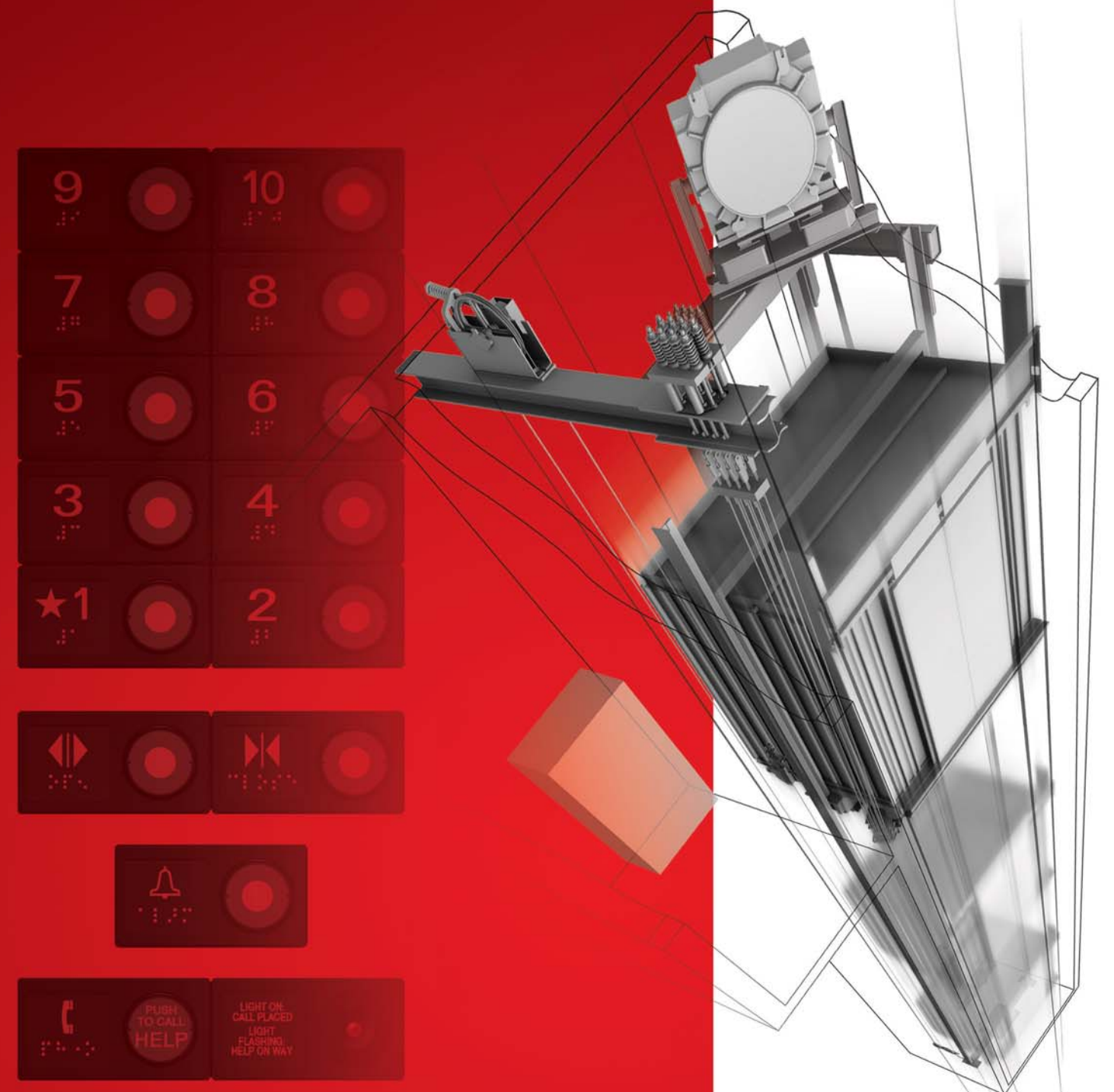


 **MITSUBISHI
ELECTRIC**
PASSENGER ELEVATORS
(MACHINE-ROOM-LESS SYSTEM)
For USA

Changes for the Better

Quality
in Motion

DIAMOND *TRAC*



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Mitsubishi Electric elevators and escalators are known for their exceptional comfort, safety and efficiency. Our new machine-room-less elevators feature the improved comfort and freedom of layout that sets Mitsubishi Electric apart.

Number One for Quality

EFFICIENCY

- ◆ Energy and space savings
- ◆ High-efficiency transport mechanism

COMFORT

- ◆ Comfortable, quiet ride
- ◆ Smooth door operation

SAFETY

- ◆ Riding and boarding safety
- ◆ High reliability

DIAMOND TRAC

DIAMOND TRAC

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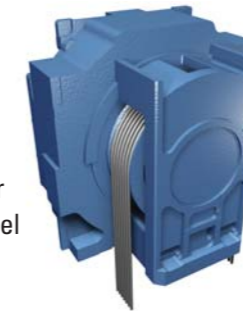
The Evolution of Mitsubishi Quality

Mitsubishi Electric elevator quality is constantly evolving.

The machine-room-less elevator provides technological advances
that deliver a world-class ride in terms of comfort, reliability and safety.

Reduced torque ripple for a comfortable, smooth ride

The gearless traction machine with the new PM (permanent magnet) motor is packed with cutting-edge technology, such as our unique stator-core structure and built-in double brakes. This optimized motor design dramatically reduces the level of torque ripple for a smooth and quiet ride.



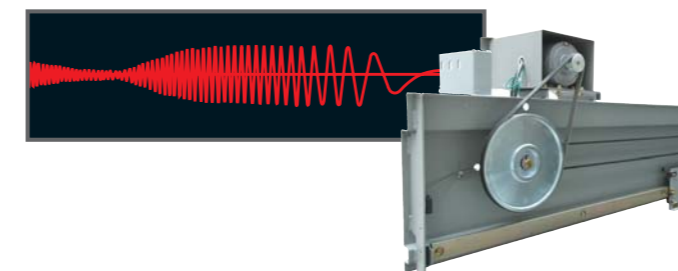
Ensuring that quality remains first-rate

Our elevators include features designed to reduce the need for maintenance – such as double brakes built into the PM motor. During scheduled maintenance, equipment in the top of the hoistway is easily accessible from the maintenance platform on top of the elevator cage. In addition, Mitsubishi Electric's highly trained service personnel continually ensure that our elevators run smoothly and safely.

Advanced door controls

VVVF* Inverter Control has been adopted to ensure smoother and quieter door operations, thereby enhancing passenger safety and product reliability. Our innovative door operation system employs a highly efficient "one-chip RISC microcomputer" which detects the constant variations on each floor in the door load, the strength of the wind, and even sediment in the sill grooves. It adjusts the door open and close speeds, as well as the door motor torque as needed for each floor using the Auto Tuning function. The learning-capable Door Load Detector immediately reverses the doors when abnormal load is detected on the doors.

*VVVF: Variable Voltage Variable Frequency.



High-Speed computer processor

The high-accumulation LSI integrating digital control circuitry has significantly increased the speed of the computer processing, enabling precise control of the traction motor during acceleration and deceleration. This innovation delivers a quality ride with the least noise and vibration.



Control CPU PCB

Innovative technology increases efficiency and reliability

More technological advances, such as the high-accumulation LSI and low-noise PWM inverter, enable the VVVF inverter to deliver smooth, high-precision control of the traction machine. In addition, the IPU (Integrated Power Unit) acts as a high-efficiency power supply circuit for the motor drive and, along with the PM motor, delivers greater energy savings. The adoption of the low-noise IGBT with faster switching speeds also contributes to further reduce the noise. The result is a more efficient, more reliable drive control.

The slim control panel is packed with advanced technologies such as VVVF, PWM and IPU.



Integrated power unit

Freedom of Layout

Because the machine is installed within the hoistway,
there are far fewer restrictions on building design.
Architects and interior designers
have more design freedom than ever before.

More architectural freedom

Architects, builders, and even interior designers will appreciate the new design freedom that comes with the machine-room-less system. A machine room is no longer needed, as all machineries successfully fit into the hoistway, except the control panel, which can be placed wherever you like within a 98 feet 5 inch (30 meter) radius from the traction machine. Also, the load stress of our conventional elevator with a machine room applies on the building structure, whereas the guide rails of DIAMOND TRAC support as much as 75% of the stress, for building friendliness.

