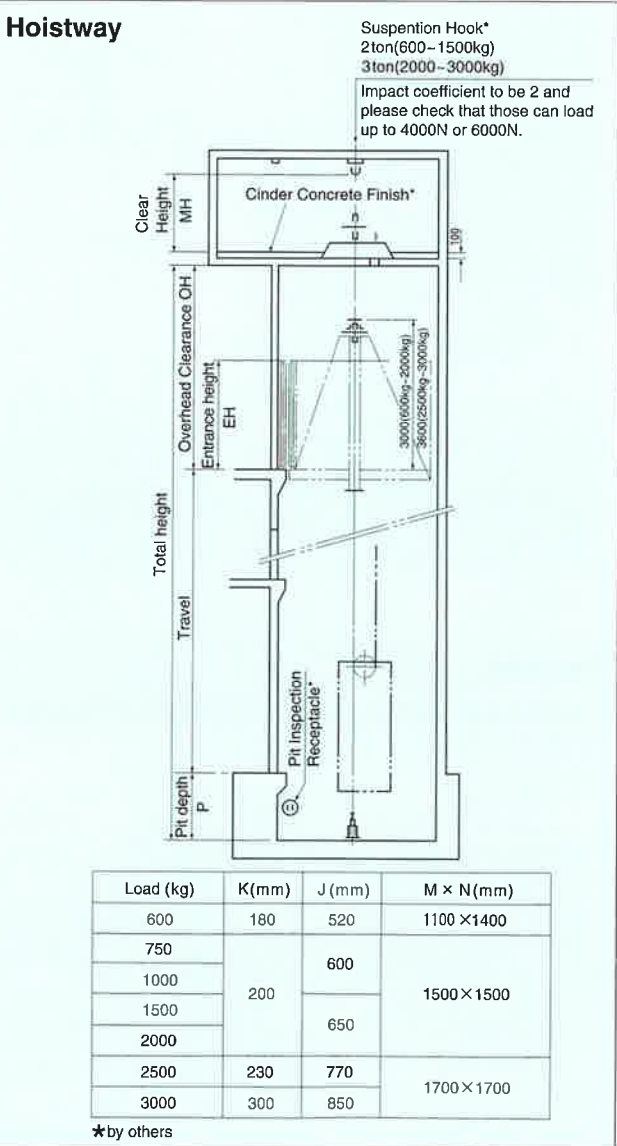
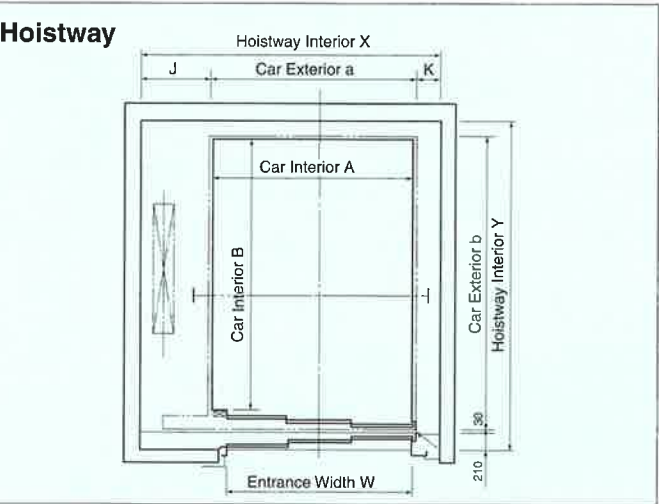
Standard Installation Plan [JIS Standard]

Front Opening Type

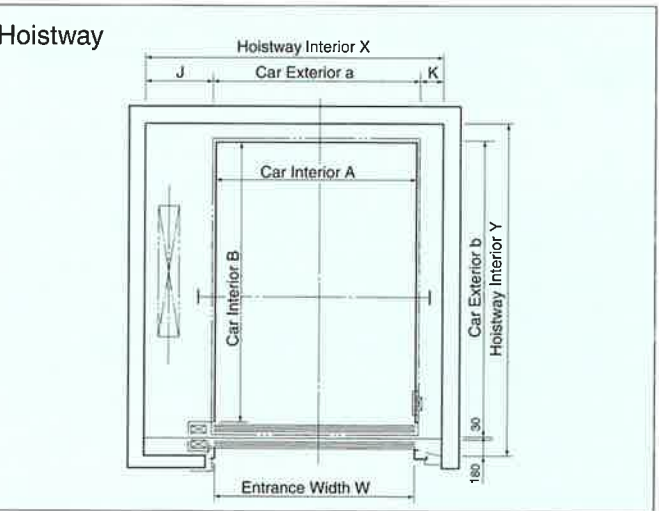
Two-panel horizontal sliding door(600kg ~2000kg)



