PASSENGER ELEVATORS
(MACHINE-ROOM-LESS SYSTEM)
For USA

DIAMOND Trac®
Based on our policy, “Quality in Motion”, we provide elevators and escalators that will satisfy our customers with high levels of comfort, efficiency, ecology and safety.

**Principle**

We strive to be green in all of our business activities. We take every action to reduce environmental burden during each process of our elevators and escalator lifecycle.

We provide elevators and escalators that will satisfy our customers with high levels of comfort, efficiency, ecology and safety.

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The Evolution of Mitsubishi Electric Quality

Mitsubishi Electric elevator quality is constantly evolving. Our machine-room-less elevator provides technological advances that deliver a world-class ride in terms of comfort, reliability and safety.

Reusing energy: Regenerative Converter (PCNV) (Optional)

Elevators usually travel using power from a power supply (powered operation), however, when they travel down with a heavy car load or up with a light car load (regenerative operation), the traction machine functions as a power generator. Although the power generated during traction machine operation is usually dissipated as heat, the regenerative converter transmits the power back to the distribution transformer and feeds it into the electrical network in the building along with electricity from the power supply. Compared to the same type of elevator without a regenerative converter, this system provides an energy-saving effect of up to 35 percent. (Reduction in CO₂ emissions: 1400kg/year)

In addition, the regenerative converter has the effect of decreasing harmonic currents.

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.

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.

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 IU (Inverter Unit) acts as a high-efficiency power supply circuit for the motor drive and, along with the PM motor, delivers greater energy savings. The result is a more efficient drive control.

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. Additionally, our robust door operators are structurally isolated from the cab to allow for smooth, quiet operation.

*VVVF: Variable Voltage Variable Frequency.

Profile

Design

Features

Spec.

Info.
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.

Miniaturization of the hoisting machine using a permanent magnet gearless motor allows the machine to be placed inside the elevator hoistway. The result is a dramatic reduction in machine room size whereby only space for the controller needs to be considered. Furthermore, the controller room location is now more flexible, resulting in building design freedom.

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 within a 98-foot, 5-inch radius of 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 percent of the stress, for building friendliness.

Machine room space savings*
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*This product complies with both ASME A17.1 and other applicable codes.

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.

Diamond Trac

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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 within a 98-foot, 5-inch radius of 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 percent of the stress, for building friendliness.

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## CAR SIGNAL FIXTURES

### Car Operating Panels

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBF-US111</td>
<td>Plastic round-type micro stroke click button (standard)</td>
</tr>
<tr>
<td>CBV-US111</td>
<td>Stainless steel round-type micro stroke click button (optional)</td>
</tr>
</tbody>
</table>

### Car Lantern

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLV-US110</td>
<td>Round-type micro stroke click button in gray plastic with milky white mark in center as response light (CBF-US111)</td>
</tr>
</tbody>
</table>

### 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 (CBF-US111)

### Response light

- LED lamp, yellow-orange when illuminated

### Braille plate

- Black plate with tactile floor name, symbol and Braille next to car button

## HALL SIGNAL FIXTURES

### Hall Buttons

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tr>
<td>HBF-US110</td>
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<td>HBV-US110</td>
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### Hall Lanterns

<table>
<thead>
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<th>Model</th>
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<td>HLV-US210</td>
<td>Plastic round-type micro stroke click button (standard)</td>
</tr>
<tr>
<td>HLV-US110</td>
<td>Stainless steel round-type micro stroke click button (optional)</td>
</tr>
</tbody>
</table>

### Faceplate

- Stainless steel hairline

### Lighting

- Clear acrylic with frosted finish, yellow-orange when UP side is illuminated, and red when DOWN side is illuminated

### Call button

- Round-type micro stroke click button in gray plastic (HBF-US110, HBV-US110)

### Response light

- LED lamp, yellow-orange when illuminated

### Braille plate

- Black plate with tactile floor name, symbol and Braille next to car button

### Graphic

- Etching

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*Wall finish is not included in elevator contract.

