HITACHI
Inspire the Next

VGE Series

Home Elevator Planning Guide

Content

Elevator Specification

Model	Rated Load (kg)	No. of Passengers①	Rated Speed (m/min)	Maximum Number of Stops	Maximum Travel (m)	Minimum Floor Height (mm)
VGE	320	4	24	5	12	2600
	400	5				
	320	4	45	6	24	
			60			
	400	5	45			
			60			
VGE-O	320	4	24	5	12	2600
	400	5				
	320	4	60	6	24	
	400	5				

Note:
① Passenger numbers calculated at 75kg per person.

Elevator Function

Standard Function

Control System			
SA1	Single Button Selective Collective Control	SA2	Floor Height Self Measurement
SA3	On-Cage (Car Top) Maintenance Operation	SA4	Door Bypass Detection
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	Intelligent Auxiliary Brake Function
SB13	Ascending Car Overspeed Protection, ACOP Function		
Safe Communication			
SC1	Car Intercom Communication	SC2	Car Top Intercom Communication
SC3	Pit Intercom Communication	SC4	Telephone Line Interface ①
Safe Riding			
SD1	Alarm System	SD2	Door Safety Return System
SD3	Overload Detection System	SD4	Overload Alarm
SD5	Next Drive (Door Open Abnormity)	SD6	Door Opening/Closing Time Abnormity Protection
SD7	Automatic Door Dwell Time Control	SD8	Automatic Door Dwell Time Adjustment
SD9	Number of Runs Indicator	SD10	Multi-beam Protection
Emergency Solution			
SE1	Car Emergency Lighting	SE2	Fire Emergency Operation (Automatic)
SE3	Emergency Electric Operation	SE4	Out of Door-Open Zone Alarm
SE5	Automatic Rescue Device (ARD)	SE6	Electric Brake Rescue Function
Design for Comfort			
SF1	Parking Operation	SF2	Start Torque Auto-Adjustment
SF3	Door-Stop Function (Maintenance)	SF4	Opposite Direction Car Call Cancellation
SF5	Car Light Auto Turn-off	SF6	Car Fan Auto Turn-off
SF7	Abnormal Duration Hall Call Detection	SF8	Elevator Sleep Function
SF9	Mischievous Call Cancellation		

Note:
① For details, please contact us.

Elevator Function

Optional Function

Control System			
OA1	Selective Collective Control		
Safe Communication			
OB1	Interphone System (5 Ways) (5 Ways: Monitoring Center, Inspection Panel, In Car, Car Top & Pit)		
Safe Riding			
OC1	IC Card System (In Car) ①	OC2	Building Intercom Linkage Interface (RS485) ①
OC3	IC Card Interface (RS485) (In Car) ①	OC4	Building Intercom linkage Interface (Dry Contact) ①
OC5	IC Card Interface (Dry Contact) (In Car) ①	OC6	IC Card System (Hall) ①
OC7	Hitachi Smart Security [ITM] Interface ①	OC8	Multi-beam + Safety Edge Protection
OC9	Contact at Control Panel (RS485) (Not applicable with OC11)	OC10	Supervisory Panel (Dry Contact Type)
OC11	Elevator Monitoring System (Computer Type) (Not applicable with OC9)	OC12	Twisted Pair Cable (1 Pair) for CCTV Interface①
OC13	Twisted Pair Cable (1 Pair) for BGM Interface ①		
Emergency Solution			
OD1	Pit Flood Operation		
Design for Comfort			
OE1	Arrival Chime (Car Top & Bottom)	OE2	Door Opening Prolong Function ①
OE3	Double Opening Function	OE4	Car Call Deselect Function
OE5	Automatic Return Function		

Note:
① For details, please contact us.

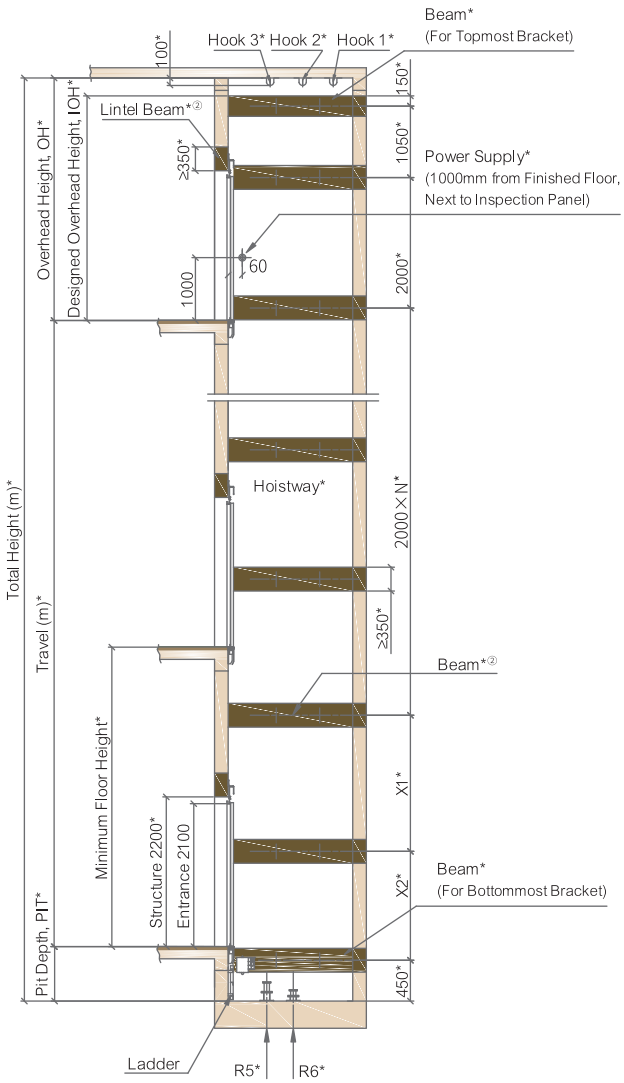
Hoistway (Center Opening)