Three-panel horizontal sliding door(2500kg,3000kg)



Two-panel vertical up sliding door(2500kg,3000kg)



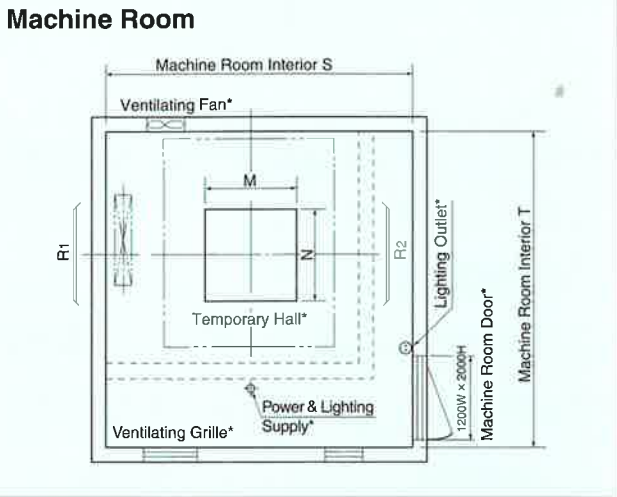
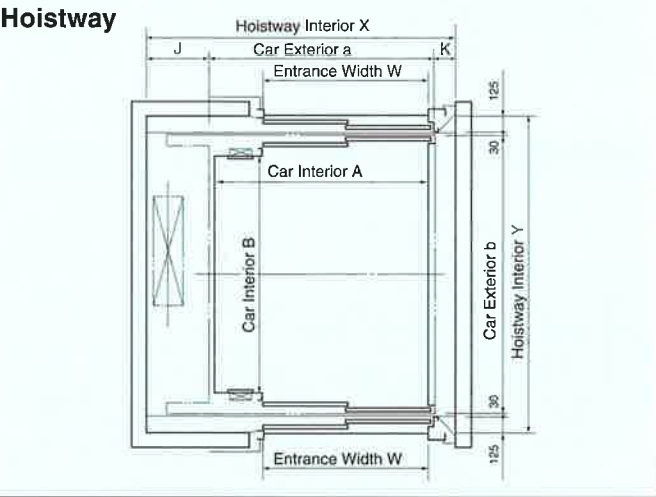
Dimensions and Reactions

Model	Car InteriorA×B (Car Exterior a×b) (mm)	Entrance Opening		Hoistway Interior X × Y (mm)	Machine Room		Machine Room Reaction(N)		Overhead Clearance (OH ; mm)	Pit Depth (P ; mm)						
		Width (mm)	Height (mm)		Interior Dimension S × T (mm)	Height MH (mm)	R1	R2								
F-600-2S ₃₀	1300×1750 (1400×1990)	1100	2100	2100×2300	2500×3400	2100	42000	28000	4450	1250						
F-600-2S ₄₅											1300×2300 (1400×2540)	1100	2200×2900	2600×3450	51000	33000
F-750-2S ₃₀	4650	1550														
F-750-2S ₄₅				1700×2300 (1800×2540)	1400		2600×2900	3150×3450	64000	39000						
F-750-2S ₆₀	4650	1550														
F-1000-2S ₃₀											1700×2300 (1800×2540)	1400	2600×2900	3150×3450	64000	39000
F-1000-2S ₄₅	4650	1550														
F-1000-2S ₆₀				2200×2400 (2300×2640)	1700		3150×3000	3600×3550	91000	51000						
F-1500-2S ₃₀	4650	1550														
F-1500-2S ₄₅											2200×2800 (2300×3040)	1700	3150×3400	3600×3750	110000	62000
F-1500-2S ₆₀	4650	1550														
F-2000-2S ₃₀				2200×2800 (2300×3040)	1700		3150×3400	3600×3750	110000	62000						
F-2000-2S ₄₅	4650	1550														
F-2000-2S ₆₀											2500×3000 (2600×3278)	2300	3600×3700	4000×3900	2350	159000
F-2500-3S ₃₀	2300	3750×4100	4100×4300	2350	178000	100000										
F-2500-3S ₄₅							2300									
F-3000-3S ₃₀	2500×3400 (2600×3678)							2300	3600×3700	4000×3900		2350				
F-3000-3S ₄₅							2500									
F-2500-2U ₃₀	2500×3000 (2600×3190)	2500	3600×3700	4000×3900	2350	159000		88000			4850		1250			
F-2500-2U ₄₅							2500									
F-3000-2U ₃₀	2500×3400 (2600×3590)	2500							3750×4100	4100×4300		2350		178000	100000	4850
F-3000-2U ₄₅							2500									

