HITACHI
Inspire the Next

UCA

Ultra-High Speed Passenger Elevator
Planning Guide

Contents

Elevator Specification

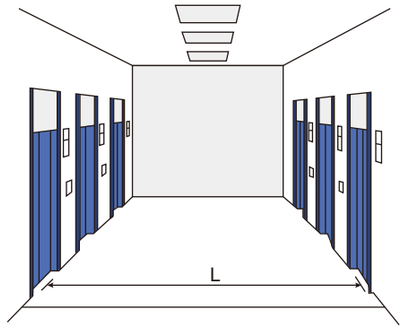
Rated Load (kg)	Number Of Passengers ①	Rated Speed (m/min)	Maximum Number Of Stops	Maximum Travel (m)	Maximum Travel With Fireman Operation (m)	Minimum Floor Height (mm)
1050	14	300/360	64 (Duplex/ Group Control) 80 (Simplex Control)	250	250	2800
1150	15	300/360		250	250	
		420/480		285	285	
1350	18	300/360		250	250	
		420/480		285	285	
1600	21	300/360		220	220	
		420/480		285	285	
1800	24	300/360		200	200	
		420/480		285	285	
2000	26	300/360		250	250	
2250	30	300/360		200	200	

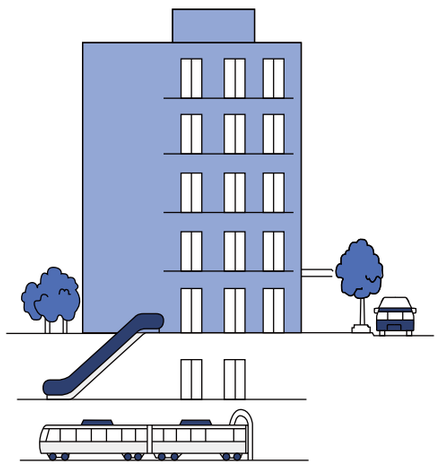
Note:
① Passenger numbers calculated at 75Kg per person.
② The above information are based on GB7588-2003 standards.
③ The maximum travel for rated load 1150/1350/1600kg with rated speed 300/360 m/min could be up to 330m with conditions. For details, please contact us.
④ The maximum travel for rated load 1800kg with rated speed 300/360 m/min could be up to 300m with conditions. For details, please contact us.

Layout

- Maximum in-line arrangement is 4 elevators.
- Elevators not in the same group 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

<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 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.	▲	▲	—
	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)	—
	Search for Optimum Operation Program (FI-SOP)	Searches for the optimum operation program of the moment based on the identified traffic mode.	●	●	—
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 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 (RHSO)	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.	—	—	●

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
SA5	Machine Room Debugging 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	SB14	Ascending Car Overspeed Protection, ACOP Function
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	Door Opening/Closing Time Abnormity Protection
SD7	Next Drive (Door Open Abnormity)	SD8	Automatic Door Dwell Time Control
SD9	Automatic Door Dwell Time Adjustment	SD10	Number Of Runs Indicator
SD11	Intelligent Multi-Beam Protection ①	SD12	Current Floor Push-Button Reopening Function
SD13	Maintenance Indication At Hall Indicator ①	SD14	Overload Indicator (In Car)
SD15	Emergency Terminal Stopping Device, ETSD		
Emergency Solution			
SE1	Out Of Door-Open Zone Alarm	SE2	Car Emergency Lighting
SE3	Fire Emergency Operation (Automatic)	SE4	Emergency Electric Operation
Design for Comfort			
SF1	Parking Operation	SF2	Automatic Return Function
SF3	Start Torque Auto-Adjustment	SF4	Door-Stop Function (Maintenance)
SF5	Micro Levelling	SF6	Advance Door Opening
SF7	Mischievous Call Cancellation (Applicable for Simplex, Duplex, FI-100, FI-600 and FI-700 only)	SF8	Opposite Direction Car Call Cancellation ①
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	Car Floor Button Flashing
SF13	Car Call Deselect Function	SF14	Step-Less Speed Control
SF15	Regenerative System Function	SF16	Door Bypass Detection
SF17	Overloading Hall Call Recovery Function ① (Applicable for Simplex, Duplex and FI-10 only)	SF18	Manual Setting For Start Base Floor Function (Applicable for Simplex only)
SF19	Limit Illumination Of Registered Car Calls	SF20	Electromagnetic Compatibility (EMC) Function
SF21	Intelligent Broadcast System ①		