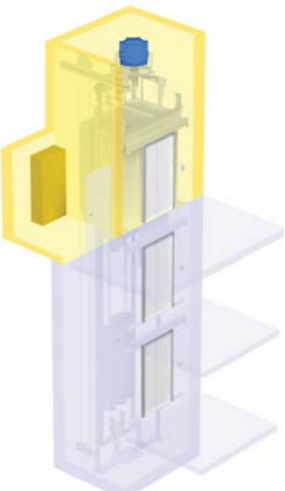
Machine room removed for space saving

The miniaturization of the traction machine, leading to the development of the gearless traction machine with PM motor enables a hoistway to include in the upper section the driving devices that were installed in a machine room. Besides that, the square area of the hoistway is almost the same as our conventional elevator, contributing to space saving in your building. All you have to think about in your planning now is a hoistway only*.

*NEC 2003 Article 620-71 and ASME A17.1 2004~A17.a-2005 Rule 2.7.6 stipulate that an elevator control panel must be installed outside the hoistway and thereby a separate room is required for control panels.



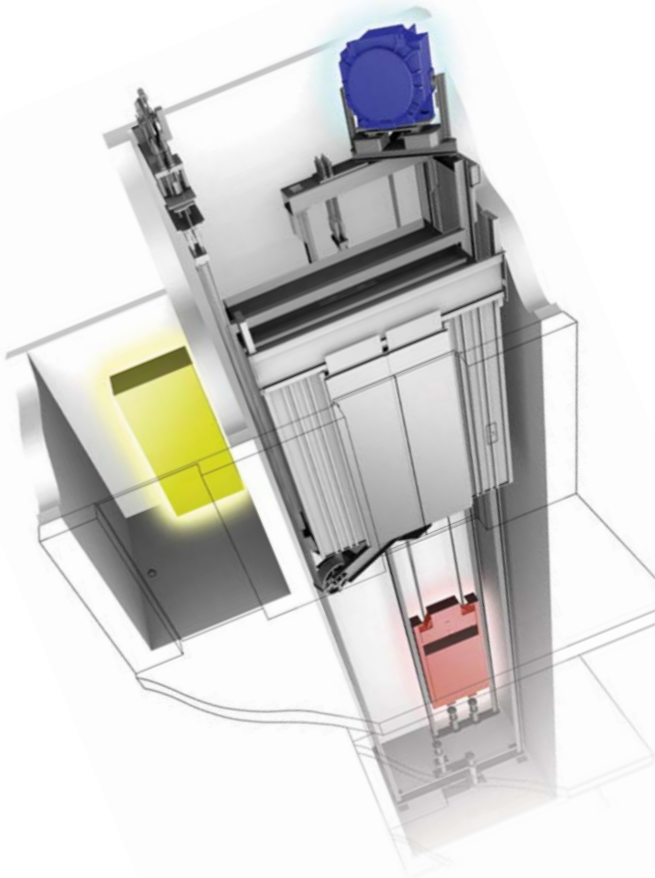
GPM-IIIILU
(Conventional)



DIAMOND TRAC

Miniaturized and optimally configured

Mitsubishi Electric has succeeded in miniaturizing key elevator equipment. The gearless traction machine with PM motor is installed within the hoistway. This arrangement frees up space normally required for separate machine rooms or penthouses. Equipment is configured for easy maintenance from car top, and the entire compact system is optimally organized for performance and service.



Profile
Design
Functions
Spec.
Info.

CAR SIGNAL FIXTURES

HALL SIGNAL FIXTURES

DIAMOND TRAC

Car Operating Panels

Car Lantern

Hall Buttons

Hall Lanterns



CBF-US110

CBV-US110

Plastic round-type
micro stroke click button
(standard)

Stainless steel round-type
micro stroke click button
(option)

Faceplate	Stainless steel hairline
Display panel	Smoky gray plastic, matt surface
Direction and position indicator	Digital LED dot display, orange when illuminated
Car button	Round-type micro stroke click button in gray plastic with milky white mark in center as response light (CBF-US110)
	Round-type micro stroke click button in stainless steel (CBV-US110)
Response light	LED lamp, yellow-orange when illuminated
Braille plate	Black plate with tactile floor name, symbol and Braille next to car button



CLV-US110
(standard)

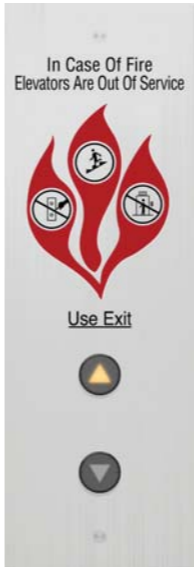
Faceplate	Stainless steel hairline
Lighting	Clear acrylic with frosted finish, yellow-orange when UP side is illuminated, and red when DOWN side is illuminated



HBF-US110
Plastic round-type
micro stroke click button
(standard)



HBV-US110
Stainless steel round-type
micro stroke click button
(option)



HBF-US210
Plastic round-type
micro stroke click button
(option)



HBV-US210
Stainless steel round-type
micro stroke click button
(option)

Faceplate	Stainless steel hairline
Call button	Round-type micro stroke click button in gray plastic (HBF-US110, HBF-US210)
	Round-type micro stroke click button in stainless steel (HBV-US110, HBV-US210)
Response light	LED lamp, yellow-orange when illuminated
Graphic	Etching



HLV-US210
(standard)



HLV-US110
(option)

Faceplate	Stainless steel hairline
Lighting	Clear acrylic, yellow-orange when UP side is illuminated, and red when DOWN side is illuminated

Actual elevator color may differ slightly from that shown.

Feature	Description	1Car 2BC	2Car 2BC	3-4Car ΣAI-22
---------	-------------	-------------	-------------	------------------

Standard Features

■ OPERATIONAL AND SERVICE FEATURES

Car Call Canceling (CCC)	When a car has responded to the final car call in one direction, the system regards remaining calls in the other direction as errors and clears them from the memory.	✓	✓	✓
Continuity of Service (COS)	A car which is experiencing trouble is automatically withdrawn from group control operation to maintain overall group performance.	—	✓	✓
Automatic Hall Call Registration (FSAT)	If one car cannot carry all waiting passengers because it is full, another car will automatically be assigned for the remaining passengers.	✓	✓	✓
Backup Operation for Group Control Microprocessor (GCBK)	An operation by car controllers which automatically starts to maintain elevator operation, in the event that a microprocessor or transmission line in the group controller has failed.	—	✓	✓
Next Landing (NXL)	If the elevator doors do not open fully at a destination floor, the doors close and the car automatically moves to the next or nearest floor, where the doors will open.	✓	✓	✓
Overload Holding Stop (OLH)	A buzzer sounds to alert the passengers that the car is overloaded; the doors remain open and the car does not leave that floor until enough passengers exit the car.	✓	✓	✓
Safe Landing (SFL)	If a car has stopped between floors due to some equipment malfunction, the controller checks the cause, and if it is considered safe to move the car, the car will move to the nearest floor at a low speed and the doors will open.	✓	✓	✓
Independent Service (IND)	Exclusive operation where a car is withdrawn from group control operation for independent use, such as maintenance or repair, and responds only to car calls.	✓	✓	✓
Automatic Bypass (ABP)	A fully loaded car bypasses hall calls in order to maintain maximum operational efficiency.	✓	✓	✓
Car Light Shut Off—Automatic (CLO-A)	If there are no calls for a specified period, the car lighting will automatically shut off to conserve energy.	✓	✓	✓
Car Fan Shut Off — Automatic (CFO-A)	If there are no calls for a specified period, the car ventilation fan will automatically be turned off to conserve energy.	✓	✓	✓
False Call Canceling—Automatic (FCC-A)	If the number of registered car calls does not correspond to the car load, all calls are canceled to avoid unnecessary stops.	✓	✓	✓

■ GROUP CONTROL FEATURES

Expert System and Fuzzy Logic	Artificial expert knowledge, which has been programmed using "expert system" and "fuzzy logic", is applied to select the ideal operational rule for maximum efficiency of group control operations.	—	—	✓
Psychological Waiting Time Evaluation	Cars are allocated according to the predicted psychological waiting time for each hall call. The rules evaluating psychological waiting time are automatically changed in response to actual service conditions.	—	—	✓
Car Travel Time Evaluation	Cars are allocated to hall calls by considering the number of car calls that will reduce passenger waiting time in each hall and the travel time of each car.	—	—	✓
Peak Traffic Control (PTC)	A floor which temporarily has the heaviest traffic will be served with higher priority than other floors, but not to an extent that interferes with service to other floors.	—	—	✓
Strategic Overall Spotting (SOHS)	To reduce passenger waiting time, cars which have finished service are automatically directed to positions where they can respond to predicted hall calls as quickly as possible.	—	✓	✓

Feature	Description	1Car 2BC	2Car 2BC	3-4Car ΣAI-22
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■ DOOR OPERATION FEATURES