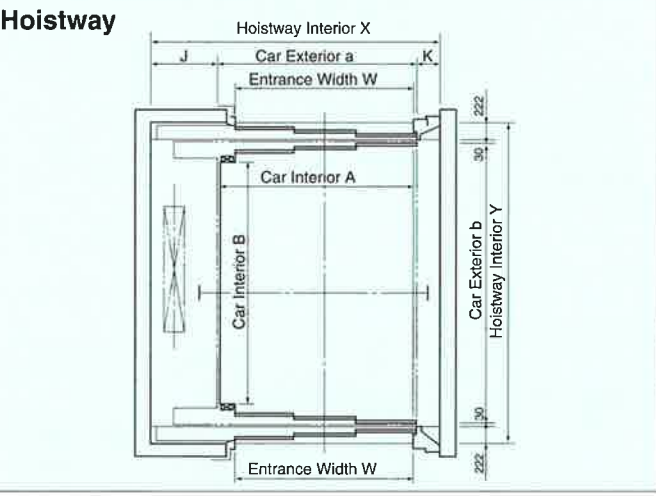
Standard Installation Plan [JIS Standard]

Front and Rear Opening Type

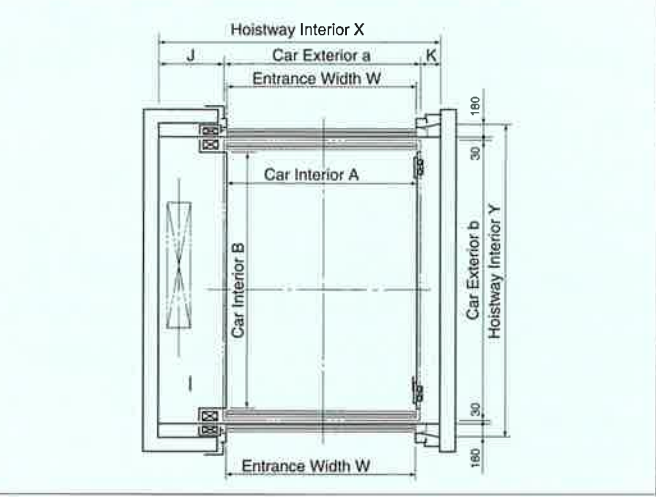
Two-panel horizontal sliding door(600kg~2000kg)



Three-panel horizontal sliding door(2500kg,3000kg)



Two-panel vertical up sliding door(2500kg,3000kg)



Hoistway

Suspension Hook*
2ton(600~1500kg)
3ton(2000~3000kg)

Impact coefficient to be 2 and please check that those can load up to 4000N or 6000N.

Load (kg)	K(mm)	J (mm)	M × N (mm)
600	180	520	1100 × 1400
750	200	600	1500 × 1500
1000			
1500			
2000			
2500	230	770	1700 × 1700
3000	300	850	1500 × 1500