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)	OA10	Call Dedicated Elevator Operation ① (For Duplex and Group Control)
Safe Communication			
OB1	Interphone System (5 Ways) (5 Ways: Monitoring Center, Machine Room, In Car, Car Top & Pit)		
Safe Riding			
OC1	IC Card Security System (In Car) (Not applicable with OC2, OC4, OC5 or OE5)	OC2	IC Card Security System (Hall) (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	OD2	Automatic Rescue Device (ARD) (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
Design for Comfort			
OE1	Attendant Operation	OE2	Independent Operation
OE3	Voice Synthesizer	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	OE10	Ultraviolet, UV Sterilisation Function ①
OE11	Horizontal Car Operating Panel	OE12	Braille Button
OE13	Hall Lantern With Arrival Chime Interface ①	OE14	Operation Status Indication At Hall Indicator
OE15	Destination Floor Reservation System, DFRS ① (Under FI-600 or FI-700)	OE16	Hall Call Deselect Function ① (Applicable for Simplex, Duplex or FI-10 only)
OE17	Quick Door Closing Function (In Car)	OE18	Hall Lantern With Arrival Chime ①
OE19	Robotics System Interface ①		

Note:
① For details, please contact us.

Overhead and Pit Depth

Rated Load (kg)	Rated Speed (m/min)	Overhead Height, OH (mm)		Pit Depth, PIT (mm)	
		Common Hoistway (2 Units)	Hoistway (1 Unit)	Common Hoistway (2 Units)	Hoistway (1 Unit)
1050	300	5300	5550	3100	3400
	360				
1150	300	5300	5550	3100	3400
	360				
	420	5500 / 7500 ⑥	——	3400 / 5500 ⑥	——
	480				
1350	300	5300	5550	3100	3400
	360				
	420	5500 / 7500 ⑥	——	3400 / 5500 ⑥	——
	480				
1600	300	5300	5550	3100	3400
	360				
	420	5500 / 7500 ⑥	——	3400 / 5500 ⑥	——
	480				
1800	300	5300	5550	3100	3400
	360				
	420	5500 / 7500 ⑥	——	3400 / 5500 ⑥	——
	480				
2000	300	5300	5550	3100	3400
	360				
2250	300	5300	5550	3100	3400
	360				