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Actual elevator color may differ slightly from that shown.
**FUNCTIONS**

### EMERGENCY OPERATIONS AND FEATURES

- **Earthquake Emergency Operation**
  - Description: In case of earthquake, the elevator stops at the nearest available floor and shuts down with the door open. (Disabled operation conforms to the local code.)
  - 1C to 2C

- **Firefighting Emergency Operation**
  - Description: In case of fire, the elevator performs firefighting emergency operation (Phase I and Phase II) conforming to the local code.
  - 1C to 2C

### DOOR OPERATION FEATURES

- **Automatic Door Stop Timing Adjustment**
  - Description: This amount of time that doors are open will automatically adjust depending on whether the stop was carried from the top or the car, to achieve smooth boarding of passengers or loading of luggage.
  - 1C to 2C

- **Automatic Door Speed Control**
  - Description: Door load on each floor, which can depend on the type of door, is monitored to adjust the door speed. (Fluctuations are controlled throughout all floors.)
  - 1C to 2C

- **Door Load Detector**
  - Description: When excessive door load has been detected while opening or closing, the doors immediately move in the reverse direction.
  - 1C to 2C

- **Door Nutting Failure — With Buzzer**
  - Description: A slow door close when they have remained open for longer than the preset period with alarm sound.
  - 1C to 2C

- **Door Sensor Self-Diagnostics**
  - Description: Failure of non-contact door sensors is automatically detected, 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.
  - 1C to 2C

- **Electronic Doorman**
  - Description: Door open time is minimized using safety ray(s) or multi-beam door sensors that detect passengers boarding or exiting.
  - 1C to 2C

- **Multi-beam Door Sensor**
  - Description: Multiple infrared-light beams cover some height of the door as they close to detect passengers or objects.
  - 1C to 2C

- **Reception with Hall Button**
  - Description: Sliding doors can be re-opened by pressing the hall button corresponding to the traveling direction of the car.
  - 1C to 2C

- **Repeated Door-clos, SBC**
  - Description: Should an obstacle prevent the doors from closing, the doors will repeatedly open and close until the obstacle is removed.
  - 1C to 2C

### OPERATIONAL AND SERVICE FEATURES

- **Automatic Bypass**
  - Description: A fully loaded car bypasses hall calls in order to maintain maximum operational efficiency.
  - 1C to 2C

- **Automatic Hall Call Registration**
  - Description: If one car cannot carry all waiting passengers because it is full, another car will automatically be assigned for the remaining passengers.
  - 1C to 2C

- **Backup Operation for Group Control (Monoprocessor)**
  - Description: An operation by car controllers which automatically starts to maintain elevator operation in the event that a non-processor or communication link in the group controller has failed.
  - 1C to 2C

- **Car Call Cancelling**
  - Description: When a car has responded to the final car call in one direction, the system regards remaining calls as the other direction as errors and clears them from the memory.
  - 1C to 2C

- **Car Fan Shut-off — Automatic**
  - Description: If there are no calls for a specified period, the car ventilation fan will automatically turn off to conserve energy.
  - 1C to 2C

- **Car Light-off Shut-off — Automatic**
  - Description: If there are no calls for a specified period, the car lighting will automatically shut off to conserve energy.
  - 1C to 2C

- **Continuity of Service**
  - Description: An elevator system which is expediency trouble is automatically withdrawn from group control operation to maintain overall group performance.
  - 1C to 2C

- **Floor Call Cancelling — Automatic**
  - Description: If the number of registered car calls does not correspond to the car load, all calls are canceled to avoid unnecessary stops.
  - 1C to 2C

- **Independent Service**
  - Description: Evaluation where a car is withdrawn from group control operation for independent use, such as maintenance or repair, and responds only to car calls.
  - 1C to 2C

- **Internal Landing**
  - Description: If the elevator doors do not open fully at a destination floor, the doors close and the car automatically moves to the next nearest floor, where the doors will open.
  - 1C to 2C

- **Overload Holding Stop**
  - Description: If a car has stopped between floors due to an equipment malfunction, the controller closes the doors, 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.
  - 1C to 2C

### SIGNAL AND DISPLAY FEATURES

- **Basic Announcement**
  - Description: A system that allows communication between passengers inside a car and the building personnel.
  - Notes: – = Not applicable  †= Not applicable to 1C-2BC

  - **Alarm Chime**
    - Description: *Analog* chimes that sound to indicate that a car will soon arrive. (The chimes are mounted on the top and bottom of the car.)
    - 1C to 2C

  - **Car Call Button — Electronic**
    - Description: *Digital* chimes that sound to indicate that a car will soon arrive. (The chimes are mounted on the top and bottom of the car.)
    - 1C to 2C