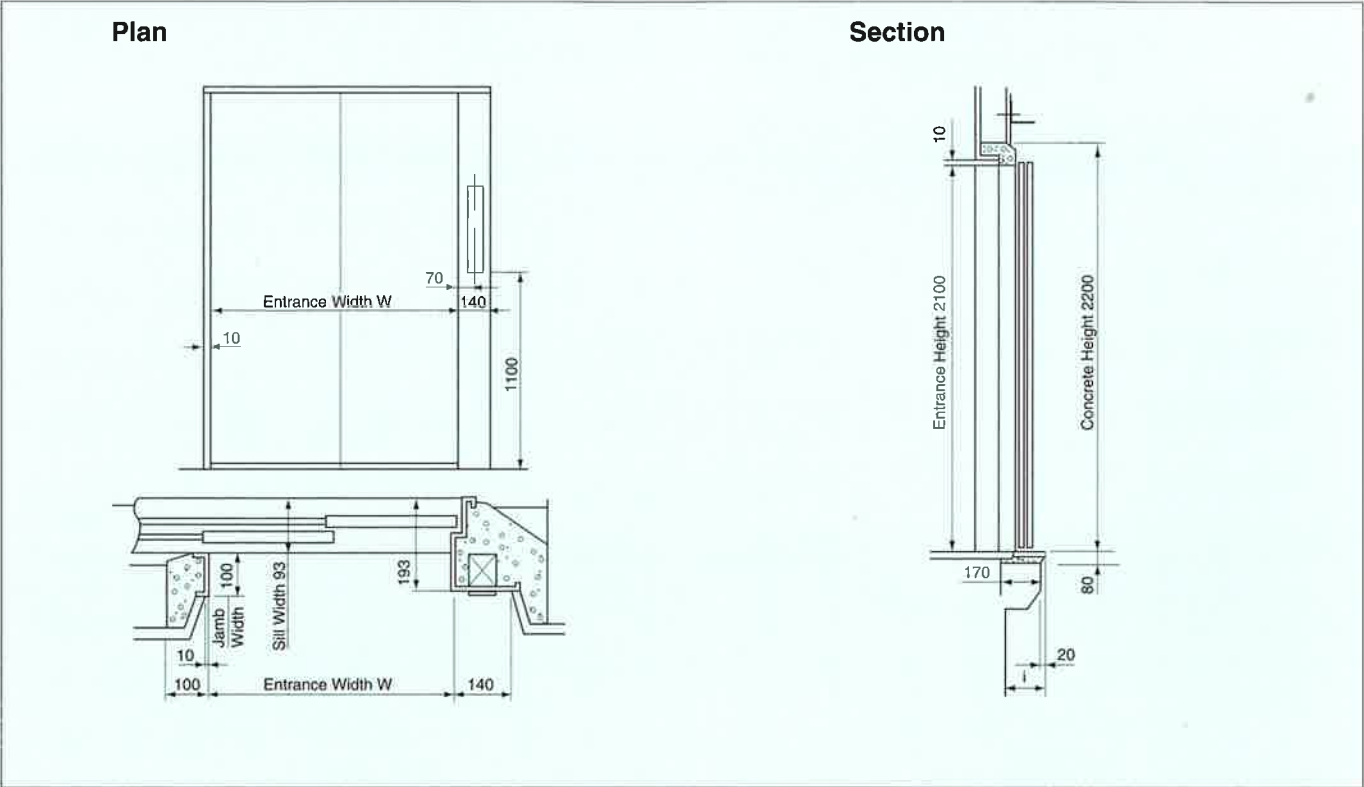
★by others

Dimensions and Reactions

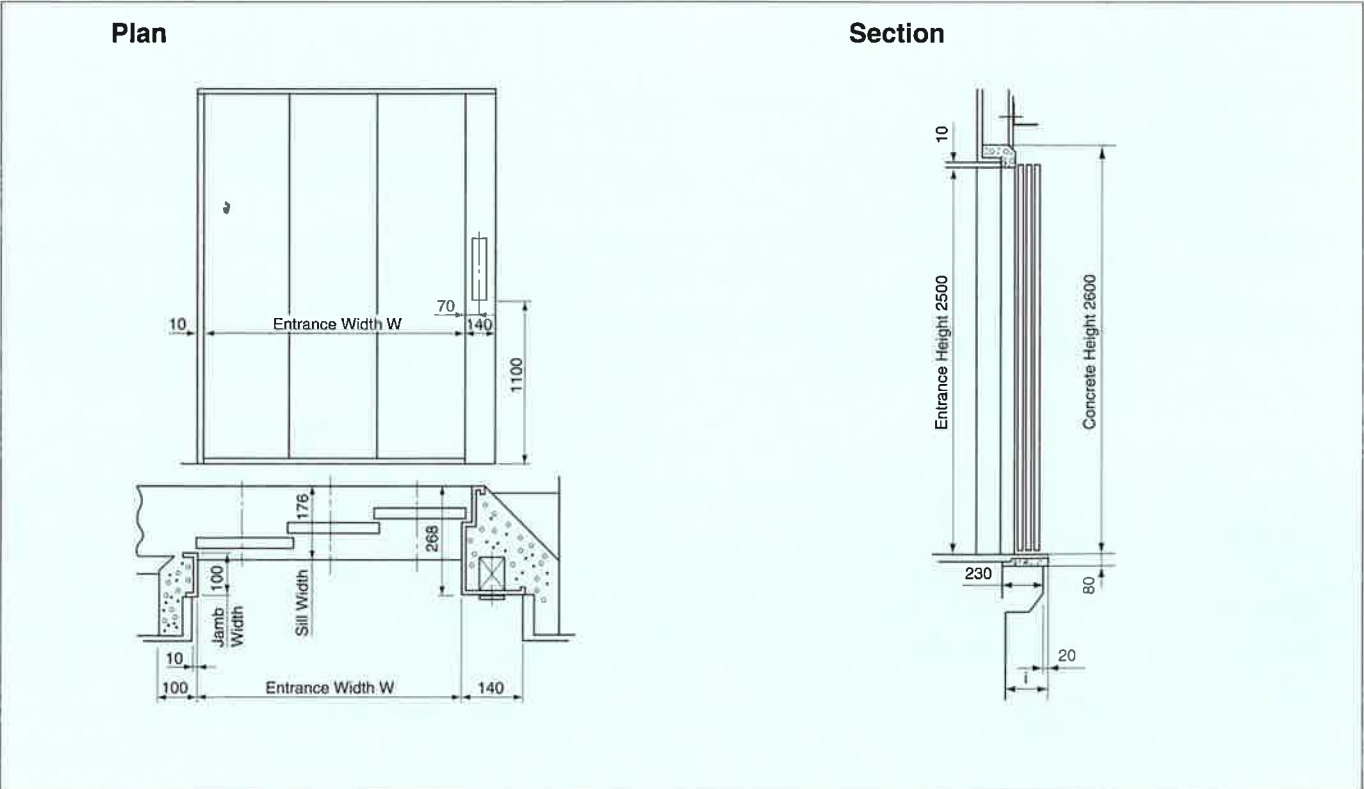
Model	Car InteriorA×B (Car Exterior a×b) (mm)	Entrance Opening		Hoistway Interior X × Y (mm)	Machine Room		Machine Room Reaction(N)		Overhead Clearance (OH ; mm)	Pit Depth (P ; mm)			
		Width (mm)	Height (mm)		Interior Dimension S × T(mm)	Height MH(mm)	R1	R2					
F-600T-2S30	1300×1600 (1400×1990)	1100	2100	2100×2300	2500×3600	2100	48000	32000	4450	1250			
F-600T-2S45													
F-750T-2S30	1300×2300 (1400×2690)	1100		2200×3000	2600×3450		58000	37000	4450	1250			
F-750T-2S45													
F-750T-2S60									4650	1550			
F-1000T-2S30	1700×2300 (1800×2690)	1400		2600×3000	3150×3450		82000	46000	4450	1250			
F-1000T-2S45									4650	1550			
F-1000T-2S60													
F-1500T-2S30	2200×2400 (2300×2790)	1700		3150×3100	3600×3550		110000	60000	4450	1250			
F-1500T-2S45									4650	1550			
F-1500T-2S60													
F-2000T-2S30	2200×2800 (2300×3190)	1700		3150×3500	3600×3750		127000	71000	4450	1250			
F-2000T-2S45									4650	1550			
F-2000T-2S60													
F-2500T-3S30	2500×3000 (2600×3466)	2300	2500	3600×3970	4000×3970	2350	176000	96000	4850	1250			
F-2500T-3S45													
F-3000T-3S30	2500×3400 (2600×3866)	2300		3750×4370	4100×4370		196000	109000					
F-3000T-3S45													
F-2500T-2U30	2500×3000 (2600×3280)	2500		3600×3700	4000×3900		176000	96000	4850	1250			
F-2500T-2U45													
F-3000T-2U30	2500×3400 (2600×3680)	2500		3750×4100	4100×4300		196000	109000					
F-3000T-2U45													