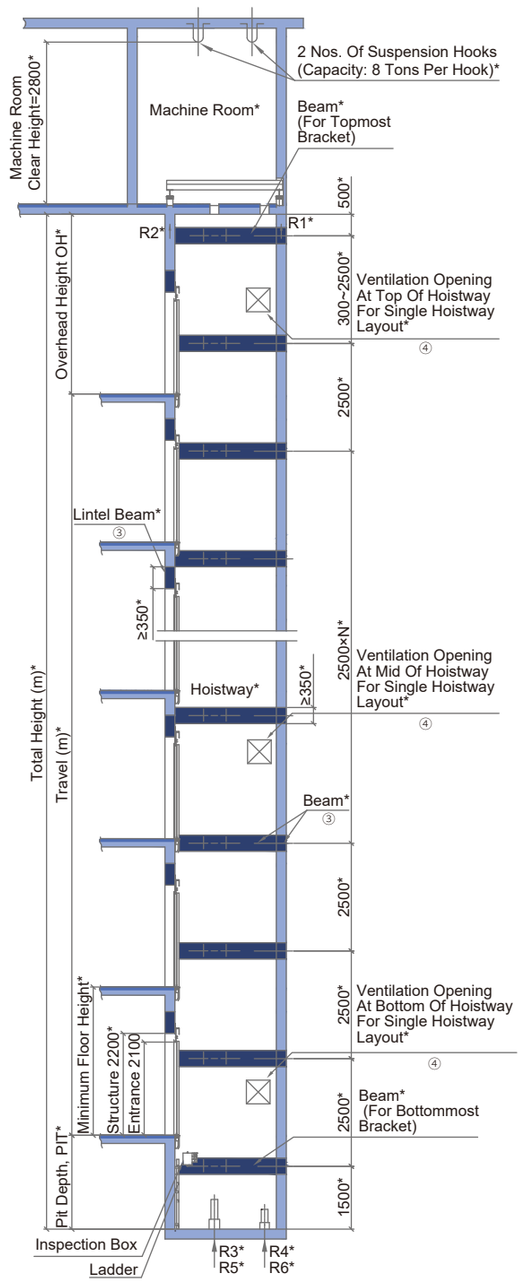
Note:
① The above information are based on GB7588-2003 standards.
② The overhead height, OH is based on bare ceiling height of 2800mm.
③ The pit depth, PIT is based on vinyl tile finish without recess.
④ Configuration is without counterweight safety gear.
⑤ Configuration is based on the following decoration weight provision:
For common hoistway with 2 units of elevators, decoration weight provision shall be up to 450kg.
For hoistway with 1 unit of elevator, decoration weight provision shall be up to 250kg.
⑥ For travel ≤ 250m, overhead height shall be 5500mm and pit depth shall be 3400mm.
For travel > 250m, overhead height shall be 7500mm and pit depth shall be 5500mm.

Hoistway and Machine Room

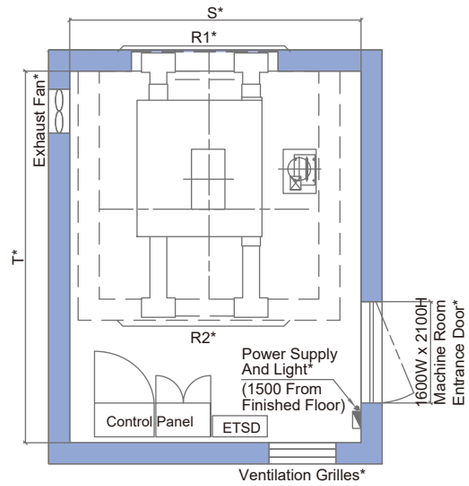
The followings shall be furnished by building contractors:

- Building Structure
- Wall And Floor Finishes
- Beam

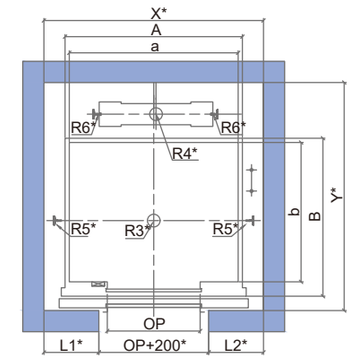
Hoistway Section



Machine Room Plan
(Applicable for rated speed 300/360 m/min)



Hoistway Plan
(Applicable for rated speed 300/360 m/min)