Door Load Detector (DLD)	When excessive door load has been detected while opening or closing, the doors immediately move in the reverse direction.	✓	✓	✓
Door Sensor Self-Diagnosis (DODA)	Failure of non-contact door sensors is checked automatically, and if a problem is diagnosed, the door-close timing is delayed and the closing speed is reduced to maintain elevator service and ensure passenger safety.	✓	✓	✓
Automatic Door Speed Control (DSAC)	Door load on each floor, which can depend on the type of hall door, is monitored to adjust the door speed, thereby making it consistent throughout all floors.	✓	✓	✓
Door Nudging Feature (NDG)	The doors slowly close when they have remained open for longer than the preset period with alarm sound.	✓	✓	✓
Repeated Door-Close (RDC)	Should an obstacle prevent the doors from closing, the doors will repeatedly open and close until the obstacle is removed.	✓	✓	✓
Re-open with Hall Button (ROHB)	Closing doors can be re-opened by pressing the hall button corresponding to the traveling direction of the car.	✓	✓	✓
Multi-Beam Door Sensor	Multiple infrared-light beams cover some 1800mm in height of the doors as they close to detect passengers or objects. (Cannot be combined with SR feature.)	✓	✓	✓
Electronic Doorman (EDM)	Door open time is minimized using safety ray(s) or multi-beam door sensors that detect passengers boarding or exiting.	✓	✓	✓

■ SIGNAL AND DISPLAY FEATURES

Car/Hall Click Type Call Buttons	Call buttons that click softly when touched are fitted as standard.	✓	✓	✓
Basic Announcement (AAN-B)	A synthetic voice (and/or buzzer) that alerts passengers inside a car to the fact that elevator operation has been temporarily interrupted by overloading or a similar cause. (Voice available only in English.)	✓	✓	✓
Car Arrival Chime—Car (AECC)	Electronic chimes that sound to indicate that a car will soon arrive. (The chimes are mounted on the top and bottom of the car.)	✓	✓	✓
Flashing Hall Lantern (FHL)	A hall lantern, which corresponds to a car's service direction, flashes to indicate that the car will soon arrive.	✓	✓	✓
Inter Communication System (ITP)	A system which allows communication between passengers inside a car and the building personnel.	✓	✓	✓

■ EMERGENCY OPERATIONS AND FEATURES

Firefighter's Emergency Operation (FE)	In case of fire, the elevator performs firefighters' emergency operation (Phase I and Phase II) conforming to the local code.	✓	✓	✓
Earthquake Emergency Operation (EER-DS)	In case of earthquake detection, the elevator stops at the nearest available floor and shuts down with the door open. (Detailed operation conforms to the local code.)	✓	✓	✓

Notes: — = Not applicable # = Please consult us for lead times and details.

Feature	Description	1Car 2BC	2Car 2BC	3-4Car ΣAI-22
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Optional Features

■ OPERATIONAL AND SERVICE FEATURES

Landing Open (LO)	Doors start opening right before the car has completely stopped at a floor.	✓	✓	✓
Car Call Erase (FCC-P)	To enhance security, service to desired floors can be set to disable using a manual switch. This function is automatically deactivated during Emergency Operations.	✓	✓	✓
Non-Service to Specific Floors—Car Button Type (NS-CB)	To enhance security, service to desired floors can be set to disable using the car operating panel. This function is automatically deactivated during Emergency Operations.	✓	✓	✓
Non-Service to Specific Floors—Switch Type (NS)	To enhance security, service to desired floors can be set to disable using a manual switch. This function is automatically deactivated during Emergency Operations.	✓	✓ [#]	✓
Out-of-Service - Remote (RCS)	With a key switch on the Supervisory Panel, etc., a car can be called to a specified floor after responding to all car calls, and then automatically be taken out of service.	✓	✓	✓
Secret Call Service (SCS-B)	To enhance security, car calls for desired floors can be registered only by entering secret codes using the car buttons on the car operating panel. This function is automatically deactivated during Emergency Operations.	✓	✓	✓

■ GROUP CONTROL FEATURES

Bank-Separation Operation (BSO)	Hall buttons and the cars called by each button can be divided into several groups for independent group control operation to serve special needs or different floors.	—	—	✓
Closest-Car Priority Service (CNPS)	A function to give priority allocation to the car closest to the floor where a hall call button has been pressed, or to reverse the closing doors of the car closest to the pressed hall call button on that floor. (Cannot be combined with Hall Position Indicators.)	—	—	✓ [#]
Energy Saving Operation—Number of Cars (ESO-N)	To save energy, the number of service cars is automatically reduced to some extent but not so much as to adversely affect passenger waiting time.	—	—	✓
Forced Floor Stop (FFS)	All cars in a bank automatically make a stop at a predetermined floor on every trip without being called.	✓	✓	✓
Main Floor Parking (MFP)	An available car always parks on the main floor with the doors open to reduce passenger waiting time.	✓	✓	✓
Special Car Priority Service (SCPS)	Special cars, such as observation elevators and elevators with basement service, are given higher priority to respond to hall calls. (Cannot be combined with Hall Position Indicators.)	—	—	✓ [#]
Special Floor Priority Service (SFPS)	Special floors, such as floors with VIP rooms or executive rooms, are given higher priority for car allocation when a call is made on those floors. (Cannot be combined with Hall Position Indicators.)	—	—	✓ [#]
Main Floor Changeover Operation (TFS)	This feature is effective for buildings with two main floors. The floor designated as the "Main floor" in a group control operation can be changed as necessary using a manual switch.	✓	✓	✓
Light-Load Car Priority Service (UCPS)	When traffic is light, empty or lightly loaded cars are given higher priority to respond to hall calls in order to minimize passenger travel time. (Cannot be combined with Hall Position Indicators.)	—	—	✓ [#]
Swing Service (SWSV)	A car is temporarily split from the group to work as a single car. This dedicates one car to mail deliveries or facility maintenance through certain parts of the day. The swing car is operated from an inconspicuous riser of pushbuttons mounted in the doors jamb.	✓	✓	✓

Feature	Description	1Car 2BC	2Car 2BC	3-4Car ΣAI-22
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■ DOOR OPERATION FEATURES

Extended Door-Open (Door Hold) Button (DKO-TB)		A button located inside a car which keeps the doors open for a longer than usual period to allow loading and unloading of a stretcher, baggage, etc.	✓	✓	✓
Ultrasonic Door Sensor (USDS)		Sound waves are used to scan a 3D area near the open doors to detect passengers or objects.	✓	✓	✓
Safety Ray (SR)		Infrared-light beam cover the full width of the door as it opens or closes to detect passengers or objects. (Cannot be combined with a multi-beam door sensor.)	✓	✓	✓
3D Multi-Beam Door Sensor		Multiple infrared-light beams cover some 1800mm in height of the doors as they close to detect passengers or objects. The 3D sensor can also monitor the hall by expanding multiple infrared-light beams. (Cannot be combined with SR feature.)	✓	✓	✓
Safety Door Edge (SDE)	Both Side (CO Doors Only)	Sensitive door edges detect passengers or objects during door closing.	✓	✓	✓

■ SIGNAL AND DISPLAY FEATURES

Voice Guidance System (AAN-G)		Information on elevator service such as the current floor or service direction that is heard by the passengers inside a car. (Voice guidance available only in English.)	✓	✓	✓
Car Arrival Chime— Hall (AECH)		Electronic chimes that sound to indicate that a car will soon arrive. (The chimes are mounted in each hall.)	✓	✓	✓

■ EMERGENCY OPERATIONS AND FEATURES

Emergency Car Lighting (ECL)		Car lighting which turns on immediately when power fails to provide a minimum level of lighting within the car. (Choice of dry-cell battery or trickle-charger battery.)	✓	✓	✓
Mitsubishi Emergency Landing Device (MELD)		In case of power failure, a car equipped with this function automatically moves and stops at the nearest floor using a rechargeable battery, and the doors open to ensure passenger safety. (Max. allowable floor-to-floor distance is 10 meters.)	✓	✓	✓
Mitsubishi Elevators & Escalators Monitoring and Control System MeEye (WP-W)		Each elevator's status and operations can be monitored and controlled using an advanced Web-based technology which provides an interface through personal computers. Special optional features, such as preparation of traffic statistics and analysis, are also available.	✓	✓	✓
Operation by Emergency power source - Automatic (OEPS-AU)		In case of power failure, the elevator moves to the designated floor and opens the door to secure the safety of passengers. Then, the elevator shall serve by emergency power till normal power recovery. (Detailed operation conforms to the local code.)	✓	✓	✓
Supervisory Panel (WP)		A panel installed in a building's supervisory room, which monitors and controls each elevator's status and operations by remotely using indicators and switches provided on request.	✓	✓	✓

Notes: — = Not applicable # = Please consult us for lead times and details.