Entrance Details

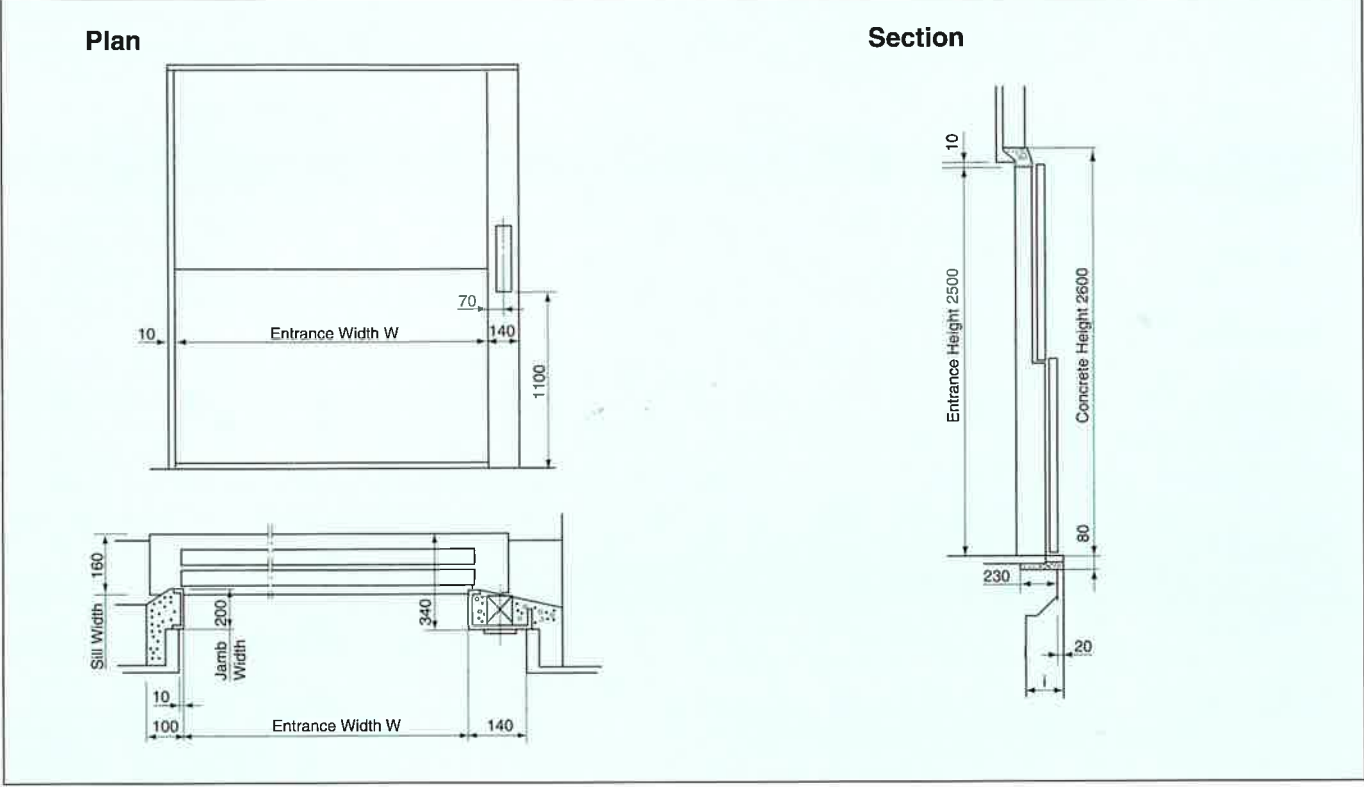
Two-panel horizontal sliding door (2S-2P)



Three-panel horizontal sliding door (3S-3P)



Two-panel vertical up sliding (2P-UP)



Dimensions

Door Type	Load (kg)	W (mm)	i (mm)
2S-2P	600	1100	115 (125)
	750		
	1000	1400	
	1500	1700	
	2000		
3S-3P	2500	2300	210 (222)
	3000		
2P-UP	2500	2500	180 (180)
	3000		

