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

1800kg, 2025kg, 2250kg, 2500kg

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

ELENESSA
Utilizing its technological prowess and extensive experience, Mitsubishi Electric has remained a leader in the vertical transportation market since entering the business in 1937. 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.
Principle

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.

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.

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.

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Application

ELENESSA
(Series-IP Version2)

<table>
<thead>
<tr>
<th>(m/sec)</th>
<th>1.75</th>
<th>1.6</th>
<th>1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800 kg</td>
<td>20</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>2500 kg</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Series-IP Version 2

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.

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**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.

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**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.

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**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.

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**Milestones of Energy-saving Technologies in Elevator Development**

<table>
<thead>
<tr>
<th>Year</th>
<th>Motor Type</th>
<th>Traction Machine</th>
<th>Control Circuit</th>
<th>Power Consumption</th>
<th>CO₂ Emissions (kg/yr)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>Induction</td>
<td>Induction motor</td>
<td>A.C. control</td>
<td>Low</td>
<td>100%</td>
</tr>
<tr>
<td>1990</td>
<td>PM</td>
<td>AC/PM motor</td>
<td>A.C./PM control</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>1996</td>
<td>PM</td>
<td>AC/PM motor</td>
<td>A.C./PM control</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>2000</td>
<td>PM</td>
<td>PM motor</td>
<td>A.C./PM control</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>2013</td>
<td>PM</td>
<td>PM motor</td>
<td>A.C./PM control</td>
<td>15%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Notes:

*1: Alternative 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.
Machine-room-less

**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.
EFFICIENT TRANSPORTATION

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.

*Neural Network is a mathematical model that emulates the structure of the nerves and cells of the human brain and its information processing mechanism.

Group Control

<table>
<thead>
<tr>
<th>Group Control Systems</th>
<th>Suitable Building Size</th>
<th>Number of Cars in a Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI-2100N System</td>
<td>Small to medium</td>
<td>1 to 4 cars</td>
</tr>
<tr>
<td>AI-2200C System</td>
<td>Large (Especially, a building with dynamic traffic conditions)</td>
<td>3 to 8 cars</td>
</tr>
</tbody>
</table>

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

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.

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.

Example of hall arrangement

DOAS-S (Lobby floor(s))

DOAS-S hall operating panels are installed only on busy floor(s) such as the lobby, while other floors have conventional hall fixtures. This is particularly beneficial for improving the traffic flow leaving from the busy floor. It’s especially useful in buildings with heavy up-peak traffic.

DOAS-S (All Floors)

DOAS-S hall operating panels are installed on all floors. Cars receive destination information from all floors to provide the best service for more complex traffic conditions throughout the day.

Example of hall arrangement

Please consult our local agents for DOAS-S (all floors).
**Car Design Example**

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

**Hall Design Example**

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

**Notes:**

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

**Car Design Example**

- **Ceiling**: S00

**Hall Design Example**

- **Narrow Jamb**: E-102

**Hall position indicators and buttons**

- **Metal-like resin faceplates**: PIV1-A710N
- **Segment LED indicators**
- **Tactile button with yellow-orange lighting**

Actual colors may differ slightly from those shown. Please refer to the design guide for details and other designs.
Features (1/2)

**EMERGENCY OPERATIONS AND FEATURES**

- **Earthquake Emergency Return**
  Upon activation of primary and/or secondary wave seismic sensors, all cars stop at the nearest floor, and park there with the doors open to facilitate the safe evacuation of passengers.

- **Firefighters’ Emergency Operation (FE) (2C-)**
  An operation by car controllers which automatically maintains elevator operation in the event of fire emergencies and facilitates firefighting and rescue operations.

- **Emergency Car Lighting (ECL)**
  Car lighting which turns on immediately when power fails, providing a minimum level of lighting within the car. (Choice of day-light or trickle-charge battery.)

- **Hall Motion Sensor (HMS)**
  One or two infrared-light beams cover the full width of the doors as they close to detect passengers boarding or exiting. (Cannot be combined with the SR.)