The followings shall be furnished by building contractors:

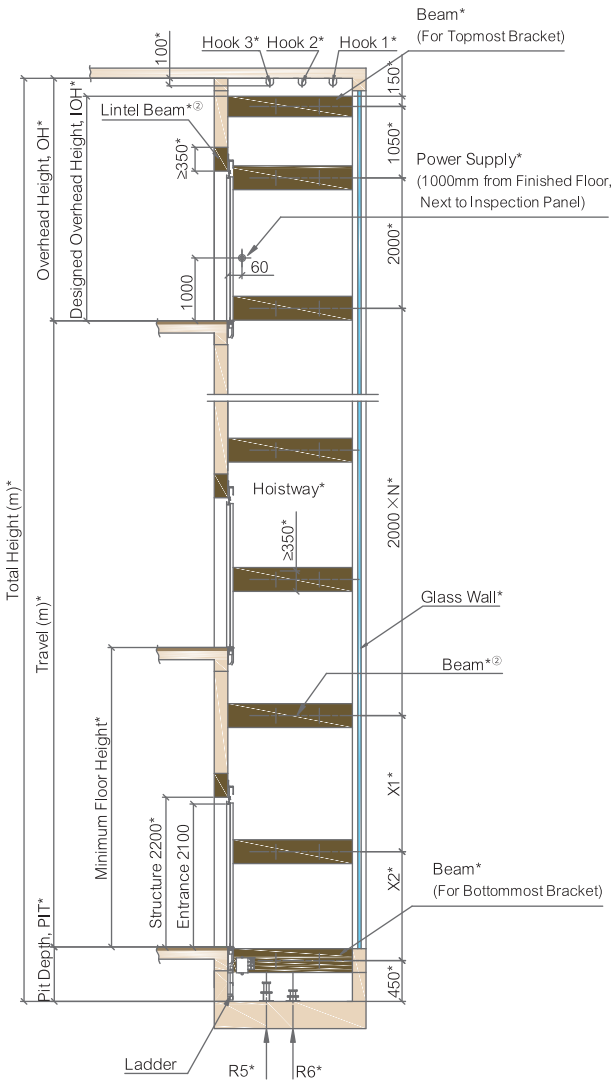
Building Structure | Beam

Wall and Floor Finishes | Glass Wall

VGE Hoistway Section



VGE-O Hoistway Section



Note:

① Items with "*" shall be furnished by building contractors.

② 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.

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:

Rated Load (kg)	Rated Speed (m/min)	Hook 1 (Tons)	Hook 2 (Tons)	Hook 3 (Tons)
320/400	24/45/60	1.5	1.5	3

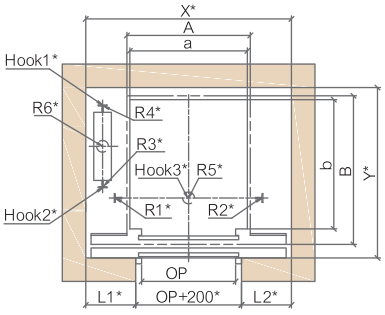
Hoistway (Center Opening)

The followings shall be furnished by building contractors:

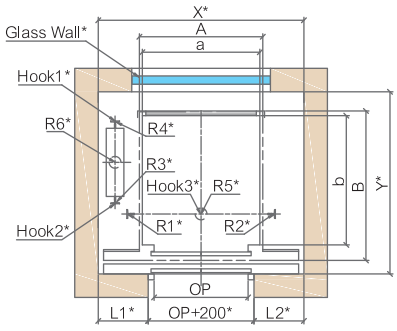
Building Structure

Glass Wall

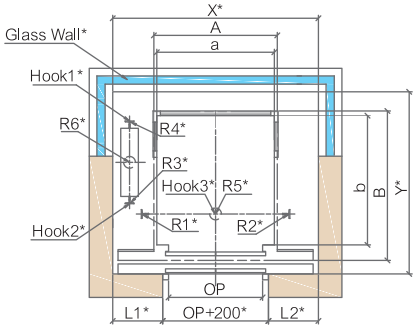
VGE
Hoistway Plan



VGE-O (Rear Observation)
Hoistway Plan



VGE-O (3 Sides Observation)
Hoistway Plan



Model	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 x b)	Car Outside (A x B)	Type	Width, OP	L1	L2	X×Y	R1	R2	R3	R4	R5	R6
VGE	320	24	800×1100	850×1238	2P-CO	700	330	320	1550×1500	35	30	25	20	100	90
		45													
		60													
	400	24	1000×1100	1050×1238		800	380	370	1750×1500						
		45													
		60													
VGE-O (Rear Observation)	320	24	800×1100	850×1272		700	325	325	1550×1550	35	30	25	20	100	90
		60													
	400	24	1000×1100	1050×1272		800	375	375	1750×1550						
		60													
VGE-O (3 Sides Observation)	320	24	800×1100	864×1272		700	325	325	1550×1550	35	30	25	20	100	90
		60													
	400	24	1000×1100	1064×1272		800	375	375	1750×1550						
		60													

Note:
① The above information and configuration are based on left side counterweight layout.
② Configuration is without counterweight safety gear.
③ Unit of dimension shall be in mm unless otherwise stated.