  - **Car Call Button — Electronic**
    - Description: *Digital* chimes that sound to indicate that a car will soon arrive. (The chimes are mounted on the top and bottom of the car.)
    - 1C to 2C

  - **Floor Call Button — Electronic**
    - Description: *Digital* chimes that sound to indicate that a car will soon arrive. (The chimes are mounted on the top and bottom of the car.)
    - 1C to 2C

  - **Flasher Hall Lantern**
    - Description: A system that allows communication between passengers inside a car and the building personnel.
    - Notes: – = Not applicable  †= Not applicable to 1C-2BC

  - **Inter-communication System**
    - Description: A system that allows communication between passengers inside a car and the building personnel.
    - Notes: – = Not applicable  †= Not applicable to 1C-2BC

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**Feature Abbreviation Description**

- **1C to 2C**: 1 to 2 classes
- **3C to 4C**: 3 to 4 classes
- **AI-22**: AI-2200C
- **AI-2200C**: AI-2200C
- **3C to 8C**: 3 to 8 classes

**Notes**:
- – = Not applicable
- †= Not applicable to 1C-2BC
### Optional Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Car Lighting</td>
<td>ECL</td>
<td>Car lighting which turns on immediately when power fails to provide a minimum level of lighting in the car. (Choice of dry-cell battery or trickle charger battery.)</td>
</tr>
<tr>
<td>Multiple Lifts &amp; Escalators Monitoring and Control System</td>
<td>MR-WS</td>
<td>Each car’s status and operation can be monitored and controlled using an advanced monitoring system which provides an interface through personal computers. Some optional features, such as preactivation of traffic analysis and alarms, are also available.</td>
</tr>
<tr>
<td>Mitsubishi Emergency Landing Device</td>
<td>MELD</td>
<td>In case of an emergency, a car equipped with this function automatically returns 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 30'-1&quot;)</td>
</tr>
<tr>
<td>Operation by Emergency Power Source—Automatic</td>
<td>OEP-S-A</td>
<td>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 operates by emergency power until normal power recovery. (Detailed operation conforms to the local code.)</td>
</tr>
<tr>
<td>Supervisory Panel</td>
<td>WP</td>
<td>A panel installed in a building’s supervisory room, which monitors and controls each elevator’s status and operations by receiving signals and switches provided on remote.</td>
</tr>
</tbody>
</table>

### DOOR OPERATION FEATURES

- Elevator Door Open (Door Holding) Button: CDO-TB
- Multiple Infrared Light Sensors: CILS
- 3D Multi-Sensor Door Sensor: DSM-S

### OPERATIONAL AND SERVICE FEATURES

- Car Call Easiness: FCC-P
  - If a wrong car button is pressed, it can be canceled by quickly pressing the same button again twice. |
- Landing Open: LO
  - Doors start opening right before the car has completely stopped at a floor. |
- Non-service to Specific Floors — Car Button Type: NS-CT
  - 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-SW
  - 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: OOS
  - With a key switch on the supervisory panel, etc., a car can be called to a specified floor other than responding to all car calls, and then automatically taken out of service. |
- Secret Call Service: SCS-B
  - A button located inside a car which keeps the doors open for a longer than usual period to allow riders entering or exiting of a sticky baggage, etc. |
- Regenerative Converter: ECV
  - For energy conservation, power generated by a traction machine can be used by other electrical systems in the building. |

### GROUP CONTROL FEATURES

- Bank-emption 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 tenant or different floors. |
- Closed-car Priority Service: CNTS
  - A function to temporarily allocate 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 presessional call button on that floor. (Cannot be combined with Hall Position Indicators.) |
- Congested Floor Operation: CRS
  - The timing of car allocation and the number of cars to be allocated to floors where waiting rooms, or public seats and the traffic densities for short periods of time are controlled according to the detected traffic density data for those floors. |
- Destination Deceptively Allocation System: DAS
  - When a passenger presses a destination floor on a call, the hall operation panel indicates which car will serve the floor. The passenger does not need to press a button in the car. (Darpsing passengers for destination deceptively congestion in the car and minimizing waiting and traveling time. Cannot be combined with some features. Please consult your local sales office for details.) |
- Down Peak Service: DPS
  - A function is available to call a car for each floor to serve the floor. This feature is automatically deactivated during emergency operation. |
- Energy Saving Operation—Number of Cars: ENO-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. |
- Down Peak Service: DPS
  - A function is available to call a car for each floor to serve the floor. This feature is automatically deactivated during emergency operation. |

