PASSENGER ELEVATOR (MACHINE-ROOM-LESS SYSTEM)
Series-IP Version2

1800kg, 2025kg, 2250kg, 2500kg

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.

Visit our website at: http://www.mitsubishielectric.com/elevator/
Utilizing its technological prowess and extensive experience, Mitsubishi Electric has remained a leader in the vertical transportation market since entering the business in 1931. The Company’s creative, innovative spirit, represented by production of the world’s first spiral escalator and elevator group control systems that use artificial intelligence technologies, continues to receive high evaluations industry-wide. Our products and systems are renowned for their high levels of quality, reliability and safety; and it is this sense of security and trust fostered with building owners and end-users alike that has led to the global expansion of our elevator/escalator business and the after-sales network to service it.

We understand responsibilities as a good corporate citizen, and continue to implement measures for protecting the environment and ensuring a sustainable society for future generations. A number of original technologies are being introduced to ensure more efficient products, systems and manufacturing operations, thereby enhancing productivity, reducing energy consumption and providing smoother, faster and more comfortable vertical transportation systems.
Mitsubishi Electric elevators, escalators and building management systems are always evolving, helping achieve our goal of being the No.1 brand in quality. In order to satisfy customers in all aspects of comfort, efficiency and safety while realizing a sustainable society, quality must be of the highest level in all products and business activities, while priority is placed on consideration for the environment. As the times change, Mitsubishi Electric promises to utilize the collective strengths of its advanced and environmental technologies to offer its customers safe and reliable products while contributing to society.

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

Efficiency

Comfort

Ecology

Safety

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 escalators' lifecycle.
Green Technology

SUSTAINABLE ENERGY USE
Mitsubishi Electric’s leading-edge technologies have made it possible for elevators to conserve energy. Our regenerative converter makes the most of power generated by the traction machine. Additionally, thanks to the joint-lapped core in permanent magnet (PM) motor and energy-saving features, the elevators use energy more wisely and efficiently.

Regenerative Converter (PCNV) (Optional)
Efficient use of power
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%. (Reduction in CO₂ emissions: 1400 kg/year) In addition, the regenerative converter has the effect of decreasing harmonic currents.

Joint-lapped Core in Permanent Magnet (PM) Motor
Smaller carbon footprint
The joint-lapped core built in the PM motor of the traction machine features flexible joints. The iron core can be like a hinge, which allows coils to be wound around the core more densely, resulting in improved motor efficiency and compactness. High-density magnetic field is produced, enabling lower use of energy and resources and reduced CO₂ emissions.

Energy-saving Features
Curbing energy consumption
Mitsubishi Electric offers features that help to reduce the energy consumption of elevators.

Energy-saving Operation
- Number of Cars (ESO-N) (Optional for ΣAI-22)
The number of service cars is automatically reduced to some extent without affecting passenger waiting time.

Energy-saving Operation
- Allocation Control (ESO-W) (ΣAI-2200C only)
Based on each elevator’s potential energy consumption, the system selects the elevator that best balances operational efficiency and energy consumption.

Car Light/Fan Shut Off
- Automatic (CLO-A/CFO-A)
The car lighting/ventilation fan is automatically turned off if there are no calls for a specified period.

Using Energy Wisely
Our long-term commitment to developing energy-efficient elevators has created systems and functions that make intelligent use of power.

Milestones of Energy-saving Technologies in Elevator Development

Notes:
*1: Alternating current, variable voltage
*2: Variable voltage, variable frequency
*3: • CO₂ emissions in this table are from elevator operation and do not include emissions from manufacturing, transportation and other processes.
• Calculated from the power consumption with coefficient of 0.6 kg/kWh.
• The CO₂ emissions values in this table vary according to conditions.
SPACE-SAVING
As all equipment is installed within the hoistway, there are fewer restrictions on building design except for the actual space required for the shaft. Architects and interior designers have more design freedom.