BASIC SPECIFICATIONS

CAPACITY: 2000lbs ~ 3500lbs

Capacity, Speed, Door Type, Car Inside & Hoistway Dimensions*1

Opening	Capacity (lbs) [kg]	Rated speed (fpm) [mpm]	Door type*2	Car inside clear dimensions		Entrance width JJ (ft./in.) [mm]	Minimum hoistway dimensions*3		
				Width (ft./in.) [mm]	Depth (ft./in.) [mm]		AH x BH*4 (ft./in.) [mm]	PD*5 (ft./in.) [mm]	OH*6 (ft./in.) [mm]
Front	2000 [900]	200 [60] 350 [105]	SS	5'-8" [1727]	4'-3 3/4" [1315]	3'-0" [914]	7'-6" x 6'-11" [2286 x 2108]	5'-5 1/2" [1664] 5'-11 1/2" [1816]	14'-3" [4343] 14'-6" [4419]
	2500 [1150]	200 [60] 350 [105]					8'-6" x 6'-11" [2591 x 2108]	5'-5 1/2" [1664] 5'-11 1/2" [1816]	14'-3" [4343] 14'-6" [4419]
	3000 [1350]	200 [60] 350 [105]					8'-6" x 7'-4" [2591 x 2235]	5'-5 1/2" [1664] 5'-11 1/2" [1816]	14'-3" [4343] 14'-6" [4419]
	3500 [1600]	200 [60] 350 [105]					8'-6" x 8'-0" [2591 x 2438]	5'-5 1/2" [1664] 5'-11 1/2" [1816]	14'-3" [4343] 14'-6" [4419]
Front & Rear		200 [60] 350 [105]	SS, CO	6'-8" [2032]	5'-4 3/4" [1645] 5'-8 3/16" [1732]	3'-6" [1067]	9'-7" x 7'-11 1/4" [2921 x 2420]	5'-5 1/2" [1664] 5'-11 1/2" [1816]	14'-3" [4343] 14'-6" [4419]

Specifications

Speed	200fpm (60mpm)	350fpm (105mpm)
Maximum number of stops	10	
Maximum travel (ft.) [m]	75'-0" [22.8]	98'-5" [30]
Minimum floor height (ft.) [mm]	8'-11" [2717]*7	

Notes

- *1. All dimensions in the tables above are based on ASME A17.1S-2005 Part 2.
 *2. SS : Single-Slide door, CO: Center-Open doors
 *3. Hoistway dimensions (AH, BH, PD, OH) are for standard specifications.
 *4. The AH dimensions indicate for one car. For AH dimensions of 2 and 3 Car, please refer to right table. AU dimension in 2 and 3 Car layout is same as AH of 1 Car. These are values after waterproofing and do not include plumb tolerance.
 *5. Pit depth in this drawing is obtained when floor recess is 3/4"[19] .
 When floor recess is greater than 3/4"[19] , extend pit depth as well. Max. floor recess is 1 3/8"[35]
 *6. The minimum OH dimensions are obtained on condition that:
 A. Canopy height = 8'-0" (2438mm)
 B. OH dimensions does not include the hoisting beams.
 *7. Some of specifications require more than the value 8'-11" (2717mm) as a minimum height. Please consult us if floor height is less than 8'-11" (2717mm).

AH dimension for 2 and 3 Car

Opening	Capacity (lbs) [kg]	AH dimension (ft./in.) [mm]	
		2 Car	3 Car
Front	2000 [900]	15'-4" [4674]	23'-2" [7061]
	2500 [1150]	17'-4" [5283]	26'-2" [7976]
	3000 [1350]	17'-4" [5283]	26'-2" [7976]
	3500 [1600]	17'-4" [5283]	26'-2" [7976]
Front & Rear		19'-6" [5944]	

Power Feeder Data for One Car

Rated speed (fpm) [mpm]	Capacity (lbs) [kg]	Traction motor (HP) [kW]	Current at 480V*8		Power supply capacity (kVA)	Heat emission(BTU/hr) [W]	
			FLU (A)	FLAcc (A)		Hoistway*9	Control panel
200 [60]	2000 [900]	7.5 [5.6]	12	21	7	1190 [350]	2730 [800]
	2500 [1150]	9.5 [7.1]	15	26	8	1540 [450]	3240 [950]
	3000 [1350]	11. 9 [8.9]	18	30	9	1710 [500]	3750 [1100]
	3500 [1600]	13.3 [9.9]	20	35	10	1880 [550]	4270 [1250]
350 [105]	2000 [900]	13.0 [9.7]	20	35	10	1880 [550]	4270 [1250]
	2500 [1150]	17.4 [13]	25	43	13	2220 [650]	5120 [1500]
	3000 [1350]	20.1 [15]	30	52	15	2560 [750]	5970[1750]
	3500 [1600]	24.1 [18]	34	60	17	3070 [900]	7000 [2050]

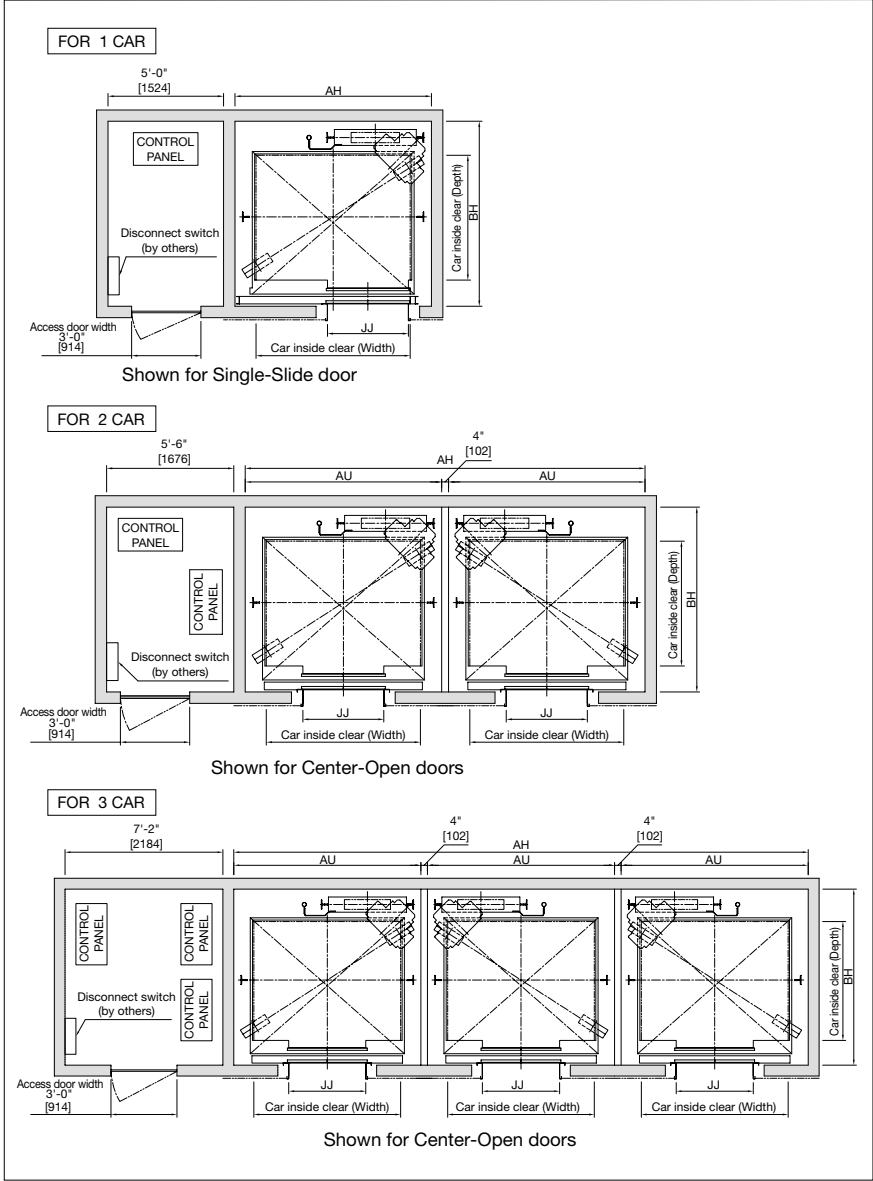
Notes

- *8. If power supply voltage is other than 480V, FLU and FLAcc current are obtained by the following formulas.