### SIGNAL AND DISPLAY FEATURES

- Car Interior Chime-Hall: CIC-H
  - 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.) |
- Immediate Prediction Indication: AIL
- Electronic chimes that sound to indicate that a car will soon arrive. (The chimes are mounted in an inconspicuous riser of pushbuttons mounted in the doors jamb. |
- Second Car Prediction: TCP
  - When a hall is crowded to the extent that one car cannot accommodate all waiting passengers, the car call will light up to indicate that a second car will serve the hall. |
- Voice Guidance System: AGS
  - 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.) |

Notes: = Not applicable  †= Not applicable to 1C-2BC

1. When 1C-2BC, please consult your local sales office for local times and details. |
2. Please consult your local sales office for local times and details. |
3. DAS cannot be combined with BSO, CNTS, UPS, TCP, FCC-A, DOAS-TB or TCP feature. |
4. AECH is standard feature when 3-8 car AU-2200C is applied.
BASIC SPECIFICATIONS

For passenger  CAPACITY: 2000lbs ~ 4000lbs

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

<table>
<thead>
<tr>
<th>Opening</th>
<th>Rated speed (fpm)</th>
<th>Capacity (lbs)</th>
<th>Door type*2</th>
<th>CWT Location</th>
<th>Rated speed 200fpm</th>
<th>Minimum hoistway dimensions*4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200fpm</td>
<td>Front: 5'-8&quot; 14'-3&quot; 9'-6&quot;</td>
</tr>
<tr>
<td>Front</td>
<td>2000</td>
<td>2000</td>
<td>SS</td>
<td>Rear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>2000</td>
<td>2000</td>
<td>SS or CO</td>
<td>Rear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front &amp; Rear</td>
<td>3500</td>
<td>3500</td>
<td></td>
<td>Rear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>2000</td>
<td>4000</td>
<td>CO</td>
<td>Rear</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes
1. The contents of these tables are standard specifications. They are based on ASME A17.1 and applicable to a non-seismic zone and seismic zone up to 4, or the equivalent. Please consult your local sales office for installation in a higher seismic area or any specification not shown in these tables. (Email: EEDSALES@meus.mea.com)
2. SS: Single-Slide door, CO: Center-Open doors
3. AH dimension for 2 and 3 Car
4. Front & Rear
5. Canopy height
6. Minimum floor height (ft.)
7. Maximum number of stops
8. Start / hour (time) is as follows.
9. Some of specifications require more than the value 8'-11" as a minimum height. Please consult your local sales office if floor height is less than 8'-11".
10. Start / hour (time) is as follows. Rated speed 200fpm: 120 times
11. Power feeder data for one car
12. Heat emitted from car lighting is included.

Specifications

<table>
<thead>
<tr>
<th>Rated Speed</th>
<th>200fpm</th>
<th>350fpm</th>
<th>400fpm</th>
<th>500fpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of stops</td>
<td>10</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum travel (ft.)</td>
<td>2500</td>
<td>76'-0&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2500-3500 lbs</td>
<td>98'-5&quot;</td>
<td></td>
<td>262'-5&quot;</td>
</tr>
<tr>
<td></td>
<td>4000 lbs</td>
<td>196'-10&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum floor height (ft.)</td>
<td>8'-11&quot;</td>
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<td></td>
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</tbody>
</table>

Power Feeder Data for One Car*11

<table>
<thead>
<tr>
<th>Rated speed (fpm)</th>
<th>Capacity (lbs)</th>
<th>Traction motor (HP)</th>
<th>Current at 480V*10</th>
<th>Power supply capacity (kVA)</th>
<th>Heat emission (BTU/hr)</th>
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</thead>
<tbody>
<tr>
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<td>4490</td>
</tr>
<tr>
<td></td>
<td>3500</td>
<td>33.5</td>
<td>48</td>
<td>85</td>
<td>4980</td>
</tr>
</tbody>
</table>

Notes
*9. Some of specifications require more than the value 8'-11" as a minimum height. Please consult your local sales office if floor height is less than 8'-11".