Compact PM Gearless Machine
The gearless traction machine with a 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, which positively affects the quality of the ride. So even though the machinery is compact, the ride is smooth, quiet and comfortable.

Furthermore, the PM motor suppresses harmonic noise and torque ripple, providing greater riding comfort.

Slim Control Panel
More technological advances, such as the high-accumulation LSI and low-noise PWM inverter, enable the VVVF (variable voltage, variable frequency) inverter to deliver smooth, high-precision control of the traction machine. In addition, an IPU (Integrated Power Unit) acts as a high-efficiency power supply circuit for the motor drive and, along with the PM motor, delivers great energy-savings. The result is more efficient, more reliable drive control.
Mitsubishi Electric’s breakthrough AI Neural Network* technology in elevator control enhances transport efficiency and reduces passenger waiting time through optimum car allocation, which allows elevators to use energy effectively. Two basic group control systems offer a variety of innovative group control features.

Note: *Neural Network is a mathematical model that simulates the structure of the nerves and cells of the human brain and its information processing mechanisms.

The features introduced on these pages are applicable to ΣAI-2200C only. Please refer to page 15 and 16, and the ΣAI-2200C brochure for other features and details.

### Dynamic Rule-set Optimizer

Selecting optimum car allocation through rule-set simulations

Based on real traffic data, passenger traffic is predicted every few minutes. According to the prediction, real-time simulation selects the best rule-set (multiple rules have been set as car allocation patterns), which optimizes transport efficiency.

### Destination Oriented Prediction System (DOAS-S) (Optional)

Allocates passengers to cars depending on destination floors

When a passenger enters a destination floor at a hall, the hall operating panel immediately indicates which car will serve the floor. Because the destination floor is already registered, the passenger does not need to press a button in the car. Furthermore, dispersing passengers by destination prevents congestion in cars and minimizes their waiting and traveling times.

Forecasts a near future hall call to reduce long waits

When a hall call is registered, the algorithm assumes near-future calls that could require long waits. Through evaluation of the registered hall call and the forecasted call, the best car is assigned. All cars work cooperatively for optimum operation.

### Cooperative Optimization Assignment

Forecasts a near future hall call to reduce long waits

When a hall call is registered, the algorithm assumes near-future calls that could require long waits. Through evaluation of the registered hall call and the forecasted call, the best car is assigned. All cars work cooperatively for optimum operation.

| Group-Control Systems | Suitable Building Size | Number of Cars
<table>
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<tr>
<th></th>
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<tbody>
<tr>
<td>AI-2100N System</td>
<td>Small to medium</td>
<td>3 to 4 cars</td>
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<tr>
<td>AI-2100C System</td>
<td>Special (building with dynamic traffic conditions)</td>
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</tbody>
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The features introduced on these pages are applicable to ΣAI-2200C only. Please refer to page 15 and 16, and the ΣAI-2200C brochure for other features and details.

### Group Control Systems

**Suitable Building Size**

- Small to medium
- Special (building with dynamic traffic conditions)

**Number of Cars**

- 3 to 4 cars
- 3 to 8 cars

### Performance

<table>
<thead>
<tr>
<th>Average waiting time</th>
<th>Long-wait rate (60 seconds or longer)</th>
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<tbody>
<tr>
<td>Morning up</td>
<td>Lunchtime</td>
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<tr>
<td>Evening</td>
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**AI-2100N (Conventional system)**

- Allocated a single car (A) at 6th Fl.
- Another hall call is soon registered at 11th Fl. (B)
- Allocated B, which immediately arrives at the floor.

**AI-2200C (New)**

- Allocated a single car (A) at 6th Fl.
- Another hall call is soon registered at 11th Fl. (B)
- Allocated B, which immediately arrives at the floor.

### Note

- This material is applicable only to the ΣAI-2200C system. For information about the ΣAI-2100N system, please refer to the brochure or consult your local agent.