Rated Load (kg)	Rated Speed (m/min)	Overhead Height, OH (mm)	Pit Depth, PIT (mm)
320	24	2950	550
400			
320	45	3250	700
400			
320	60		
400			

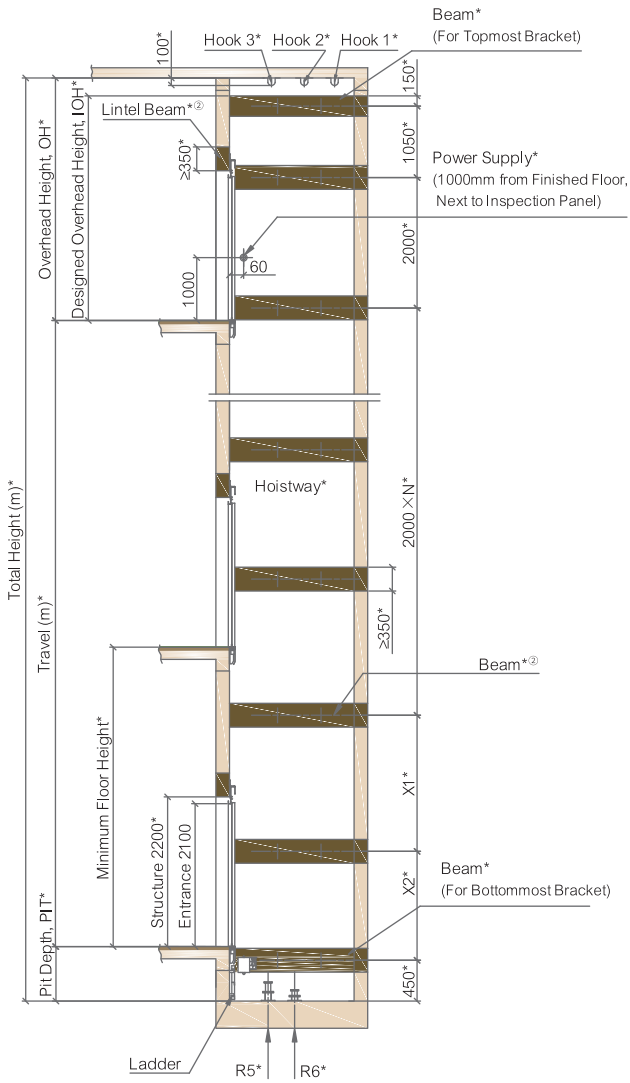
Note:
① The overhead height, OH is based on bare ceiling height of 2200mm.
② The pit depth, PIT is based on vinyl tile finish without recess.
③ Configuration is without counterweight safety gear.

Hoistway (Side Opening)

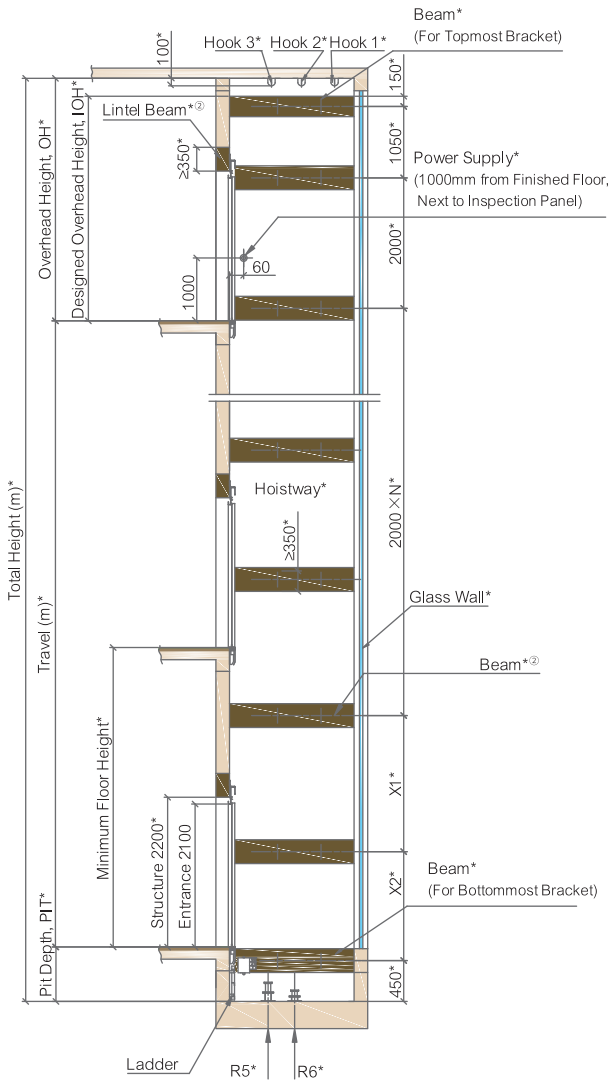
The followings shall be furnished by building contractors:

Building Structure
Beam
Wall and Floor Finishes
Glass Wall

VGE Hoistway Section



VGE-O Hoistway Section



Note:
① Items with "*" shall be furnished by building contractors.
② 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.
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:

Rated Load (kg)	Rated Speed (m/min)	Hook 1 (Tons)	Hook 2 (Tons)	Hook 3 (Tons)
320/400	24/45/60	1.5	1.5	3

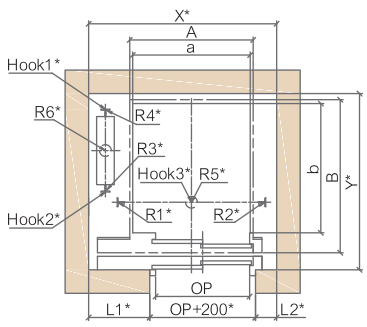
Hoistway (Side Opening)

The followings shall be furnished by building contractors:

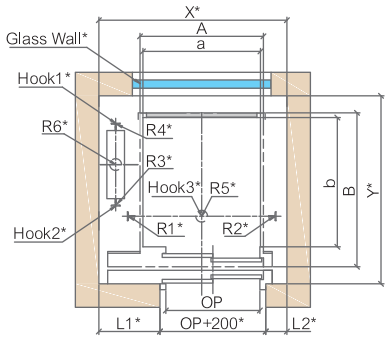
Building Structure

Glass Wall

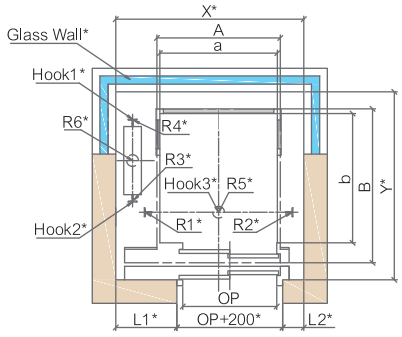
VGE
Hoistway Plan



VGE-O (Rear Observation)
Hoistway Plan



VGE-O (3 Sides Observation)
Hoistway Plan



Model	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 x b)	Car Outside (A x B)	Type	Width, OP	L1	L2	X×Y	R1	R2	R3	R4	R5	R6
VGE	320	24	800×1100	850×1293	2S-2P	700	375	125	1400×1600	35	30	25	20	100	90
		45													
		60													
	400	24	1000×1100	1050×1293		800	475	125	1600×1600						
		45													
		60													
VGE-O (Rear Observation)	320	24	800×1100	850×1310		700	370	130	1400×1600	35	30	25	20	100	90
		60													
	400	24	1000×1100	1050×1310		800	470	130	1600×1600						
		60													
VGE-O (3 Sides Observation)	320	24	800×1100	864×1310		700	370	130	1400×1600	35	30	25	20	100	90
		60													
	400	24	1000×1100	1064×1310		800	470	130	1600×1600						
		60													

Note:
① The above information and configuration are based on left side counterweight layout.
② Configuration is without counterweight safety gear.
③ Unit of dimension shall be in mm unless otherwise stated.

Rated Load (kg)	Rated Speed (m/min)	Overhead Height, OH (mm)	Pit Depth, PIT (mm)
320	24	2950	550
400			
320	45	3250	700
400			
320	60		
400			

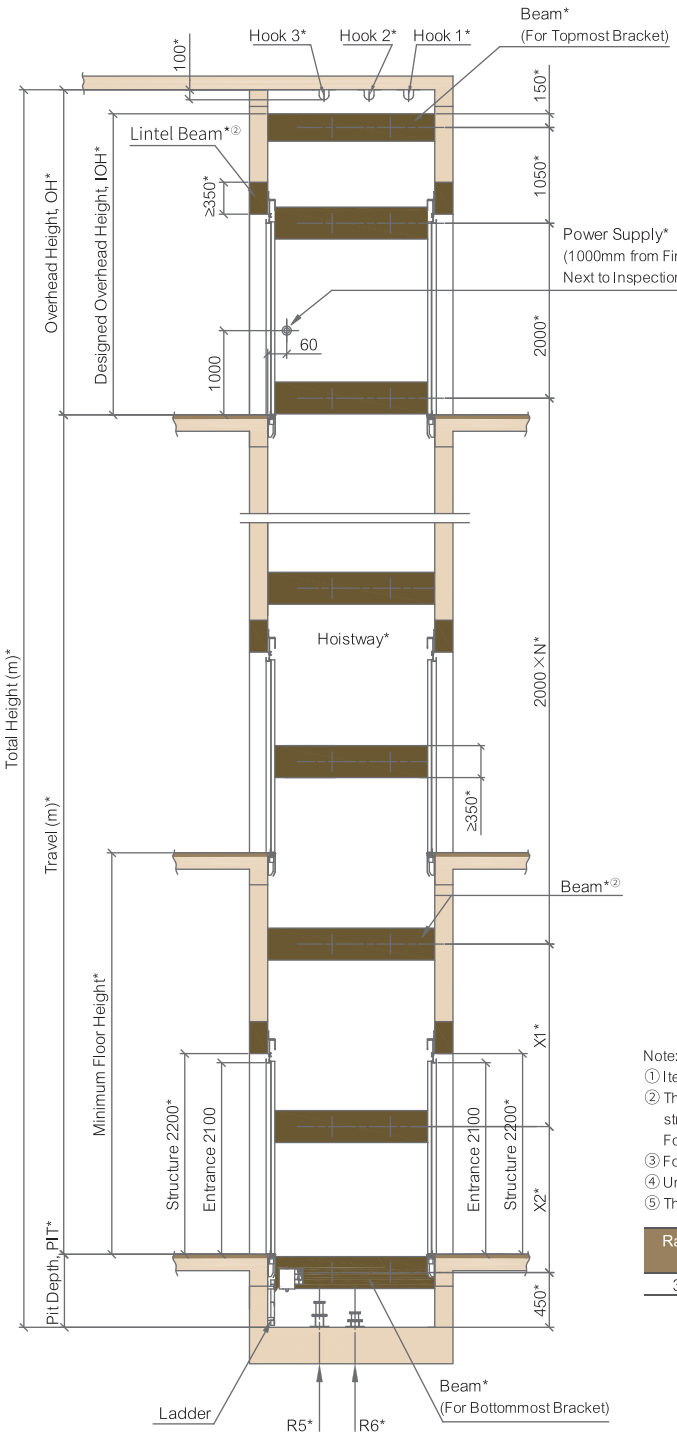
Note:
① The overhead height, OH is based on bare ceiling height of 2200mm.
② The pit depth, PIT is based on vinyl tile finish without recess.
③ Configuration is without counterweight safety gear.