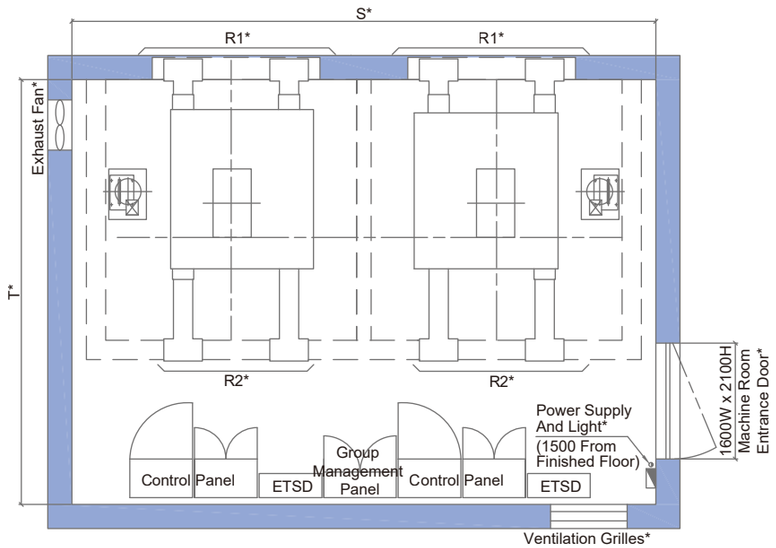
Note:
① The above information are based on GB7588-2003 standards.
② Items with "*" shall be furnished by building contractors.
③ The hoistway construction shall be reinforced concrete ring beam with strength C25 or whole hoistway of reinforce concrete wall. For other situations, please contact us.
④ For hoistway and machine room details, please contact us.
⑤ Unit of dimension shall be in mm unless otherwise stated.

Hoistway and Machine Room

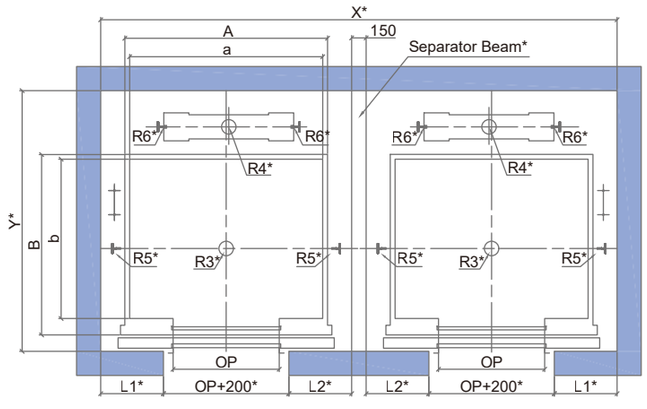
The followings shall be furnished by building contractors:

Building Structure

Machine Room Plan



Hoistway Plan



Note:
① The above information are based on GB7588-2003 standards.
② Items with "*" shall be furnished by building contractors.
③ The hoistway construction shall be reinforced concrete ring beam with strength C25 or whole hoistway of reinforce concrete wall. For other situations, please contact us.
④ For hoistway and machine room details, please contact us.
⑤ Unit of dimension shall be in mm unless otherwise stated.

Hoistway and Machine Room

Hoistway (1 Unit)

Rated Load (kg)	Rated Speed (m/min)	Car Size (mm)		Door Opening (mm)		Front Wall Arrangement (mm)		Hoistway Size (mm)	Machine Room Size (mm)	Machine Room Reaction Force (KN)		Pit Reaction Force (KN)			
		Car Inside (a×b)	Car Outside (A×B)	Type	Width OP	L1	L2	X×Y	S×T	R1	R2	R3	R4	R5	R6
								1 Unit	1 Unit						
1050	300	1600×1500	1700×1707	2P-CO	900	550	550	2200×2310	2670×4060	260	150	520	520	160	160
	360														
1150	300	1800×1500	1900×1707	2P-CO	1000	600	600	2400×2310	2670×4060	260	150	550	550	180	180
	360														
1350	300	2000×1500	2100×1707	2P-CO	1100	650	650	2600×2310	2770×4060	260	150	560	560	185	185
	360														
1600	300	2000×1700	2100×1907	2P-CO	1100	650	650	2600×2510	2770×4260	300	215	580	580	190	190
	360														
1800	300	2200×1700	2300×1907	2P-CO	1200	700	700	2800×2510	2940×4260	325	230	600	600	195	195
	360														
2000	300	2200×1850	2300×2057	2P-CO	1200	750	750	2900×2660	2940×4410	325	230	670	670	195	195
	360														
2250	300	2200×2000	2300×2207	2P-CO	1200	750	750	2900×2810	2940×4560	325	230	670	670	195	195
	360														