### Dynamic Rule-set Optimizer

- Selecting optimum car allocation through rule-set simulations
  - Based on real traffic data, passenger traffic is predicted every few minutes. According to the prediction, real-time simulation selects the best rule-set (multiple rules have been set as car allocation patterns), which optimizes transport efficiency.

### Destination Oriented Prediction System (DOAS-S) (Optional)

- Allocates passengers to cars depending on destination floors
  - When a passenger enters a destination floor at a hall, the hall operating panel immediately indicates which car will serve the floor. Because the destination floor is already registered, the passenger does not need to press a button in the car. Furthermore, dispersing passengers by destination prevents congestion in cars and minimizes their waiting and traveling times.

### Cooperative Optimization Assignment

- Forecasts a near future hall call to reduce long waits
  - When a hall call is registered, the algorithm assumes near-future calls that could require long waits. Through evaluation of the registered hall call and the forecasted call, the best car is assigned. All cars work cooperatively for optimum operation.

### Group Control Systems

- **Systems**
  - AI-2100N (Conventional system)
  - AI-2200C

- **Suitable Building Size**
  - Small to medium
  - Special (building with dynamic traffic conditions)

- **Number of Cars**
  - 3 to 4 cars
  - 3 to 8 cars

### Note

- This material is applicable only to the ΣAI-2200C system. For information about the ΣAI-2100N system, please refer to the brochure or consult your local agent.

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### Destination Oriented Prediction System (DOAS-S) (Optional)

- Allocates passengers to cars depending on destination floors
  - When a passenger enters a destination floor at a hall, the hall operating panel immediately indicates which car will serve the floor. Because the destination floor is already registered, the passenger does not need to press a button in the car. Furthermore, dispersing passengers by destination prevents congestion in cars and minimizes their waiting and traveling times.

### Cooperative Optimization Assignment

- Forecasts a near future hall call to reduce long waits
  - When a hall call is registered, the algorithm assumes near-future calls that could require long waits. Through evaluation of the registered hall call and the forecasted call, the best car is assigned. All cars work cooperatively for optimum operation.
Car

Ceiling: S00

Car Design Example

Walls: SUS-HL
Transom panel: SUS-HL
Doors: SUS-HL
Front return panels: SUS-HL
Kickplate: Aluminum
Flooring: PR803
Car operating panel: CBV1-C760

Car operating panel

For front return panel

Segment LED indicators
Tactile button with yellow-orange lighting

Hall

Narrow Jamb: E-102

Hall Design Example

Jamb: SUS-HL
Doors: SUS-HL
Hall position indicator and button: PIV1-A710N

Hall position indicators and buttons

Metal-like resin faceplates

Segment LED indicators
Tactile button with yellow-orange lighting

Notes:
*1: Maximum number of floors: 22 floors
*2: Some letters of the alphabets are not available. Please consult our local agents for details.

Actual colors may differ slightly from those shown.
Please refer to the design guide for details and other designs.
Upon activation of a key switch or a building’s fire alarm, all calls are canceled, all cars immediately return to a specified evacuation floor and the doors open to facilitate the safe evacuation of passengers. (Maximum allowable floor-to-floor distance is 10 floors.)

Infrared-light is used to scan a 3D area near open doors to detect passengers or objects.

When a car has responded to the final car call in one direction, the system regards remaining calls as independent operations.

Using a key switch on the supervisory panel, a car can be withdrawn from group control operation for maintenance or energy-saving measures, and responds only to car calls. This function is automatically deactivated during emergency operation.

Exclusive operation where an elevator can be operated using the buttons and switches located in a building’s supervisory room is possible. 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 the car will not leave that floor until enough passengers exit the car.

A buzzer sounds to alert the passengers that the car is overloaded. The doors remain open and the car will not leave that floor until enough passengers exit the car.

To enhance security, car calls for desired floors can be registered only by entering secret codes.