Hoistway (Double Opening)

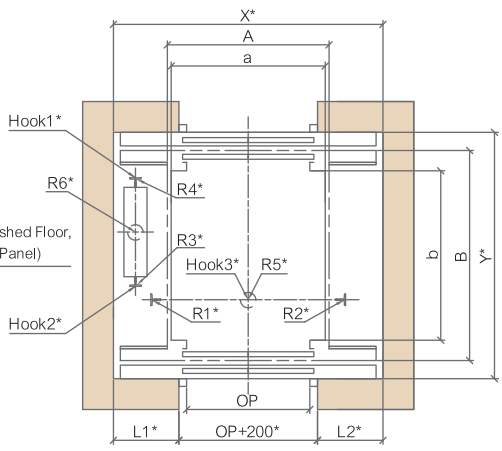
The followings shall be furnished by building contractors:

- Building Structure
- Wall and Floor Finishes
- Beam

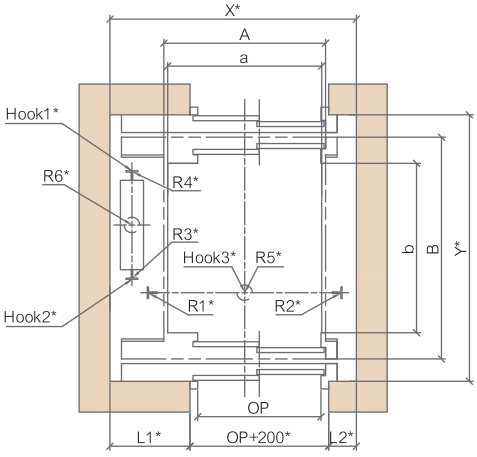
VGE Hoistway Section



VGE Hoistway Plan (2P-CO)



VGE Hoistway Plan (2S-2P)



Note:

① Items with "★" shall be furnished by building contractors.
② 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.
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:

Rated Load (kg)	Rated Speed (m/min)	Hook 1 (Tons)	Hook 2 (Tons)	Hook 3 (Tons)
320/400	24/45/60	1.5	1.5	3

Hoistway (Double Opening)

Model	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 x b)	Car Outside (A x B)	Type	Width, OP	L1	L2	X×Y	R1	R2	R3	R4	R5	R6
VGE (Double Opening)	320	24	800×1100	850×1310	2P-CO	700	350	300	1550×1520	35	30	25	20	100	90
		45													
		60													
	400	24	1000×1100	1050×1310		800	400	350	1750×1520						
		45													
		60													
	320	24	800×1100	850×1420	2S-2P	700	395	105	1400×1710						
		45													
		60													
	400	24	1000×1100	1050×1420		800	495	105	1600×1710						
		45													
		60													

Note:
① The above information and configuration are based on left side counterweight layout.
② Configuration is without counterweight safety gear.
③ Unit of dimension shall be in mm unless otherwise stated.

Rated Load (kg)	Rated Speed (m/min)	Overhead Height, OH (mm)	Pit Depth, PIT ① (mm)
320	24	2950	550/750
400			
320	45	3250	700/750
400			
320	60		
400			

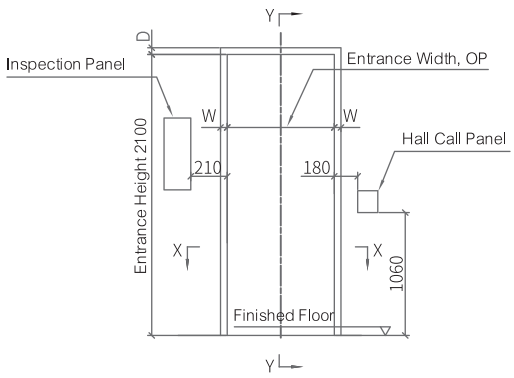
Note:
① When there is front/rear entrance on the lowest floor and there is no openings on the same side at other floors, pit depth shall be 750mm.
② The overhead height, OH is based on bare ceiling height of 2200mm.
③ The pit depth, PIT is based on vinyl tile finish without recess.
④ Configuration is without counterweight safety gear.

Entrance Design (Center Opening)

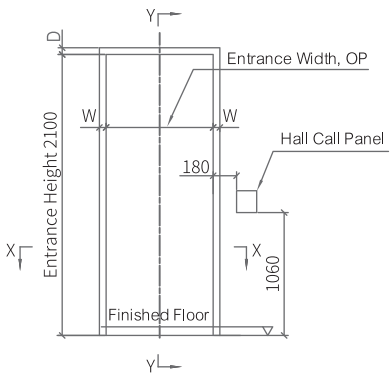
The followings shall be furnished by building contractors:

Wall and Floor Finishes

Elevation of Entrance

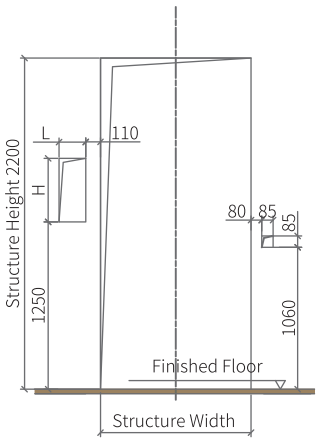


For Entrance At Top Floor

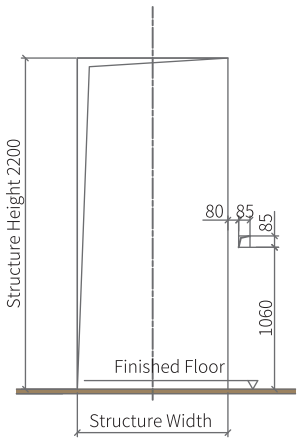


For Entrance At Other Floors

Structure Opening of Entrance



For Entrance At Top Floor



For Entrance At Other Floors

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

Type	Concrete Wall	Glass Wall
L	200	160
H	500	410

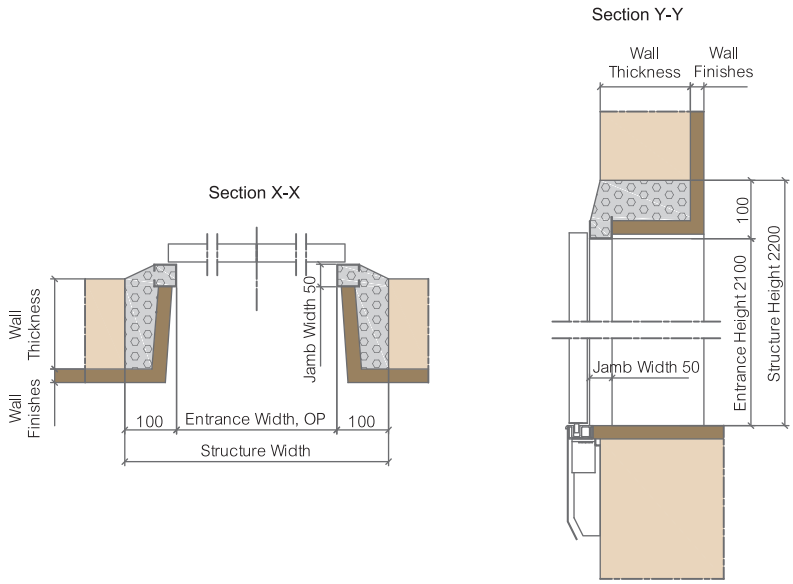
Note:
① Unit of dimension shall be in mm unless otherwise stated.
② Structure opening of entrance shall be furnished by building contractor.

Entrance Design (Center Opening)

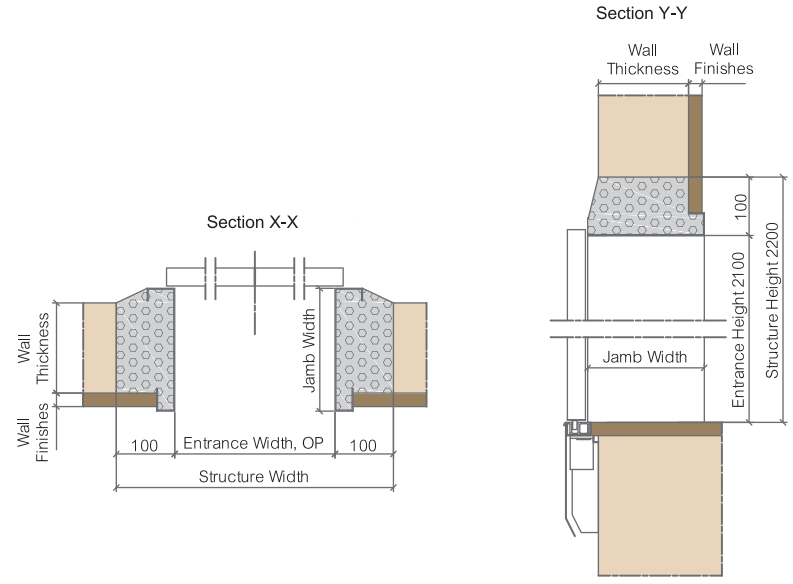
The followings shall be furnished by building contractors:

- Building Structure
- Wall and Floor Finishes
- Grouting Work

Narrow Jamb (AS-1X)



Wide Jamb (SS-1X)



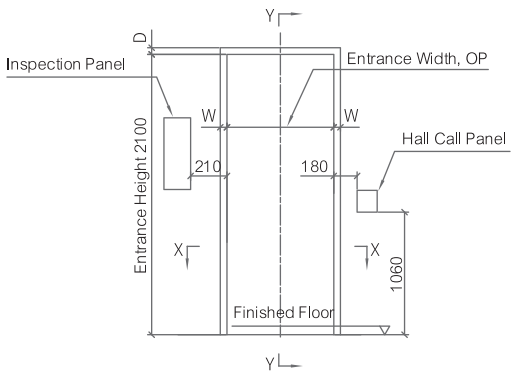
Note:
① Unit of dimension shall be in mm unless otherwise stated.

Entrance Design (Side Opening)

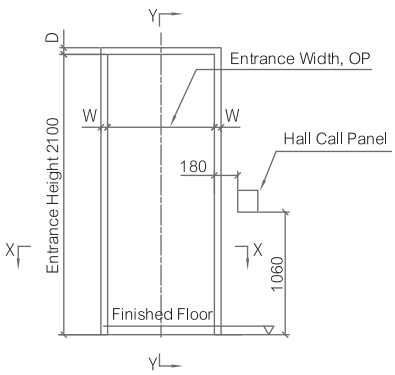
The followings shall be furnished by building contractors:

Wall and Floor Finishes

Elevation of Entrance

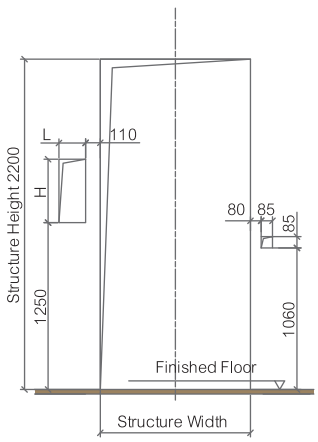


For Entrance At Top Floor

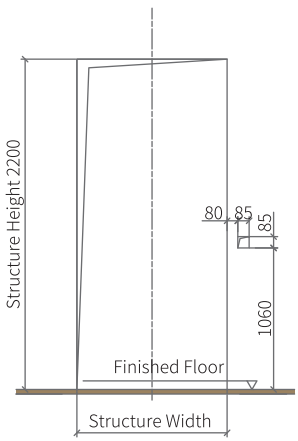


For Entrance At Other Floors

Structure Opening of Entrance



For Entrance At Top Floor



For Entrance At Other Floors

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

Type	Concrete Wall	Glass Wall
L	200	160
H	500	410

Note:

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

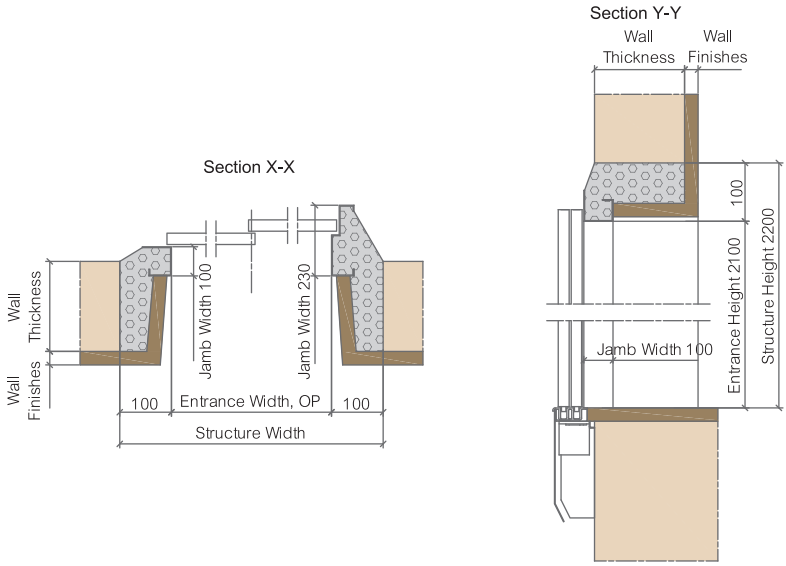
② Structure opening of entrance shall be furnished by building contractor.

Entrance Design (Side Opening)

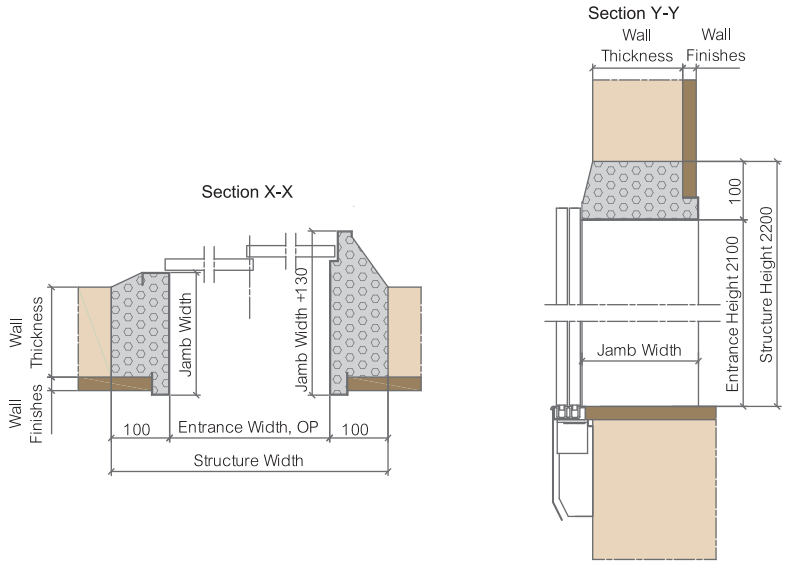
The followings shall be furnished by building contractors:

- Building Structure
- Wall and Floor Finishes
- Grouting Work

Narrow Jamb (AS-1X)



Wide Jamb (SS-1X)



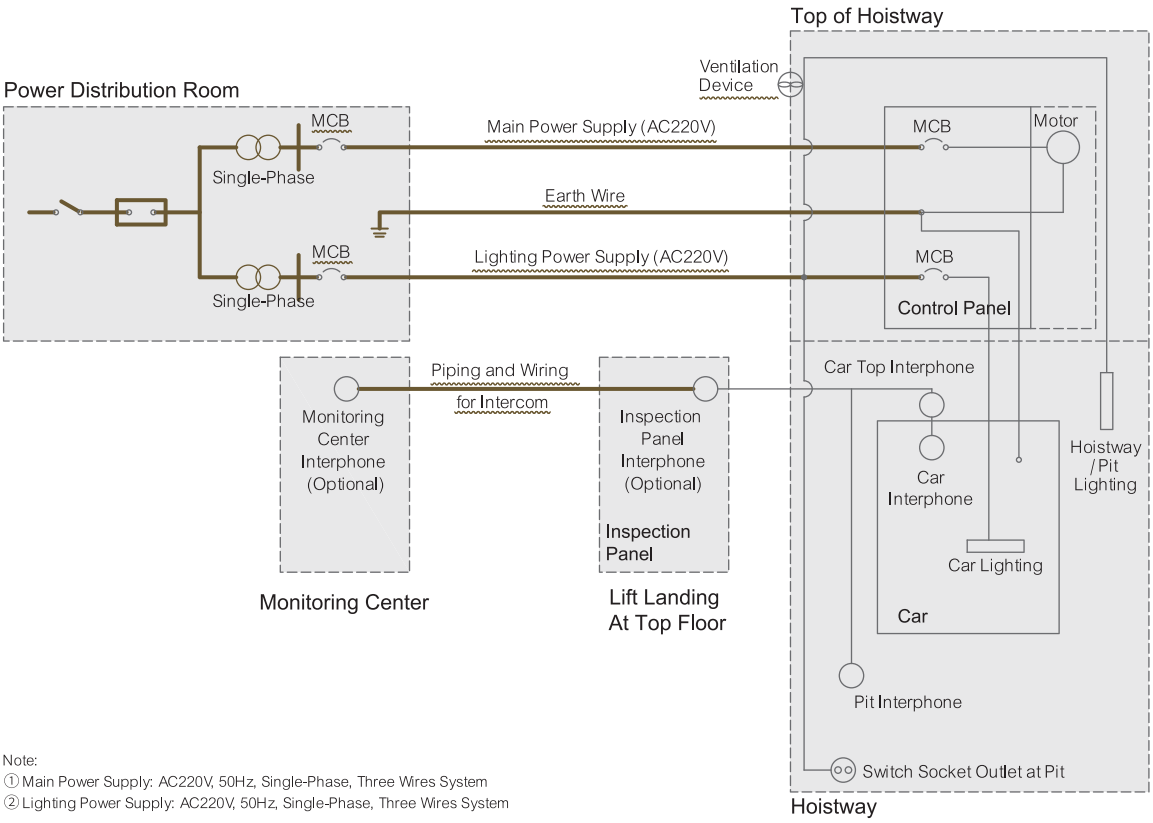
Note:
① Unit of dimension shall be in mm unless otherwise stated.