Common Hoistway (2 Units)

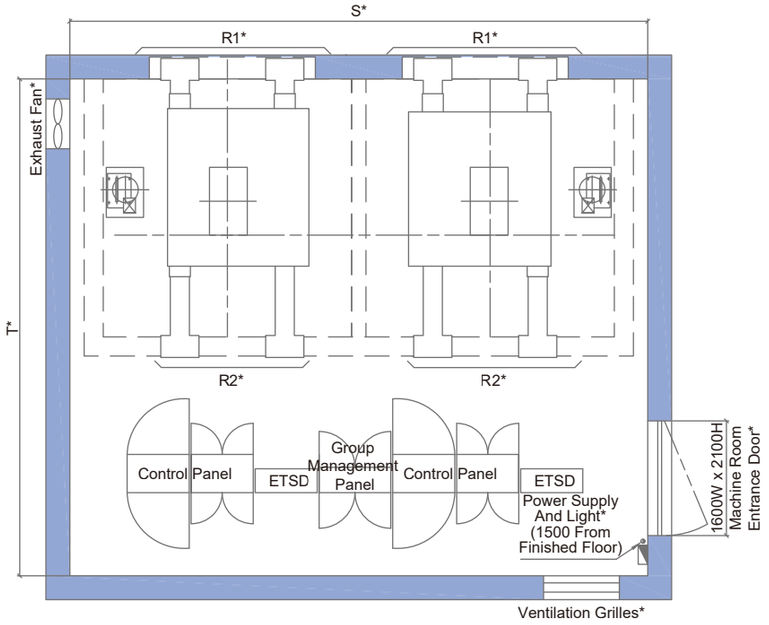
Rated Load (kg)	Rated Speed (m/min)	Car Size (mm)		Door Opening (mm)		Front Wall Arrangement (mm)		Hoistway Size (mm)	Machine Room Size (mm)	Machine Room Reaction Force (KN)		Pit Reaction Force (KN)			
		Car Inside (a×b)	Car Outside (A×B)	Type	Width OP	L1	L2	X×Y	S×T	R1	R2	R3	R4	R5	R6
								2 Units	2 Units						
1150	300	1800×1500	1900×1707	2P-CO	1000	600	600	4950×2310	5050×4060	260	150	550	550	180	180
	360														
1350	300	2000×1500	2100×1707	2P-CO	1100	650	650	5350×2310	5450×4060	260	150	560	560	185	185
	360														
1600	300	2000×1700	2100×1907	2P-CO	1100	650	650	5350×2510	5450×4260	300	215	580	580	190	190
	360														
1800	300	2200×1700	2300×1907	2P-CO	1200	700	700	5750×2510	5850×4260	325	230	600	600	195	195
	360														
2000	300	2200×1850	2300×2057	2P-CO	1200	750	750	5950×2660	6050×4410	325	230	670	670	195	195
	360														
2250	300	2200×2000	2300×2207	2P-CO	1200	750	750	5950×2810	6050×4560	325	230	670	670	195	195
	360														

Note:
① The above information are based on GB7588-2003 standards.
② Configuration is without counterweight safety gear.
③ The above information and configuration are based on rear counterweight layout.
④ Common hoistway size for 2 units of elevators are based on 150mm width separator beam.