Features (1/2)

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<td>Firefighter’s Emergency Operation (FE)</td>
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<td>Door Sensor Self-diagnosis (DODA)</td>
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<td>Automatic Elevator Speed Control (OSAC)</td>
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<td>Automatic Door-open Time Adjustment (DOT)</td>
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<td>Reopen with Hall Button (ROHB)</td>
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<td>Repeated Door-closing (RDC)</td>
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<td>Door Nudging Feature — With Buzzer (DODV)</td>
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<td>Door Load Detector (DLD)</td>
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<td>Safety Door Edge (SDE) One side (32 doors)</td>
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<td>Extended Door-open Button (CHO-TB)</td>
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<td>Safety Relay (SR) 1-beam</td>
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<td>Hall Motion Sensor (HMS)</td>
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Feature Description 1C-2BC
1C-2BC 2C-2BC 3C to 4C 3C to 8C

Notes:
- #1: Please consult our local agents for the production terms, etc.
- *: Standard
- #: Optional
- = Not applicable
Cars are allocated to hall calls by considering the number of car calls that will reduce passenger waiting time. When a hall is crowded to the extent that one car cannot accommodate all waiting passengers, car assignment is performed considering not only current and new calls but also future calls. Please refer to page 6.

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.

Distinction of Traffic Flow with Neural Networks (NN)
Traffic flows in a building are constantly monitored using neural network technology, and the optimum operational patterns, such as Lunchtime Service or Up Peak Service, are selected and canceled according to the appropriate time.

Dynamic Rule-set Optimizer (DRO)
Traffic flows in a building are constantly predicted using neural network technology, and an optimum rule-set for group control operations is selected through real-time simulations based on prediction results. Please refer to page 19.

Peak Traffic Control (PTC)
A floor which temporarily has the heaviest traffic is served with higher priority over other floors, but not to the extent that it interferes with the service to other floors.

Strategic Overall Spotting (SOHS)
Strategic passenger waiting time, car which has finished service are automatically directed to positions where they can respond to predicted call's as quickly as possible.

Energy-saving Operation (EoS)
The system selects the elevator that best balances operational efficiency and energy consumption according to each elevator's current location and passenger load as well as predicted congestion levels throughout the day. Please refer to page 10.

Energy-saving Operation — Number of Cars (EOS-N)
To save energy, the number of service cars is automatically reduced to some extent, but not so much that it adversely affects passenger waiting time. Please refer to page 6.

Destination Oriented Prediction System (DOAS-S)
When a passenger enters a destination floor at a hall, the hall operating panel indicates which car will serve the floor. The passenger does not need to press an elevator in the car. Displacing passengers by destination prevents congestion in the cars and minimizes their waiting and traveling times. Please refer to page 10.

Up-Peak Service (UPS)
Controls the number of cars to be allocated to the lobby floor, as well as the car allocation timing in order to meet increased demand for upward travel from the lobby floor during office starting time, hotel check-in time, etc., and minimize passenger waiting time.

Down-Peak Service (DPS)
Controls the number of cars to be allocated and the timing of car allocation in order to meet increased demand for downward travel during office leaving time, hotel check-out time, etc., and minimize passenger waiting time.

Main Floor Parking (MFP)
An available car always parks on the main (lobby) floor with the doors open/closed (doors only open when required, otherwise closed). Please refer to page 7.

Forced Floor Stop (FFS)
All cars in a bank automatically make a stop at a predetermined floor on every trip without being called.

Special Floor Priority Service (SPS)
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.)

Closest-Car Priority Service (CCPS)
A function to provide priority allocation to the car closest to the floor where a 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.)

Light-load Car Priority Service (LLPS)
When traffic is light, emergency 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.)

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.)

Congested-floor Service (CFS)
The timing of car allocation and the number of cars to be allocated to floors where waiting rooms or ballrooms exist and the traffic intensifies for short periods of time are controlled according to the detected traffic density data for those floors.