**10. FLU, FLAcc current (A) at E = (Current at 480V) x (480 / E) ** E: Power supply voltage (V)**10

**11.Rated speed 200fpm: 120 times**

**12. Heat emitted from car lighting is included.**
BASIC LAYOUTS

For passenger  CAPACITY: 2000lbs ~ 4000lbs

Front Opening
Hoistway Plan (example)

Front & Rear Opening
Hoistway Plan

For passenger  CAPACITY: 3500lbs

Front & Rear Opening
Hoistway Plan

Maximum travel: Refer to page 14.

Minimum floor height 8'-11"

Pit depth PD

Entrance height HH 7'-0" (STD)

Cab height 8'-0" (STD)

Hoisting beams (by others)

Front Side  Rear Side

Car hitch beam: Refer to page 21.

Access door width 3'-0"

Car inside clear (Width) 5'-0"  5'-6"

Car inside clear (Depth) 4"

Disconnect switch (by others)
### BASIC SPECIFICATIONS

**For service**  
**CAPACITY:** 4000lbs ~ 5000lbs

#### Capacity, Rated Speed, Door Type, Car Inside & Hoistway Dimensions

<table>
<thead>
<tr>
<th>Configura-ration</th>
<th>Opening</th>
<th>Capacity (lbs)</th>
<th>Door type*2</th>
<th>CWT Location</th>
<th>Entrance width JJ (ft./in.)</th>
<th>Minimum hoistway dimensions*3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Side</td>
<td></td>
<td>5’-8”</td>
<td>6-1’</td>
</tr>
<tr>
<td>Service</td>
<td>Front</td>
<td>4000</td>
<td>5000</td>
<td>4500</td>
<td>5000</td>
<td>4500</td>
</tr>
<tr>
<td></td>
<td>Front</td>
<td>4950</td>
<td>5000</td>
<td>4500</td>
<td>5000</td>
<td>4500</td>
</tr>
<tr>
<td></td>
<td>Front &amp; Rear</td>
<td>4950</td>
<td>5000</td>
<td>4500</td>
<td>5000</td>
<td>4500</td>
</tr>
</tbody>
</table>

#### <Rated Speed 200fpm and 350fpm>

<table>
<thead>
<tr>
<th>Configura-ration</th>
<th>Opening</th>
<th>Capacity (lbs)</th>
<th>Door type*2</th>
<th>CWT Location</th>
<th>Entrance width JJ (ft./in.)</th>
<th>Minimum hoistway dimensions*3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Side</td>
<td></td>
<td>5’-8”</td>
<td>6-1’</td>
</tr>
<tr>
<td>Service</td>
<td>Front</td>
<td>4000</td>
<td>5000</td>
<td>4500</td>
<td>5000</td>
<td>4500</td>
</tr>
<tr>
<td></td>
<td>Front</td>
<td>4950</td>
<td>5000</td>
<td>4500</td>
<td>5000</td>
<td>4500</td>
</tr>
<tr>
<td></td>
<td>Front &amp; Rear</td>
<td>4950</td>
<td>5000</td>
<td>4500</td>
<td>5000</td>
<td>4500</td>
</tr>
</tbody>
</table>

#### Power Feeder Data for One Car

<table>
<thead>
<tr>
<th>Rated speed (ft/min)</th>
<th>Capacity (lbs)</th>
<th>Traction motor (HP)</th>
<th>Current at 460V*10</th>
<th>Power supply capacity (kVA)</th>
<th>Heat emission (BTU/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>4000</td>
<td>16.1</td>
<td>23</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>4000</td>
<td>17.4</td>
<td>26</td>
<td>45</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>5000</td>
<td>18.8</td>
<td>28</td>
<td>49</td>
<td>14</td>
</tr>
<tr>
<td>350</td>
<td>4000</td>
<td>26.8</td>
<td>39</td>
<td>69</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>5000</td>
<td>32.5</td>
<td>43</td>
<td>77</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>5500</td>
<td>33.5</td>
<td>48</td>
<td>85</td>
<td>24</td>
</tr>
</tbody>
</table>

#### Notes

1. The contents of these tables are standard specifications. They are based on ASME A17.1 and applicable to a non-seismic zone and seismic zone up to 4, or the equivalent. Please consult your local sales office for installation in a higher seismic area or any specification not shown in these tables. (Email: EEDSALES@meus.mea.com)

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 left table.

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

6. The minimum OH dimensions are obtained on condition that:
   - Canopy height = 8’-0"
   - OH dimensions does not include the hoisting beams.
   - Please consult your structural engineer for hoisting beam sizing (typically a 6” to 8” beam plus 2” gap on top of the beam).
   - If occupied space below hoistway is provided, required hoistway dimensions will be changed. Please consult your local sales office for details.