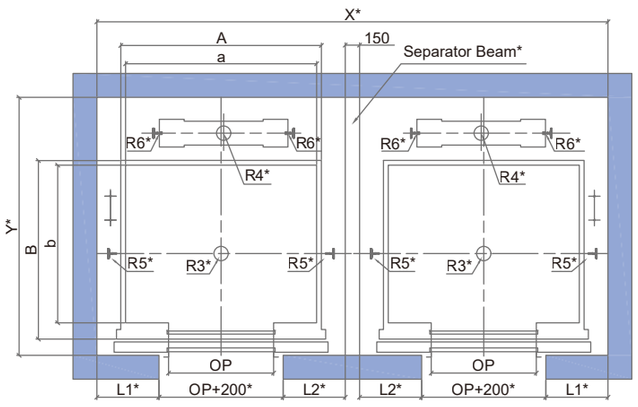
The followings shall be furnished by building contractors:

Building Structure

Machine Room Plan



Hoistway Plan



Note:
① The above information are based on GB7588-2003 standards.
② Items with "*" shall be furnished by building contractors.
③ The hoistway construction shall be reinforced concrete ring beam with strength C25 or whole hoistway of reinforce concrete wall. For other situations, please contact us.
④ For hoistway and machine room details, please contact us.
⑤ Unit of dimension shall be in mm unless otherwise stated.

Hoistway and Machine Room

Common Hoistway (2 Units)

Rated Load (kg)	Rated Speed (m/min)	Car Size (mm)		Door Opening (mm)		Front Wall Arrangement (mm)		Hoistway Size (mm)	Machine Room Size (mm)	Machine Room Reaction Force (KN)		Pit Reaction Force (KN)					
		Car Inside (a×b)	Car Outside (A×B)	Type	Width OP	L1	L2	X×Y	S×T	R1	R2	R3	R4	R5	R6
								2 Units	2 Units								
1150	420	1800×1500	1900×1707	2P-CO	1000	600	600	4950×2350	5050×4910	290	195	570	550	185	185
	480																
1350	420	2000×1500	2100×1707	2P-CO	1100	650	650	5350×2350	5450×4910	310	200	570	570	190	190
	480																
1600	420	2000×1700	2100×1907	2P-CO	1100	650	650	5350×2550	5450×5110	320	215	650	590	195	195
	480																
1800	420	2200×1700	2300×1907	2P-CO	1200	700	700	5750×2550	5850×5110	325	230	650	590	200	200
	480																

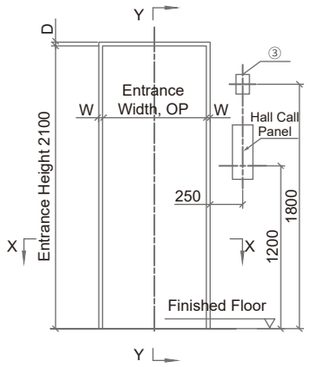
Note:
① The above information are based on GB7588-2003 standards.
② Configuration is without counterweight safety gear.
③ The above information and configuration are based on rear counterweight layout.
④ Common hoistway size for 2 units of elevators are based on 150mm width separator beam.

Entrance Design

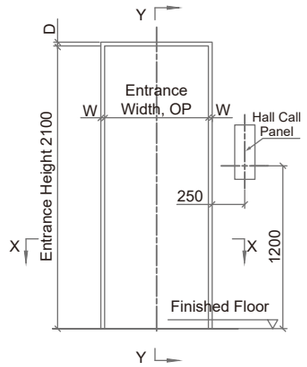
The followings shall be furnished by building contractors:

Wall And Floor Finishes

Elevation Of Entrance

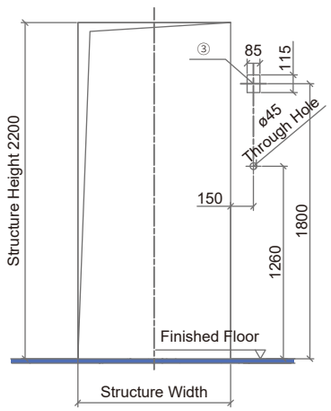


For Entrance With Fireman Switch

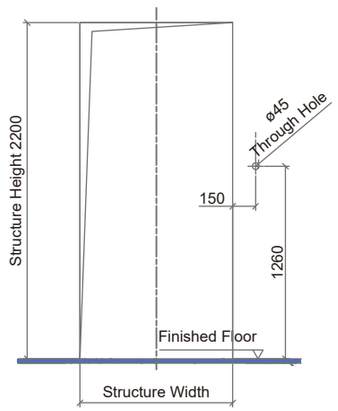


For Entrance Without Fireman Switch

Structure Opening Of Entrance



For Entrance With Fireman Switch



For Entrance Without Fireman Switch

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.