*() :Front and Rear Opening Type

Electrical Data and Machine Room Ventilation

Model	Motor Capacity (kW)	Transformer (kVA)	Circuit Brake		Wire Size (mm ²)		Machine Room Ventilation		
			200V	400V	200V	400V	Calorific Value (w)	Amount of Air to Be Ventilated (m³/h)	Ventilation Fan Size (cm)
F-600-2S ₃₀	4.5	4	50	20	5.5	5.5	400	250	20
F-600-2S ₄₅		5			8		650	350	
F-750-2S ₃₀	5.5	4	50	20	5.5	5.5	500	300	20
F-750-2S ₄₅		5			8		800	450	
F-750-2S ₆₀	7.5	6		30	1000		550	25	
F-1000-2S ₃₀	5.5	5	50	20	8	5.5	650	350	20
F-1000-2S ₄₅	7.5	7		30	14		1000	550	25
F-1000-2S ₆₀	9.5		75	50			1300	750	
F-1500-2S ₃₀	7.5	8	50	30	14	5.5	1000	550	25
F-1500-2S ₄₅	8	9	75	50			22	1500	
F-1500-2S ₆₀	11	11			22		1950	1100	30
F-2000-2S ₃₀	11	9	75	50	14	5.5	1300	750	25
F-2000-2S ₄₅	15	11	100		22		1950	1100	30
F-2000-2S ₆₀	18	14			38	14	2600	1450	
F-2500-3S ₃₀	15	11	100	50	22	5.5	1650	900	25
F-2500-3S ₄₅	22	13				8	2450	1350	30
F-3000-3S ₃₀	15	13	100	50	22	8	1950	1100	30
F-3000-3S ₄₅	22	15	125	75	38	14	2950	1600	
F-2500-2U ₃₀	15	11	100	50	22	5.5	1650	900	25
F-2500-2U ₄₅	22	13				8	2450	1350	30
F-3000-2U ₃₀	15	13	100	50	22	8	1950	1100	30
F-3000-2U ₄₅	22	15	125	75	38	14	2950	1600	

Building Condition

Environment

- (1) If the elevator hall is located outside, wind pressure need to be considered for car door open and close. Please inform in case of this condition.
- (2) It is necessary to take measures to make sure that the environmental limitations are maintained when the elevator is used in places where dust or humidity are excessive and where the equipment might be affected by salt or corrosive gasses.
- (3) Elevators cannot be installed such place as; high humidity, freezing, explosive gas, dangerous place for radiation.

Meteorological Conditions and Power Conditions

- (1) The temperature in the machine room and the hoistway should be in the range of 5°C to 40°C.
- (2) Humidity should not be higher than 90% on a monthly average, and should be 95% or lower on a daily average.
- (3) Please ensure that voltage difference to be within +5% ~ -10%, and unbalance factor of voltage does not exceed 5%.

Work to be Done by Building Contractors

Following works are to be done not by Hitachi but by other contractors.

No.	Construction and electric works	Remarks/ Examples
1	Piping under the machine room floor, pouring of cinder concrete after installation of machine beams	Not less than 100mm thick cinder concrete
2	Machine beams spacers for steel construction	
3	Electric power source, lighting source and grounding wires to power receiving panel in the machine room	Connect to the primary terminal with 1.8m long raised portion
4	Lighting equipment in the machine room	Provide lighting switch near access door
5	Holes in the machine room floor and access door	
6	Fasteners for jamb frames and sills under steel construction	
7	Ventilating equipment in the machine room	Temperature and humidity in machine room : below 40°C and 90%, respectively (Wired glass windows are preferable)
8	Electric power outlet in machine room and pit	10A power outlet near access door
9	Equipment of the MC Room entrance and those works to provide holes to carry in the equipments	A temporary hole for carrying the equipments should be provided on the floor of the machine room
10	Sound proofing inside the machine room and hoistway	Provide soundproofing if there is a living space or sound-sensitive area near the machine room or hoistway
11	Preparation and installation of hoistway Partitions, or separating beams	Partitions to be provided if the common shaft pit level differ
12	Fasteners of rail brackets under steel construction	
13	Piping and Wiring works inside the Hoistway and outside the MC Room (such as interphone)	11 wires per one elevator. Please provide additional 1 wire per additional 1 elevator
14	Electric power, water, sand and cement for installation, test operation and adjustment	
15	Repair and finish of entrance walls and other structures after installation	
16	Temporary office site and product storage Space	
17	Installation of hook and trolley beams in the machine room	The lifting load on the hook should be 20,000N or 30,000N. Assume that the impact coefficient is 2, and prepare the hook robust enough to endure a load of 40,000N-60,000N. It should be located just above the traction machine in the machine room
18	Emergency exit of elevator hoistway	Door opens outward. Use a night latch
19	Refilling of too deep pit and providing a ladder	If the pit is deeper than the specified depth, it must be refilled
20	Please inform us when there been requests of using the elevators as construction use	
21	Prevention of water entry When entrances exposed outside	Provide a pentroof and water protection to entrance
22	Prevention of water entry to the pit. (include drain works if any)	
23	Entrance Hole opening of each floor and those finishing. (for Entrance, Hall Button, Hall Indicator)	

Wiring Diagram