Electrical Information (24m/min)

The following shall be furnished by building contractors:

〰 Electrical Equipment

— Cable



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

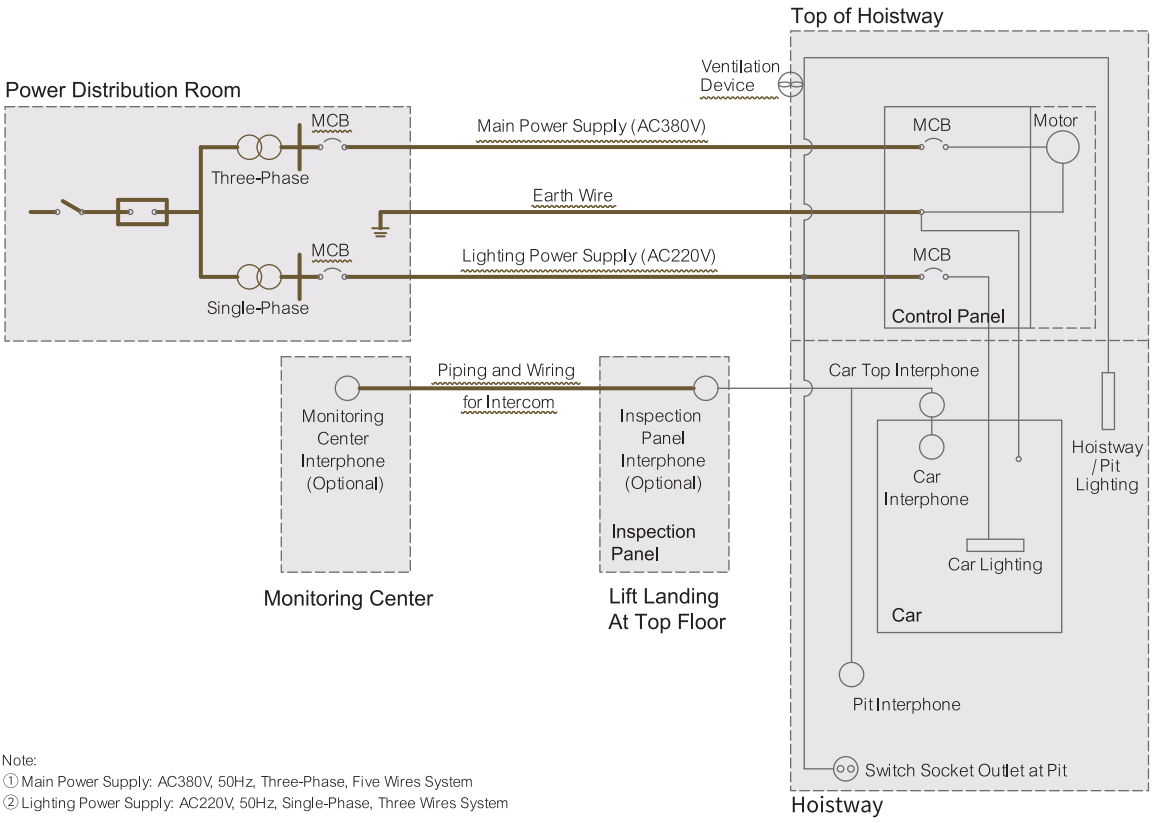
Item	Works to be provided by building contractor
Main Power Supply	To provide power supply switch around the entrance of top floor. To install facilities to ensure the power supply voltage fluctuation shall be within ±7%.
Lighting Power Supply	To provide lighting power supply for car lighting, fan and 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 Information (45 or 60m/min)

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)	Main Supply Voltage	Lighting Supply Voltage	Circuit Breaker Capacity (A)	Transformer Capacity (kVA)	Main Power Wire Size (mm^2)	Earth Wire Size (mm^2)
1	320	24	1Φ220V 50Hz	1Φ220V 50Hz	20	4	10	10
2	400					5	10	10
3	320	45	3Φ380V 50Hz	1Φ220V 50Hz	32	4	6	6
4	400					5	6	6
5	320	60				4.5	6	6
6	400					6.3	6	6

Note:

① The above information on the Main Supply Voltage, Lighting 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.

② 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].

③ 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].

Civil Works Matters

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 ±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 the main power supply and lighting power 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.

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.

VGE Series Planning Guide 2024.10