Entrance Design

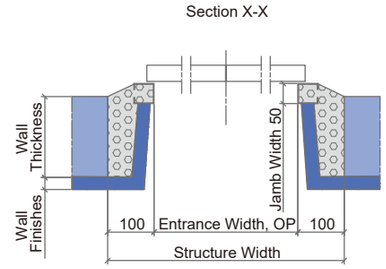
The followings shall be furnished by building contractors:

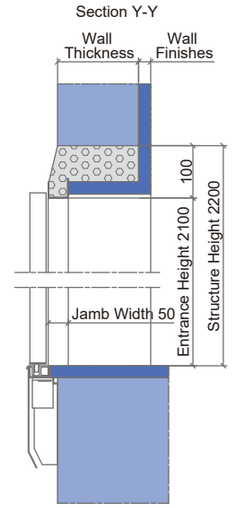
Building Structure

Wall And Floor Finishes

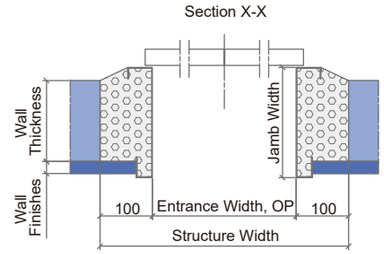
Grouting Work

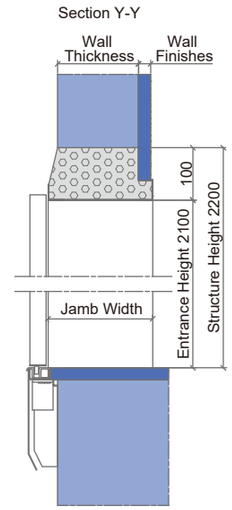
Narrow Jamb (AS-1X)





Wide Jamb (SS-1X)





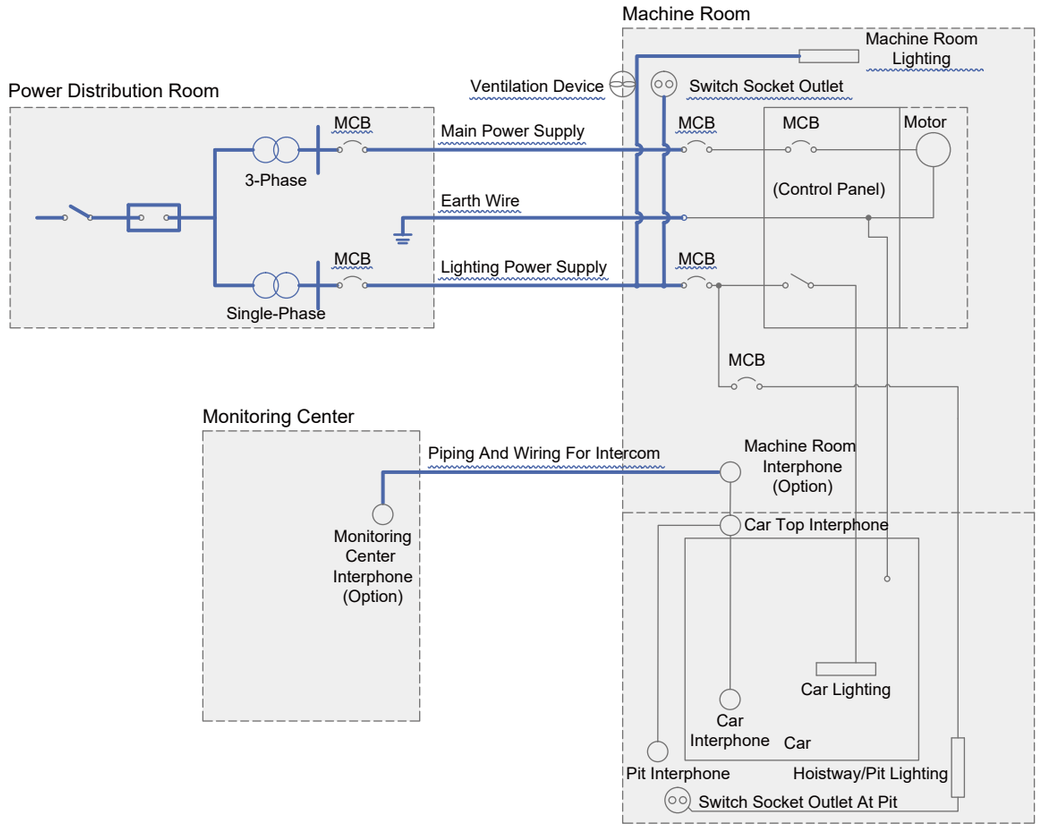
Note:
① Unit of dimension shall be in mm unless otherwise stated.