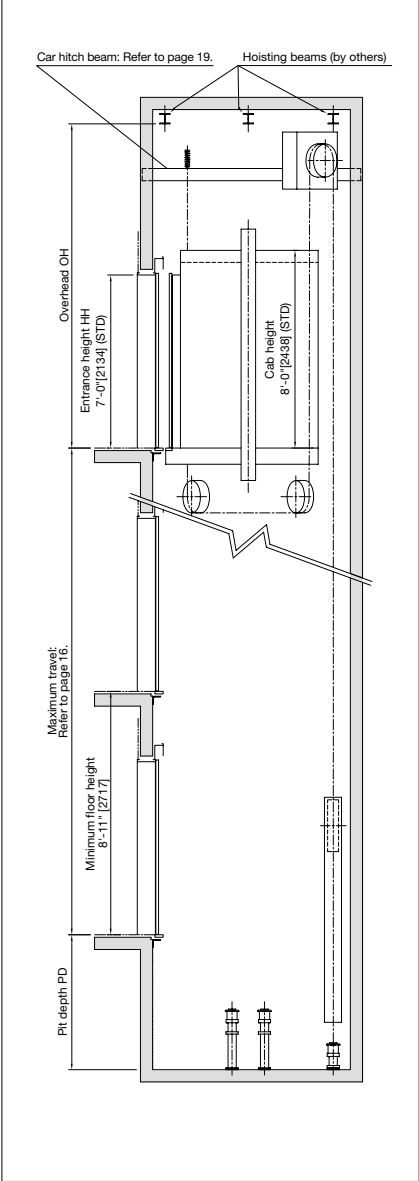
$$FLU, FLAcc \text{ current (A) at E} = (\text{Current at 480V}) \times (480 / E)$$
 (E: Power supply voltage (V))
 *9. Heat emitted from car lighting is not included.

Front Opening

Hoistway Plan

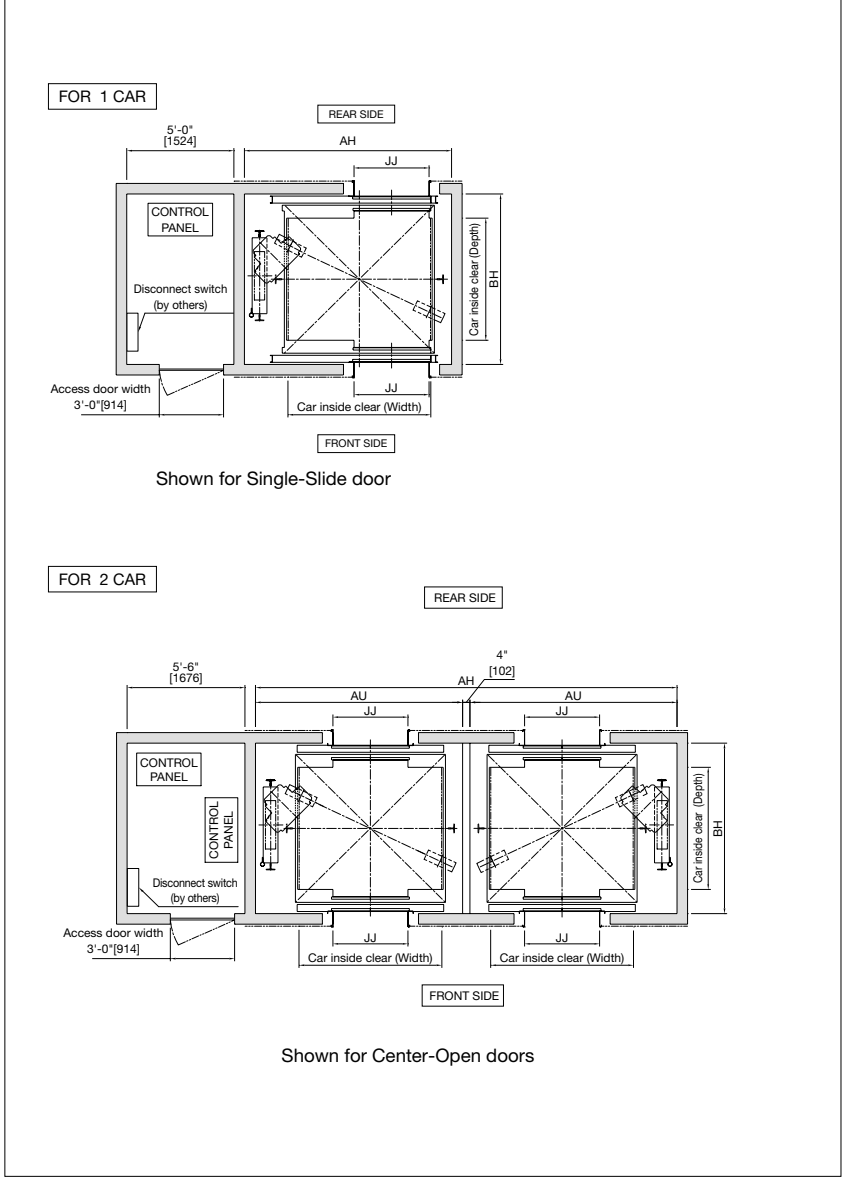


Hoistway Section

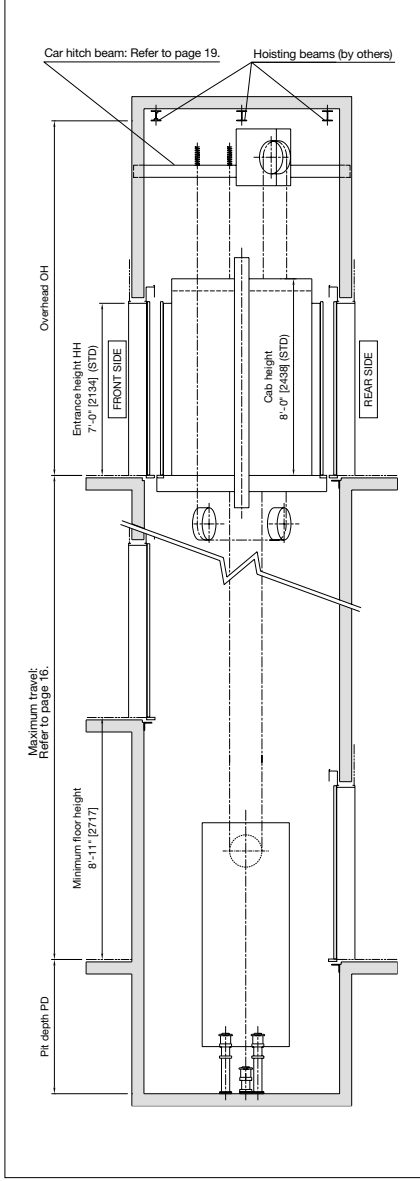


Front & Rear Opening

Hoistway Plan



Hoistway Section



CAPACITY: 4000lbs ~ 5000lbs

Capacity, Speed, Door Type, Car Inside & Hoistway Dimensions*1

Opening	Capacity (lbs) [kg]	Rated speed (fpm) [mpm]	Door type*2	Car inside clear dimensions		Entrance width JJ (ft./in.) [mm]	Minimum hoistway dimensions*3		
				Width (ft./in.) [mm]	Depth (ft./in.) [mm]		AH x BH*4 (ft./in.) [mm]	PD*5,*7 (ft./in.) [mm]	OH*6,*7 (ft./in.) [mm]
Front	4000 [1800]	200 [60] 350 [105]	2S	5'-8" [1727]	7'-4 1/4" [2242]	4'-0" [1219]	8'-7 1/2" x 9'-1" [2629 x 2769]	5'-8" [1727] 6'-1" [1854]	15'-1" [4597] 15'-2" [4623]
	4500 [2000]	200 [60] 350 [105]			7'-11 1/4" [2419]		8'-7 1/2" x 9'-8" [2629 x 2946]	5'-8" [1727] 6'-1" [1854]	15'-1" [4597] 15'-2" [4623]
	5000 [2250]	200 [60] 350 [105]		8'-6 1/4" [2597]	8'-7 1/2" x 10'-3" [2629 x 3124]	6'-1" [1854]	15'-1" [4597] 15'-2" [4623]		
		200 [60] 350 [105]			5'-10" [1778]		8'-9 1/2" x 10'-3" [2680 x 3124]	15'-1" [4597] 15'-2" [4623]	

Specifications

Speed	200fpm (60mpm)	350fpm (105mpm)
Maximum number of stops	24	
Maximum travel (ft.) [m]	195' [60]	
Minimum floor height (ft.) [mm]	8'-11" [2717]*8	

Notes

*1. All dimensions in the tables above are based on ASME A17.1S-2005 Part 2.

*2. 2S : 2-Speed side-open doors

*3. Hoistway dimensions (AH, BH, PD, OH) are for standard specifications.

*4. The AH dimensions indicate for one car. For AH dimensions of 2 and 3 Car, please refer to right table. AU dimension in 2 and 3 Car layout is same as AH of 1 Car. These are values after waterproofing and do not include plumb tolerance.

*5. Pit depth in this drawing is obtained when floor recess is 3/4"[19] .