7. If the travel is below 98’-5”, some reduction of pit depth is available. Please consult your local sales office for details.
For service CAPACITY: 4000lbs ~ 5000lbs

- **Front Opening**
  - Hoistway Plan (example)

- **Hoistway Section**

For service CAPACITY: 4500lbs ~ 5000lbs

- **Front & Rear Opening**
  - Hoistway Plan (example)

- **Hoistway Section**
CAR HITCH BEAM

For passenger  CAPACITY: 2000lbs ~ 4000lbs

Height of through hole for car hitch beam [HHC]

<table>
<thead>
<tr>
<th>Rated speed (fpm)</th>
<th>HHC(^{1,2}) (ft./in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>11'-10 1/8&quot;</td>
</tr>
<tr>
<td>400</td>
<td>12'-10 1/8&quot;</td>
</tr>
<tr>
<td>500</td>
<td>13'-7 1/8&quot;</td>
</tr>
</tbody>
</table>

\(1\): The HHC dimensions are obtained when canopy height = 8'-0".
\(2\): For California projects, please add 2" to HHC dimensions.

Reaction loads: 400fpm and 500fpm

Opening  Capacity (lbs)  RA (lbs)  RB (lbs)
Front  2500  500  800  1200  2300
2500  500  900  1300  2600
2500  600  900  1600  3200
Total lbs  3500  500  1200  2100  3300

*Rated Speed 400fpm and 500fpm*  *Min. 4 1/8"

For Concrete and Masonry Wall Construction

FRONT SIDE  REAR SIDE

11 13/16"  Through hole for car hitch beam

HHC  C = 5 7/8" < C < 5 7/8"

For Dry Wall Construction

FRONT SIDE  REAR SIDE

11"  Through hole for car hitch beam

RA (lbs)  Opening  Static  Dynamic  Static  Dynamic
Front  1"  5000  9900  1600  3000
2"  6000  10700  1800  3600
Side  1"  5000  9900  1600  3000
9000  1800  3600

Profile
design
functions
spec.
info.

For service  CAPACITY: 4000lbs ~ 5000lbs

Height of through hole for car hitch beam [HHC]

<table>
<thead>
<tr>
<th>Rated speed (fpm)</th>
<th>HHC(^{1,2}) (ft./in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200</td>
<td>12'-4 7/8&quot;</td>
</tr>
<tr>
<td>350</td>
<td>12'-8 15/16&quot;</td>
</tr>
</tbody>
</table>

\(1\): The HHC dimensions are obtained when canopy height = 8'-0".
\(2\): For California projects, please add 2" to HHC dimensions.

Reaction loads: 200fpm and 350fpm

Opening  Capacity (lbs)  RA (lbs)  RB (lbs)
Front  2000  500  800  1200  2300
2000  500  900  1300  2600
2000  600  900  1600  3200
Total lbs  3000  500  1200  2100  3300

*Rated Speed 200fpm and 350fpm*  *Min. 3 15/16"

For Concrete and Masonry Wall Construction

FRONT SIDE  REAR SIDE

11"  Through hole for car hitch beam

HHC  C = 6 1/2" < C < 6 1/2"

For Dry Wall Construction

FRONT SIDE  REAR SIDE

6 1/2"  Through hole for car hitch beam

RA (lbs)  Opening  Static  Dynamic  Static  Dynamic
Front  1"  5900  9000  1200  2400
1"  7000  10700  1800  3600
Side  1"  6000  9900  1600  3000
9000  1800  3600

For service  CAPACITY: 4000lbs ~ 5000lbs

Height of through hole for car hitch beam [HHC]

<table>
<thead>
<tr>
<th>Rated speed (fpm)</th>
<th>HHC(^{1,2}) (ft./in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>350</td>
<td>12'-8 15/16&quot;</td>
</tr>
</tbody>
</table>

\(1\): The HHC dimensions are obtained when canopy height = 8'-0".
\(2\): For California projects, please add 2" to HHC dimensions.