Features (2/2)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Bank-separation Operation (BSO)</td>
<td>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.</td>
</tr>
<tr>
<td>VIP Operation (VIP-S)</td>
<td>A specified car is withdrawn from group control operation for VIP service operation. When activated, the car responds only to existing car calls, moves to a specified floor and parks there with the doors open. The car will then respond only to car calls.</td>
</tr>
<tr>
<td>Lunchtime Service (LTS)</td>
<td>During the first half of lunchtime, calls for a restaurant floor are served with higher priority, and during the latter half, the number of cars allocated to the restaurant floor, the allocation timing for each car and the door opening and closing timing are all controlled based on predicted data.</td>
</tr>
<tr>
<td>Main Floor Changeover Operation (FTS)</td>
<td>This feature is effective for buildings with two main (lobby) floors. The floor designated as the &quot;main floor&quot; in a group control operation can be changed as necessary using a manual switch.</td>
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Features (1/2)

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<tr>
<td>Expert System and Fuzzy Logic</td>
<td>Artificial expert knowledge, which has been programmed using “expert system” and “fuzzy logic”, is applied to select the ideal operational rule which maximizes the efficiency of group operation controls.</td>
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<td>Psychological Waiting Time Evaluation</td>
<td>Cars are allocated according to the predicted psychological waiting time for each hall call. The priority of psychological waiting time are automatically changed in a timely manner in response to actual service conditions.</td>
</tr>
<tr>
<td>Cooperative Optimization Assignment</td>
<td>The system predicts a potential hall call, which could cause longer waiting time. Car assignment is performed considering not only current and new calls but also near future calls. Please refer to page 8.</td>
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<td>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.</td>
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Basic Announcement (AAN-B)
A synthetic voice (and/or buzzer) alerts passengers inside a car that elevator operation has been temporarily interrupted due to overload or a similar cause. (Voice available only in English.)

Flashing Hall Lantern (FHL)
An electronic chime sounds to indicate that a car will soon arrive. (The chimes are mounted either on the top and bottom of the car, or in each hall.)

Auto Car Button (ACB)
A click-type car button which emits an electronic beep sound when pressed to indicate that the call has been registered.

Intermediate Prediction Indication (API)
When a passenger has registered a hall call, the best car to respond to that call is immediately selected, the corresponding hall lantern lights up and a chime sounds once to indicate which floor will open.

Second Car Prediction (TCP)
When what is crowds the extent that one car cannot accommodate all waiting passengers, a hall lantern lights up to indicate the next car to serve the hall.

Voice Guidance System (VGS)
Information on elevator service such as the current floor or service direction is given to the passengers inside a car. (Voice guidance available only in English.)

Auxiliary Car Operating Panel (ACPS)
An additional car operating panel which can be installed for large-capacity elevators, heavy-traffic elevators, etc.

Inter-communication System (IFP)
A system which allows communication between passengers inside a car and the building personnel.

Landing Position Indicator (LDI-S)
The LDI system indicates the landing position for both cars and doors. This feature is effective for buildings with two main (lobby) floors. The floor designated as the “main floor” in a group control operation can be changed as necessary using a manual switch.

Hall-Landing Position Indicator (HLD-S)
The LDI system indicates the landing position for both cars and doors. This feature is effective for buildings with two main (lobby) floors. The floor designated as the “main floor” in a group control operation can be changed as necessary using a manual switch.

Car Information Display (CID)
This LCD (10.4- or 15-inch) for car front return panels shows the date and time, car position, travel direction and elevator status messages.

Hall-Information Display (HID)
This LCD (10.4- or 15-inch) for elevator hall return panels shows the date and time, car position, travel direction and elevator status messages.