When floor recess is greater than 3/4"[19] ,
extend pit depth as well. Max. floor recess is 1 3/8"[35]

*6. The minimum OH dimensions are obtained on condition that:

A. Canopy height = 8'-0" (2438mm)

B. OH dimensions does not include the hoisting beams.

*7. PD and OH dimensions should be increased when travel is over 98'-5" (30m).

*8. Some of specifications require more than the value 8'-11" (2717mm)
as a minimum height. Please consult us if floor height is less than 8'-11" (2717mm).

AH dimension for 2 and 3 Car

Opening	Capacity (lbs) [kg]	AH dimension (ft./in.) [mm]	
		2 Car	3 Car
Front	4000 [1800]	17'-7 1/32" [5360]	26'-6 17/32" [8091]
	4500 [2000]		
	5000 [2250]	17'-7 1/32" [5462]	27'-0 9/16" [8244]

Power Feeder Data for One Car

Rated speed (fpm) [mpm]	Capacity (lbs) [kg]	Traction motor (HP) [kW]	Current at 480V*8		Power supply capacity (kVA)	Heat emission(BTU/hr) [W]	
			FLU (A)	FLAcc (A)		Hoistway*9	Control panel
200 [60]	4000 [1800]	16.1 [12]	23	40	12	2390 [700]	4780 [1400]
	4500 [2000]	17.4 [13]	26	45	13	2730 [800]	5460 [1600]
	5000 [2250]	18.8 [14]	28	49	14	3070 [900]	5970 [1750]
350 [105]	4000 [1800]	26.8 [20]	39	69	19	4100 [1200]	8360 [2450]
	4500 [2000]	29.5 [22]	43	77	22	4610 [1350]	9220 [2700]
	5000 [2250]	33.5 [25]	48	85	24	5120 [1500]	10240 [3000]

Notes

*8. If power supply voltage is other than 480V, FLU and FLAcc current are obtained by the following formulas.

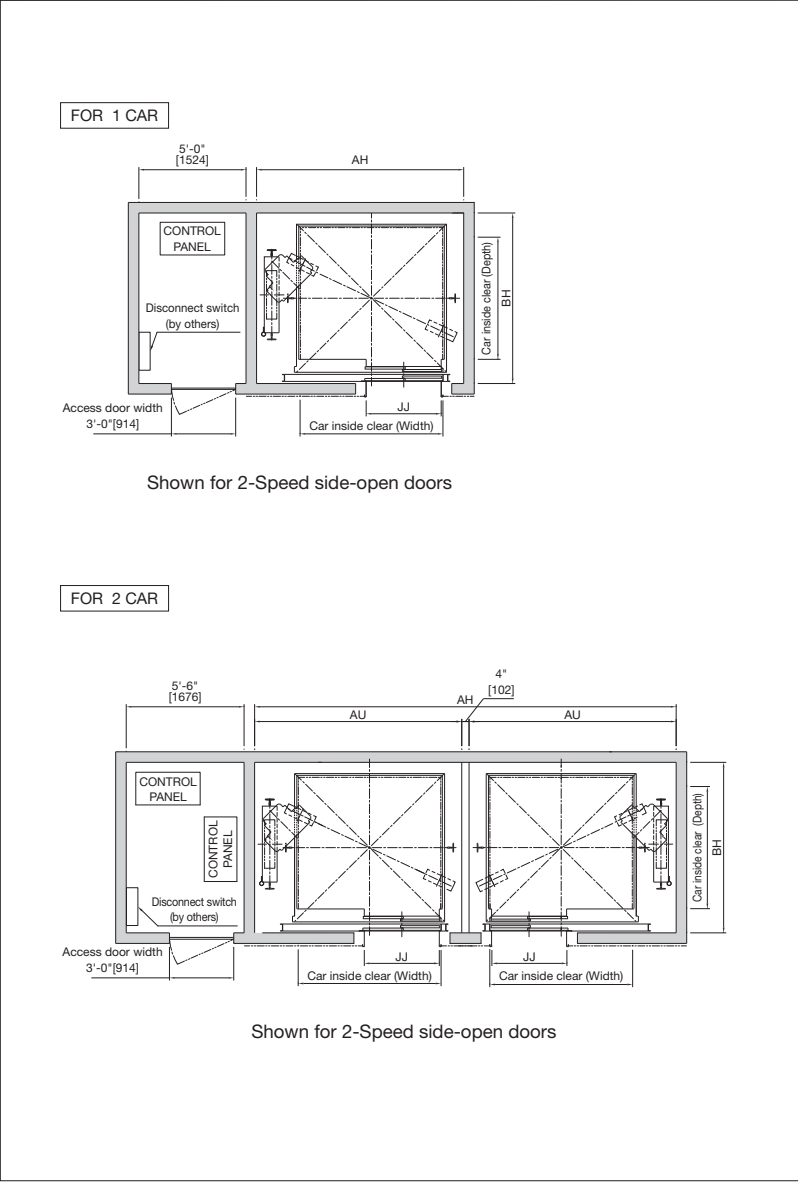
FLU, FLAcc current (A) at E = (Current at 480V) x (480/ E)

(E: Power supply voltage(V))

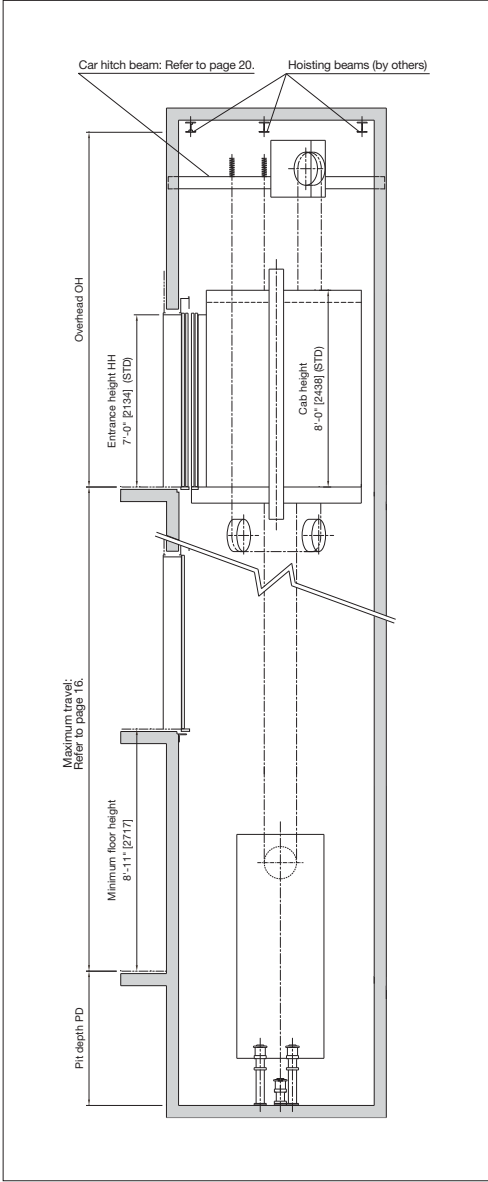
*9. Heat emitted from car lighting is not included.

Front Opening

Hoistway Plan



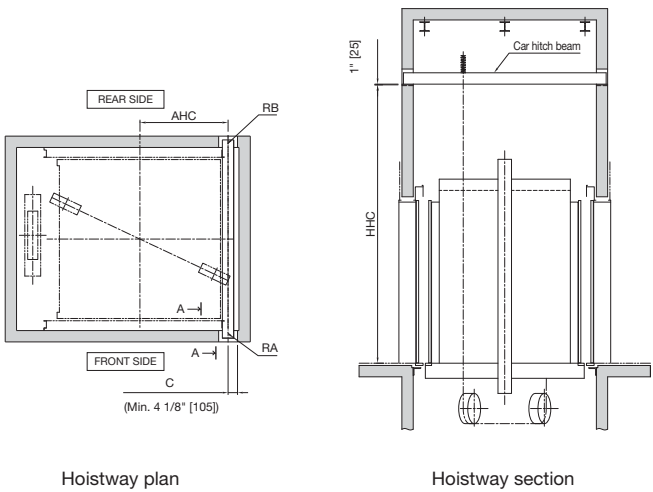
Hoistway Section



CAR HITCH BEAM

CAPACITY: 2000lbs ~ 3500lbs

CAPACITY: 4000lbs ~ 5000lbs



Height of through hole for car hitch beam [HHC]*1

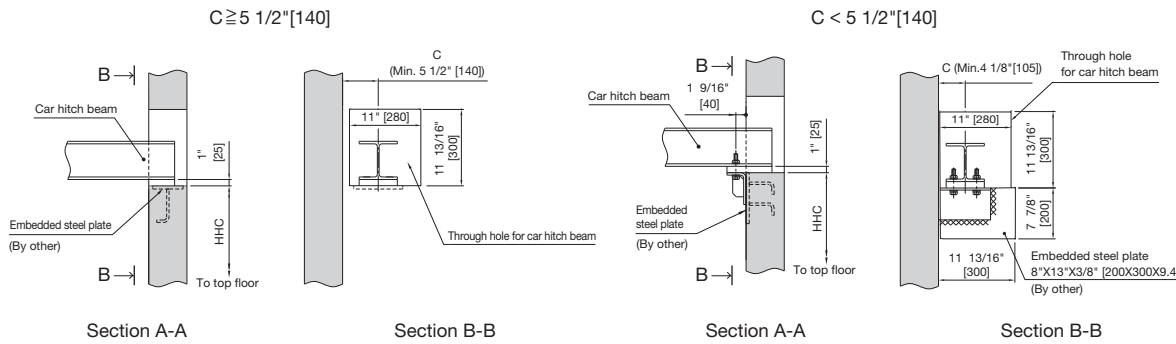
Rated speed (fpm) [mpm]	HHC (ft./in.) [mm]
200 [60]	11'-10 1/8" [3610]
350 [105]	12'-1 1/8" [3686]