Reaction loads: 200fpm and 350fpm

Opening  Capacity (lbs)  RA (lbs)  RB (lbs)
Front  2000  500  800  1200  2300
2000  500  900  1300  2600
2000  600  900  1600  3200
Total lbs  3000  500  1200  2100  3300

*Rated Speed 200fpm and 350fpm*  *Min. 3 15/16"

For Concrete and Masonry Wall Construction

FRONT SIDE  REAR SIDE

11"  Through hole for car hitch beam

HHC  C = 6 1/2" < C < 6 1/2"

For Dry Wall Construction

FRONT SIDE  REAR SIDE

6 1/2"  Through hole for car hitch beam

RA (lbs)  Opening  Static  Dynamic  Static  Dynamic
Front  1"  5900  9000  1200  2400
1"  7000  10700  1800  3600
Side  1"  6000  9900  1600  3000
9000  1800  3600

For service  CAPACITY: 4000lbs ~ 5000lbs

Height of through hole for car hitch beam [HHC]

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\(1\): The HHC dimensions are obtained when canopy height = 8'-0".
\(2\): For California projects, please add 2" to HHC dimensions.

Reaction loads: 200fpm and 350fpm

Opening  Capacity (lbs)  RA (lbs)  RB (lbs)
Front  2000  500  800  1200  2300
2000  500  900  1300  2600
2000  600  900  1600  3200
Total lbs  3000  500  1200  2100  3300

*Rated Speed 200fpm and 350fpm*  *Min. 3 15/16"
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.
- Construction of an illuminated, ventilated, and waterproofed elevator hoistway.
- A ladder to the elevator pit.
- Provisions for cutting the necessary openings and joints.
- Separate beams, when the hoistway dimensions markedly exceed the specifications, and intermediate beams when two or more elevators are installed.
- All other work related to building construction.
- 3-phase, horsepower rated, lockout type, fused disconnect or circuit breaker, including provision of 3-phase electrical service to elevators.
- Elevator group control disconnect switch, if applicable.
- Control room lighting and duplex outlets.
- Power source for seismic switch, if applicable.
- The laying of conduits and wiring between the elevator pit and the terminating point for the devices installed outside the hoistway, such as the emergency bell, intercom, monitoring and security devices, etc.
- The power consumed during installation work and test operations.
- Test provisions and subsequent alteration as required, eventual removal of the scaffolding as required by the elevator contractor, and any other protection of the work as may be required during the process.
- A suitable, locked space for the storage of elevator equipment and tools during elevator installation.
- The security system, such as a card reader, connected to Mitsubishi Electric’s elevator controller, when supplied by the building owner or general contractor.
- Divider beams and structural attachment points for rail brackets are by others and will be located as needed on Mitsubishi Electric shop drawings.
- Temporary work platform overhead.
- Smoke detectors in the hoistway near the machines, as required by code.

* Work responsibilities in installation and construction shall be determined according to local laws. Please consult your local sales office for details.

Elevator Site Requirements

- The temperature of the elevator hoistway and control panel room shall be above 23°F (-5°C) and below 104°F (40°C).
- 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. Prevention shall be provided against icing and condensation occurring due to a rapid drop in the temperature in the elevator hoistway.
  c. 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.
State-of-the-Art Factories…
For the Environment. For Product Quality.

Mitsubishi Electric elevators and escalators are currently operating in approximately 90 countries around the globe. Built placing priority on safety, our elevators, escalators and building system products are renowned for their excellent efficiency, energy savings and comfort.

The technologies and skills cultivated at the Inazawa Works in Japan and 12 global manufacturing factories are utilized in a worldwide network that provides sales, installation and maintenance in support of maintaining and improving product quality.

As a means of contributing to the realization of a sustainable society, we consciously consider the environment in business operations, proactively work to realize a low-carbon, recycling-based society, and promote the preservation of biodiversity.

ISO9001/14001 certification

Mitsubishi Electric Corporation Inazawa Works has acquired ISO 9001 certification from the International Organization for Standardization based on a review of quality management. The plant has also acquired environmental management system standard ISO 14001 certification.

Eco Changes is the Mitsubishi Electric Group’s environmental statement, and expresses the Group’s stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

Mitsubishi Electric US, Inc. Elevator/Escalator Division
Tel: 800-988-8474 / 5900-A Katella Avenue, Cypress, California 90630, U.S.A.
Website: www.mitsubishielevator.com
Email: EEDSALES@meus.mea.com

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE | TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
www.MitsubishiElectric.com/elevator

⚠️ Safety Tips: Be sure to read the instruction manual fully before using this product.