Notes:
- #1: The “car select indicator” selects the car that is to be used for group control operation. A car can be selected from any car to any other car in the system. Please refer to page 9.
- #2: When DOAS-S is applied, SR or Multi-Beam Door Sensor should be installed. Please refer to page 10.
Basic Specifications and Important Information on Elevator Planning

Horizontal Dimensions <1-Door 1-Gate>

<table>
<thead>
<tr>
<th>Code number</th>
<th>Number of persons</th>
<th>Rated capacity (kg)</th>
<th>Door type</th>
<th>Counterweight position</th>
<th>Car internal dimension(mm)</th>
<th>Entrance width (mm)</th>
<th>Minimum hoistway dimensions (mm) X Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>P24</td>
<td>24</td>
<td>1800</td>
<td>CO</td>
<td>Rear</td>
<td>2950 x 1600</td>
<td>1200</td>
<td>2950 x 2150</td>
</tr>
<tr>
<td>P27</td>
<td>27</td>
<td>2025</td>
<td>CO</td>
<td>Side</td>
<td>2950 x 1700</td>
<td>1500</td>
<td>2950 x 2145</td>
</tr>
<tr>
<td>P28</td>
<td>30</td>
<td>2250</td>
<td>CO</td>
<td>Rear</td>
<td>2950 x 1500</td>
<td>1500</td>
<td>2950 x 2145</td>
</tr>
<tr>
<td>P29</td>
<td>33</td>
<td>2500</td>
<td>CO</td>
<td>Side</td>
<td>1600 x 2700</td>
<td>1500</td>
<td>2950 x 2145</td>
</tr>
</tbody>
</table>

(Terms of the table)
- The contents of this table are applied to standard specification only. Please consult our local agents for other specifications.
- Rated capacity is calculated at 75kg per person, as required by EN81-1.
- The contents of this table are applied to standard specification only. Please consult our local agents for other specifications.

Vertical Dimensions <1-Door 1-Gate & 1-Door 2-Gate>

<table>
<thead>
<tr>
<th>Rated speed (m/sec)</th>
<th>Rated capacity (kg)</th>
<th>Maximum travel (m)</th>
<th>Maximum number of floors</th>
<th>Minimum overhead (mm) ON</th>
<th>Minimum pit depth (mm) PD</th>
<th>Minimum floor height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.75</td>
<td>1850</td>
<td>1800</td>
<td>60</td>
<td>4250</td>
<td>4500</td>
<td>1630</td>
</tr>
<tr>
<td>1.75</td>
<td>1850</td>
<td>1950</td>
<td>22</td>
<td>4050</td>
<td>4500</td>
<td>1700</td>
</tr>
<tr>
<td>1.75</td>
<td>1950</td>
<td>2250</td>
<td>17</td>
<td>4000</td>
<td>4500</td>
<td>2500</td>
</tr>
<tr>
<td>1.75</td>
<td>2250</td>
<td>2250</td>
<td>17</td>
<td>4440</td>
<td>4500</td>
<td>1770</td>
</tr>
</tbody>
</table>

(Terms of the table)
- The contents of this table are applied to standard specification only. Please consult our local agents for other specifications.
- Minimum overhead (ON) and minimum pit depth (PD) should be increased when the travel is over 200m.
- Some specifications require more than 2500mm as a minimum floor height. Please consult our local agents if the floor height is less than entrance height HH + 700mm, and the elevator is a 1-Door 2-Gate.

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.
- Provision for cutting the necessary openings and joists.
- 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.
- The power receiving panel and the electrical wiring for illumination, plus the power from them to the electrical room.
- 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 in installation work and test operations.
- The test provision and subsequent alteration as required, and 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.
- The provision of 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.

Elevator Site Requirements
- The temperature of the elevator hoistway shall be below 40°C.
- The following conditions are required for maintaining elevator performance.
  a. The relative humidity shall be below 95% 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.
- An 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 and type 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.

Applicable Standards
The ELENESSA complies with EN81-1. For details of compliance with other national regulations, please consult our local agents.
Mitsubishi Elevator Inazawa Works has acquired ISO 9001 certification from the International Organization for Standardization based on a review of quality management. The company 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.

Visit our website at: http://www.mitsubishielectric.com/elevator/

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