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 the main power supply switch around the entrance of the machine room. 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 machine room to ensure the temperature in the machine room is maintained at below 40°C.
Machine Room Lighting And Switch Socket Outlet	To provide single phase AC220V. 10A switch socket outlet and machine room lighting with switch around the entrance of machine room for maintenance purposes.

Electrical Data

S/No.	Rated Load (kg)	Rated Speed (m/min)	Supply 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	1050	300	3Φ380V 1Φ220V 50Hz	200	200	50	80	60	125	30	65
		360		200	200	63	100	80	200	40	100
2	1150	300		200	200	50	100	60	125	30	65
		360		200	200	63	125	80	200	40	100
		420		250	250	63	125	100	280	50	140
		480		250	250	80	125	125	325	65	165
3	1350	300		200	200	63	100	80	150	40	75
		360		200	200	80	125	80	200	40	100
		420		250	250	80	125	100	280	50	140
		480		250	250	80	160	125	325	65	165
4	1600	300		200	200	63	125	80	150	40	75
		360		200	250	80	160	80	200	40	100
		420		250	250	80	160	125	325	65	165
		480		250	275	100	200	150	350	75	175
5	1800	300		200	250	80	160	80	150	40	75
		360		200	250	100	160	100	200	50	100
		420		250	275	100	200	125	325	65	165
		480		250	325	125	200	150	350	75	175
6	2000	300		200	250	80	160	100	200	50	100
		360		225	300	100	200	125	325	65	165
7	2250	300		225	275	100	160	100	200	50	100
		360		225	325	125	200	100	280	50	140

Notes:

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 (mm^2) and Earth Wire Size (mm^2) 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 (mm^2) = [Actual wire length/150] x [Wire size in above table]

④ The machine room calorific value (kcal/hr) for one elevator is calculated using the following formula:
Machine Room Calorific Value (kcal/hr) = Rated Load (kg) x Rated Speed (m/min) x [1/45]

Civil Works Matters

Working environment of the elevator shall be as follow:

1. Machine room 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 ±7%.
4. Surrounding environment shall be free from explosive, corrosive hazard, anti-insulation and conductive particles atmosphere.

About hoistway and machine room:

1. Hoistway and machine room 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 and machine room walls, floors and roofs should be able to absorb a large amount of elevator operation noise.
4. Hoistway and machine room 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 and ventilated machine room of adequate size 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 in the machine room with required loading as shown in this catalogue.
6. Furnish main for three-phase electric power and single-phase lighting supply to machine room, 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.

Note

Note

Note