*1: The HHC dimensions are obtained when canopy height = 8'-0" (2438mm).

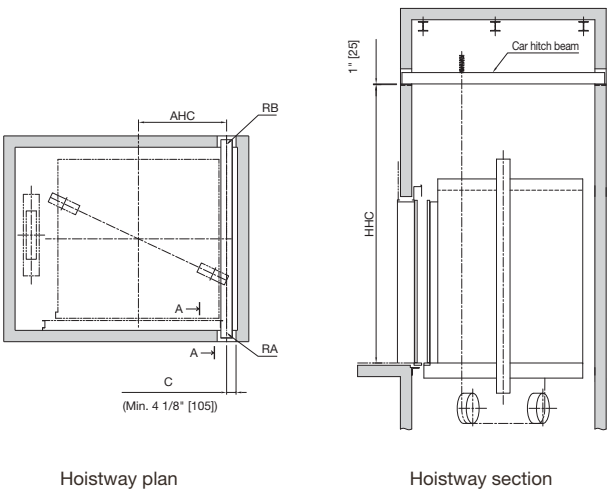
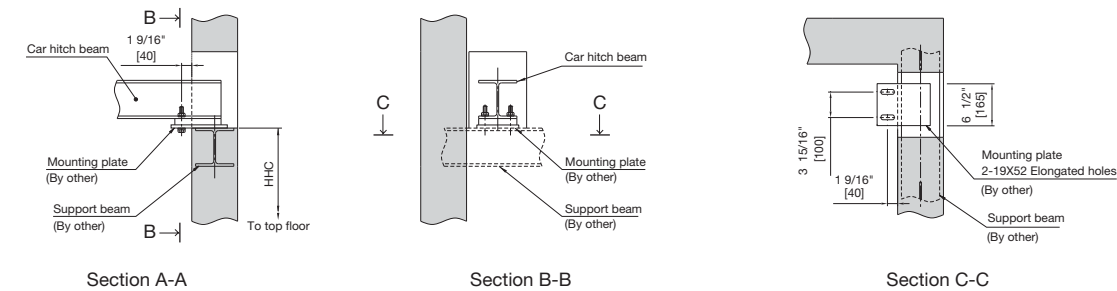
Reaction loads

Opening	Capacity (lbs) [kg]	RA (lbs) [kN]		RB (lbs) [kN]	
		Static	Dynamic	Static	Dynamic
Front	2000 [900]	3200 [14]	6300 [28]	900 [4]	1800 [8]
	2500 [1150]	3900 [17]	7500 [33]	1200 [5]	2100 [9]
	3000 [1350]	3900 [17]	7700 [34]	1200 [5]	2100 [9]
	3500 [1600]	4300 [19]	8400 [37]	1200 [5]	2300 [10]
Front & rear	3500 [1600]	3900 [17]	7700 [34]	1500 [7]	2800 [13]

For Concrete and Masonry Wall Construction



For Dry Wall Construction



Height of through hole for car hitch beam [HHC]*1

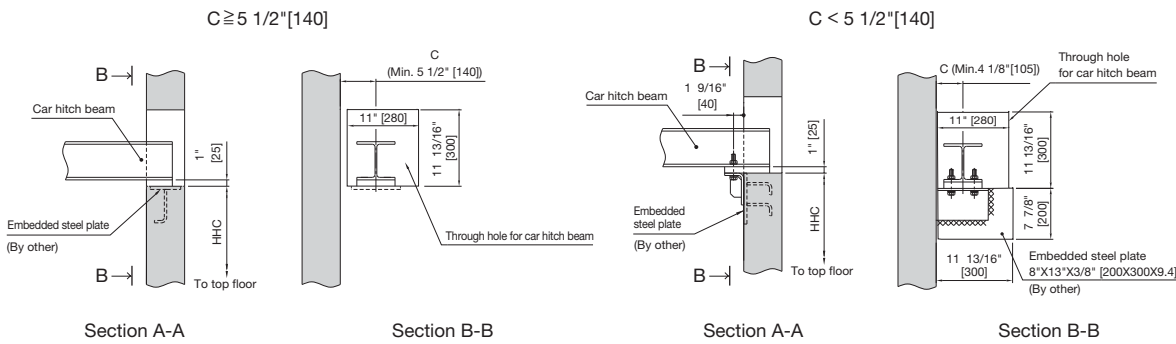
Rated speed (fpm) [mpm]	HHC (ft./in.) [mm]
200 [60]	12'-5 7/8" [3807]
350 [105]	12'-6 7/8" [3833]

*1: The HHC dimensions are obtained on condition that:
A. Canopy height = 8'-0" (2438mm)
B. Travel ≤ 98'-5" (30m)

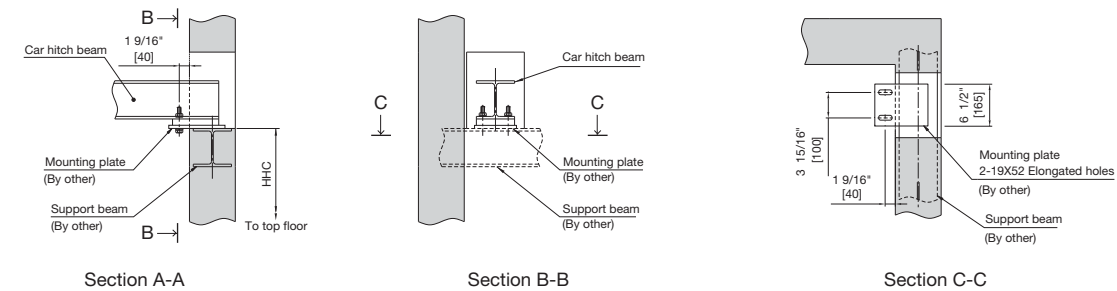
Reaction loads

Opening	Capacity (lbs) [kg]	RA (lbs) [kN]		RB (lbs) [kN]	
		Static	Dynamic	Static	Dynamic
Front	4000 [1800]	4900 [22]	9700 [43]	1400 [7]	2800 [13]
	4500 [2000]	4900 [22]	9800 [44]	1400 [7]	2700 [12]
	5000 [2250]	5600 [25]	11000 [49]	1700 [8]	3300 [15]