- **Door Nudging Feature**
  If the number of registered car calls does not correspond to the car load, all calls are canceled to avoid unnecessary stops.

- **Door Sensor Diagnostics (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 (ASAC)**
  Door load on each floor, which can depend on the type of hall door, is monitored to adjust the door speed, thereby making the door close as consistent as possible.

- **Automatic Door-open Time Adjustment (DOT)**
  The time doors are open self-adjusted, depending on whether the stop was called from the hall or the car, to allow smooth boarding of passengers or loading of baggage.

- **Reopen with Hall Button (RCHB)**
  Closing doors can be reopened by pressing the hall button corresponding to the traveling direction of the car.

- **Repetitive Door-close (RDC)**
  Should an obstacle prevent the doors from closing, the doors will repeatedly open and close until the obstacle is cleared from the doorway.

- **Door Nudging Feature — With Buzzer (DNQ)**
  A buzzer sounds and the doors slowly close when they have remained open for longer than the preset period. With AAN-B or AAN-G, a beep and voice guidance sound instead of the buzzer.

- **Door Load Detector (DLLD)**
  When excessive door load has been detected while opening or closing, the doors immediately open.

- **Safety Door Edge (SDE)**
  Sensitive door edges detect passengers or objects during door closing.

- **Extended Door-open Button (CHD-T)**
  When a button inside a car is pressed, the doors will remain open longer to allow loading and unloading of baggage, a stretcher, etc.

- **Safety Relay (SR)**
  1-beam
  Door open time is determined using safety relay(s) or multi-beam door sensors that detect passengers boarding or exiting.

- **Electronic Doorman (EDM)**
  Multiple infrared light beams cover a door height of approximately 1900mm to detect passengers or objects as the doors close. (Cannot be combined with the SR.)

- **Multi-Beam Door Sensor**
  Infrared light is used to scan a 3D area near open doors to detect passengers or objects.

**DOOR OPERATION FEATURES**

- **Non-service to Specific Floors — Car Button Type (NS-CB)**
  This function is automatically deactivated during emergency operation.

- **Non-service to Specific Floors — Switch/Timer Type (NS-C/T)**
  To enhance security, service to specific floors can be disabled during emergency operation.

- **Car Call Canceling (CCC)**
  When a call has reached the final call in one direction, the system regards remaining calls in the other direction as miscalls and ignores them from the memory.

- **Car Fan Shut Off — Automatic (FCO-A)**
  If there are no calls for a specified period, the car ventilation will automatically turn off to conserve energy. (Please refer to page 6.)

- **Car Light Shut Off — Automatic (LCO-A)**
  If there are no calls for a specified period, the car lighting will automatically turn off to conserve energy. Please refer to page 6.

- **Backup Operation for Group Control Microprocessor (BCO)**
  An operation by car controllers which automatically maintains elevator operation in the event that a microprocessor or transmission line in the group controller has failed.

- **Independent Service (INC)**
  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.

- **False Call Canceling — Automatic (FCC-A)**
  If the testing car button is pressed, it can be canceled by quickly pressing the same button again.

- **Automatic Bypass (ABP)**
  A fully-loaded car bypasses hall calls in order to maintain maximum operational efficiency.

- **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)**
  To enhance security, cars for derelict floors can be registered by entering even codes using the car buttons on the car operating panel. This function is automatically deactivated during emergency operation.

- **Non-service to Specific Floors — Car Button Type (NS-CB)**
  To enhance security, service to specific floors can be disabled during emergency operation.

- **Non-service to Specific Floors — Switch/Timer Type (NS-C/T)**
  To enhance security, service to specific floors can be disabled during a manual or time switch. This function is automatically deactivated during emergency operation.

- **Car Call Canceling — Car Button Type (FCC-P)**
  If the testing car button is pressed, it can be canceled by quickly pressing the same button again.

- **Automatic Bypass (ABP)**
  A fully-loaded car bypasses hall calls in order to maintain maximum operational efficiency.