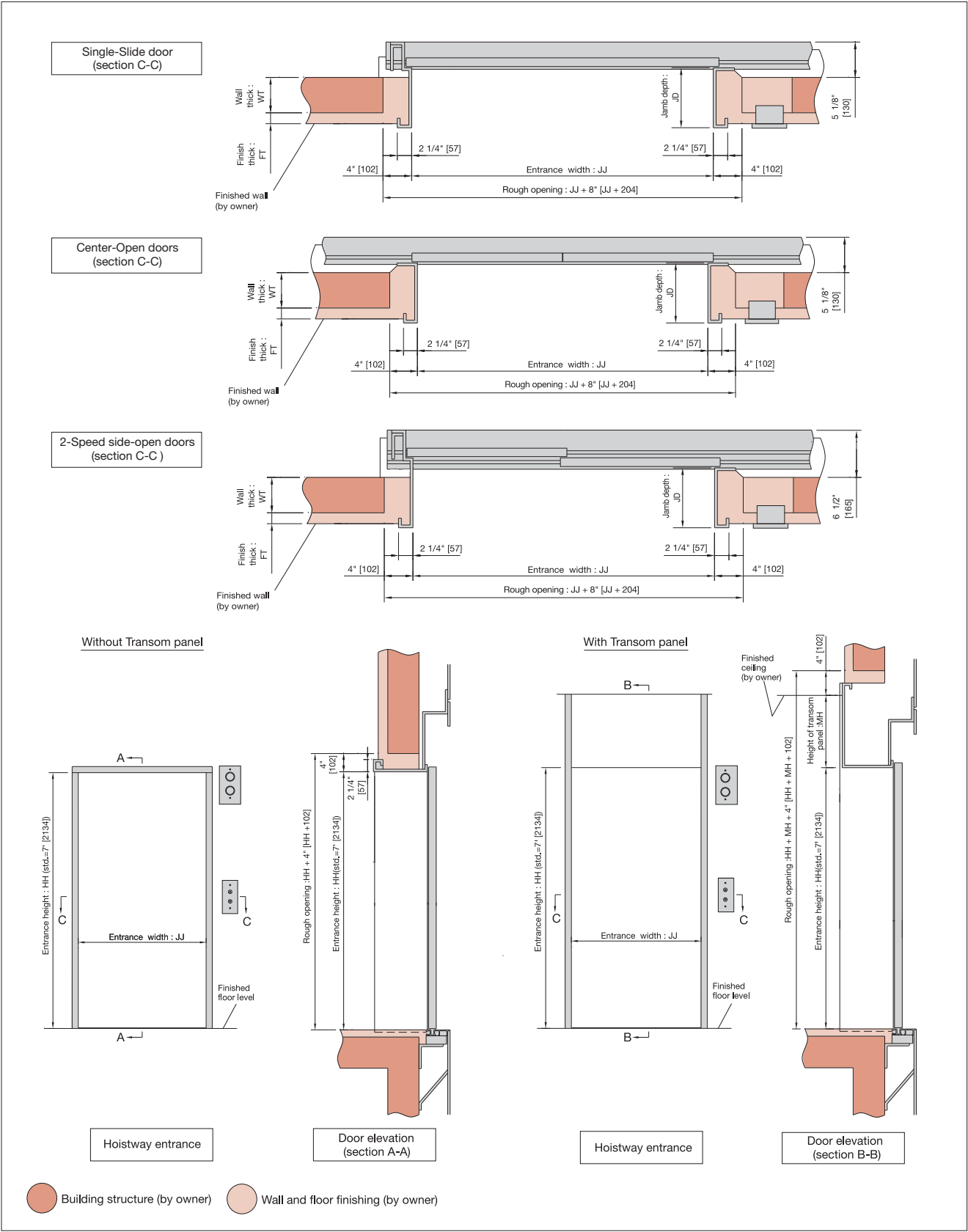
For Concrete and Masonry Wall Construction



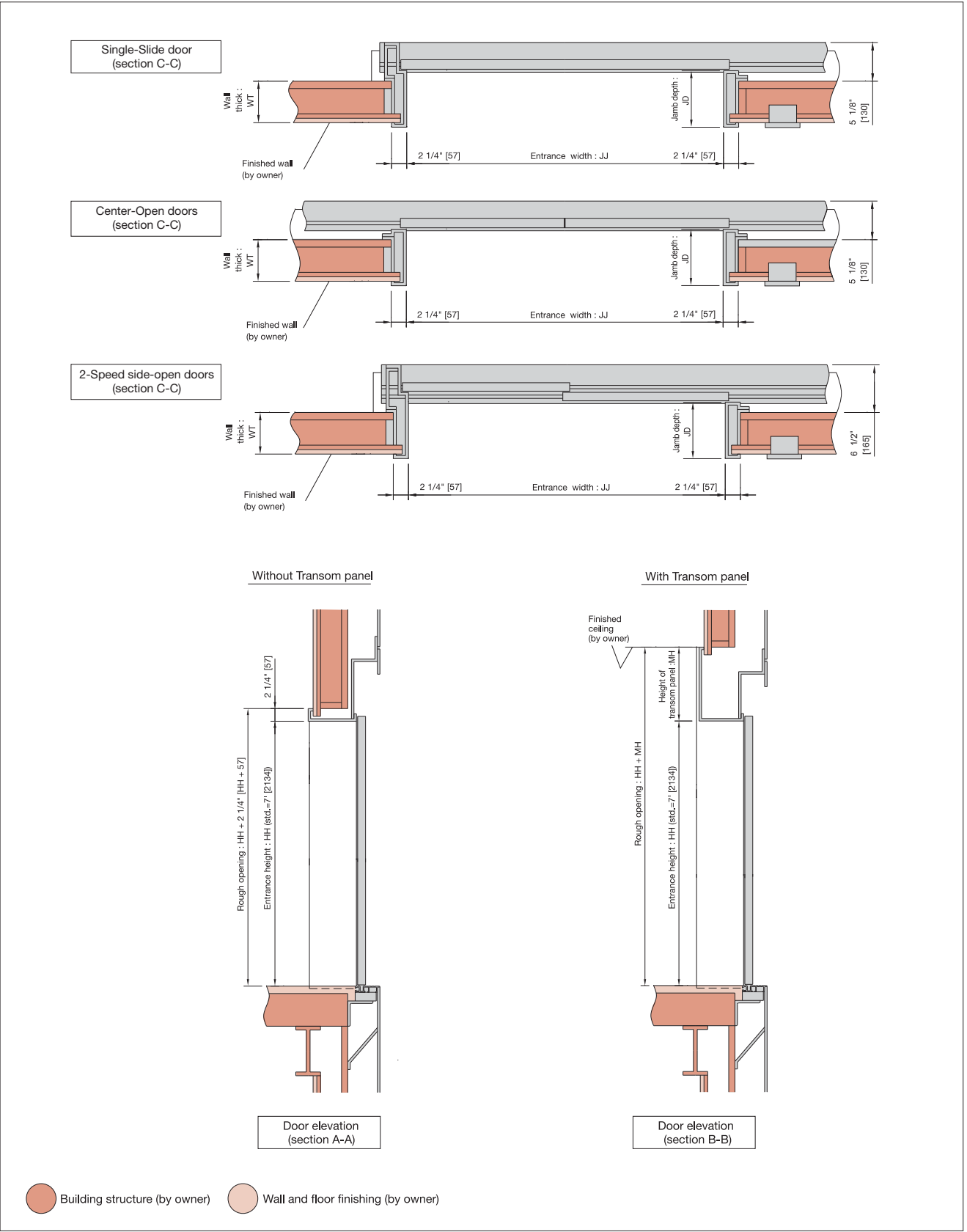
For Dry Wall Construction



For Concrete and Masonry Wall Construction



For Dry Wall Construction



IMPORTANT INFORMATION ON ELEVATOR PLANNING

Work Not Included in Elevator Contract

- The following items are excluded from Mitsubishi Electric's elevator installation work, and are therefore the responsibility of the building owner or general contractor:
- Architectural finishing of the walls and floors in the vicinity of the entrance hall after installation has been completed.
 - Code-compliant construction of a legal, ventilated and waterproof hoistway and controller room as required by engineering criteria to be furnished later.
 - A ladder to the elevator pit.
 - Provision for cutting the necessary openings as required by elevator contractor.
 - Rail and building supports as required by elevator contractor.
 - All work normally related to building construction.
 - All necessary electrical power required for elevator operation, delivered to elevator controller room and hoistway.
 - The installation of conduit between the elevator pit and the terminating point for the emergency bell, intercom, fire-panel, etc.
 - Temporary power for installation and final testing.
 - Code-compliant barricades, work lighting and acceptable electrical power during installation and testing.
 - The provision of a suitable, locked storage space for elevator equipment and tools during elevator installation.
- * Work responsibilities during installation and construction shall be determined according to local codes and building practices.

Elevator Site Requirements

- Maintain the temperature and environment of the elevator hoistway and controller room between 70 and 80 degrees (F).
- The following conditions are required for maintaining elevator performance:
 - a. The relative humidity shall be below 90% on a monthly average and below 95% on a daily average.
 - b. The elevator hoistway shall be finished with mortar or other materials so as to prevent concrete dust.
- Voltage fluctuation shall be within a range of +5% to -10%.

Ordering Information

- Please include the following information when ordering or requesting estimates:
- The desired number of units, speed and loading capacity
 - The number of stops or number of floors to be served
 - The total elevator travel and each floor-to-floor height
 - Operation system
 - Selected design and size of car
 - Entrance design
 - Signal equipment
 - A sketch of the part of the building where the elevators are to be installed
 - The voltage, number of phases and frequency of the power source for the motor and lighting

Contact your Mitsubishi Electric representative for more information.



Mitsubishi Electric Inazawa Works has acquired ISO 9001 certification by the International Standards Organization (ISO) based on a review of quality management for the System. The plant has also acquired the environmental management system standard ISO 14001 certification.