**OPERATIONAL AND SERVICE FEATURES**

- **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.

- **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.

- **Continuity of Service (COS)**
  A car which is experiencing trouble is automatically withdrawn from group control operation to maintain overall group performance.

- **Overload Holding Stop (OLH)**
  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.

- **Automatic Hall Call Registration (TAT)**
  Enter a car cannot carry all the passengers because it is full, another car will automatically be assigned for the remaining passengers.

- **Car Call Canceling (CCC)**
  When a car has reached the final call in one direction, the system regards remaining calls in the other direction as miscalls and ignores them from the memory.

- **Car Fan Shut Off — Automatic (FCO-A)**
  If there are no calls for a specified period, the car ventilation will automatically turn off to conserve energy. (Please refer to page 6.)

- **Car Light Shut Off — Automatic (LCO-A)**
  If there are no calls for a specified period, the car lighting will automatically turn off to conserve energy. Please refer to page 6.

- **Backup Operation for Group Control Microprocessor (BCO)**
  An operation by car controllers which automatically maintains elevator operation in the event that a microprocessor or transmission line in the group controller has failed.

- **Independent Service (INC)**
  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.

- **False Call Canceling — Automatic (FCC-A)**
  If the testing car button is pressed, it can be canceled by quickly pressing the same button again.

- **Automatic Bypass (ABP)**
  A fully-loaded car bypasses hall calls in order to maintain maximum operational efficiency.

- **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.
Cars are allocated to hall calls by considering the number of car calls that will reduce passenger waiting time. The system predicts a potential hall call, which could cause a longer waiting time. Car assignment is performed considering not only current and new calls but also near-future calls. Please refer to page 6.

Cooperative Optimization Assignment

The number of cars allocated or parked on crowded floors is controlled not only according to the conditions on those crowded floors but also the operational status of each car and the traffic on each floor.

Dynamic Rule set Optimizer (DRO)

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 (SOS)

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 weighted congestion levels throughout the day. Please refer to page 10.

Energy-saving Operation — Allocation Control (ESO-W)

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 which the hall operating panel indicates which car will serve the floor, the passenger does not need to press a button in the car. Dispersing passengers by destination prevents congestion in the cars and minimizes passenger 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 demands for upward travel from the lobby floor during off-peak starting and traveling times. Please refer to page 10.

Down Peak Service (DPS)

Controls the number of cars to be allocated and the timing of car allocation in order to meet increased demands for downward travel during off-peak leaving time, check-out times, 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. The car will then respond only to car calls.

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.)

Closed-Car Priority Service (CPS)

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.)

Light-load Car Priority Service (CLPS)

When traffic is light, empty or lightly-loaded cars are given higher priority in order 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 (CS)

The timing of car allocation and the number of cars to be allocated to floors where meeting rooms or bedrooms exist and the traffic intensity for short periods of time is controlled according to the detected traffic density data for those floors.

Table: Features (2/2)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>1C</th>
<th>2C</th>
<th>3C to 4C</th>
<th>5C to 8C</th>
<th>9C to 16C</th>
<th>Notes</th>
</tr>
</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 on different floors.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</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>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Lunchtime Service (LT)</td>
<td>During the first half of lunchtime, calls for restaurant floors 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>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Main Floor Changeover Operation (TFS)</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>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Notes:
- 1C-2BC (1-car selective collective) - Standard, 2C-2BC (2-car group control) - Optional
- 3C to 4C (3 to 4-car group control system) - Optional, 5C to 8C (5 to 8-car group control system) - Optional
- Notes:  •1C -2BC (1-car selective collective) - Standard, 2C -2BC (2-car group control) - Optional
- When DOAS-S is applied, 5C or Multi-Beam Door Sensor should be installed. Please consult our local agents when DOAS-S hall operating panels are installed on all floors.
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 (kW)</th>
<th>Door type</th>
<th>Counterweight position</th>
<th>Car internal dimensions (mm)</th>
<th>Car internal dimensions (mm) X Y</th>
<th>Entrance width (mm) Z</th>
<th>Minimum hoistway dimensions (mm) X Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>P24</td>
<td>24</td>
<td>2025</td>
<td>CO</td>
<td>Rear</td>
<td>2350×1600</td>
<td>1200</td>
<td>2900×2250</td>
<td></td>
</tr>
<tr>
<td>P27</td>
<td>27</td>
<td>2025</td>
<td>CO</td>
<td>Rear</td>
<td>2350×1600</td>
<td>1200</td>
<td>2900×2250</td>
<td></td>
</tr>
<tr>
<td>P10</td>
<td>10</td>
<td>2370</td>
<td>SS</td>
<td>Side</td>
<td>1600×2700</td>
<td>1300</td>
<td>2500×3200</td>
<td></td>
</tr>
<tr>
<td>P13</td>
<td>13</td>
<td>2500</td>
<td>SS</td>
<td>Side</td>
<td>1600×2700</td>
<td>1300</td>
<td>2500×3200</td>
<td></td>
</tr>
</tbody>
</table>

<1-Door 2-Gate>

<table>
<thead>
<tr>
<th>Code number</th>
<th>Number of persons</th>
<th>Rated capacity (kW)</th>
<th>Door type</th>
<th>Counterweight position</th>
<th>Car internal dimensions (mm)</th>
<th>Car internal dimensions (mm) X Y</th>
<th>Entrance width (mm) Z</th>
<th>Minimum hoistway dimensions (mm) X Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>P27</td>
<td>27</td>
<td>2025</td>
<td>CO</td>
<td>Side</td>
<td>1600×2600</td>
<td>1300</td>
<td>2500×3254</td>
<td></td>
</tr>
<tr>
<td>P13</td>
<td>13</td>
<td>2500</td>
<td>SS</td>
<td>Side</td>
<td>1600×2600</td>
<td>1300</td>
<td>2500×3254</td>
<td></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.
- CO 2-panel center opening doors, SS 2-panel side sliding doors.
- Minimum overhead dimensions (X and Y) are after waterproofing of pit and do not include plumb tolerance.
- Minimum hoistway dimensions (X and Y) should be increased if fireproof landing door is required.

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

<table>
<thead>
<tr>
<th>Rated speed (m/sec)</th>
<th>Rated capacity (kW)</th>
<th>Maximum travel (m)</th>
<th>Maximum number of floors</th>
<th>Minimum overhead (mm) DH</th>
<th>Minimum pit depth (mm) PD</th>
<th>Minimum floor height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>1800</td>
<td>60</td>
<td>22</td>
<td>4030</td>
<td>4720</td>
<td>1630</td>
</tr>
<tr>
<td>1.6</td>
<td>1800</td>
<td>60</td>
<td>22</td>
<td>4200</td>
<td>4720</td>
<td>1710</td>
</tr>
<tr>
<td>1.75</td>
<td>1950</td>
<td>60</td>
<td>22</td>
<td>4440</td>
<td>4720</td>
<td>1710</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.
- Maximum overhead (DH) and minimum pit depth (PD) should be increased when the travel is over 30m.
- Some specifications require more than 200mm as a minimum floor height. Please consult our local agents if the floor height is less than 2700mm, 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 90% on a monthly average and below 95% on a daily average.
  b. The layout (position of traction machine, etc.) differs depending on capacity.
- Elevator for counterweight rear drop is slightly different from this figure.
- The ELENESSA complies with EN81-1. For details of compliance with other national regulations, please consult our local agents.

Ordering Information
- Please include the following information when ordering or requesting estimates:
  a. The desired number of units, speed and loading capacity.
  b. The number of stops or number of floors to be served.
  c. The total elevator travel and each floor-to-floor height.
  d. Operation system.
  e. Selected design and size of car.
  f. Signal equipment.
  g. A sketch of the part of the building where the elevators are to be installed.
  h. 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.

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

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