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

ELENESSA

Speed: 1.75m/sec
Capacity: 2500kg
Travel: 80m
30floors
Mitsubishi Electric's green technologies have been developed as part of its long and profound commitment to energy-saving.

Mitsubishi Electric’s long-range vision for environmental management, which looks towards the year 2021

Mitsubishi Electric's green technologies have been developed as part of its long and profound commitment to energy-saving.

Milestones of Energy-saving Technologies in Elevator Development

<table>
<thead>
<tr>
<th>Year</th>
<th>Motor</th>
<th>Traction Machine</th>
<th>Motor Drive</th>
<th>Control Circuit</th>
<th>Power Consumption</th>
<th>CO2 Emissions, kg/ride%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>AC Motor</td>
<td>AC/DC Motor</td>
<td>100%</td>
<td>Relay</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>1980</td>
<td>AC Motor</td>
<td>AC/DC Motor</td>
<td>30%</td>
<td>Microcomputer</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>1990</td>
<td>AC Motor</td>
<td>AC/DC Motor</td>
<td>50%</td>
<td>Microcomputer</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>2000</td>
<td>AC Motor</td>
<td>AC/DC Motor</td>
<td>33%</td>
<td>Microcomputer</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>2010</td>
<td>Permanent Magnet Motor</td>
<td>AC/DC Motor</td>
<td>20%</td>
<td>Microcomputer</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>2020</td>
<td>Permanent Magnet Motor</td>
<td>AC/DC Motor</td>
<td>10%</td>
<td>Microcomputer</td>
<td>10%</td>
<td>10%</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.
*4: Calculated from the power consumption with coefficient of 0.6kg/kWh.
*5: The CO2 emissions values in this table vary according to conditions.

Our elevators stay a step ahead with even more advanced energy conservation technology: Introducing the Regenerative Converter (Optional)

Compared to the same type of elevator without a Regenerative Converter:
Energy-saving effect: Up to 35%
CO2 emissions: ~1,400 kg/year

(The elevator is operated under different conditions from those in the table, “Milestones of Energy-Saving Technologies in Elevator Development” on page 1.)
The Regenerative Converter is applicable to the elevators with the rated capacity of 630kg to 1600kg.
Please refer to page 5 for details.
Green Technology
Efficiently using resources and minimizing environmental burden through leading-edge technologies.

Variable Traveling Speed Elevator System
An elevator that travels faster according to the number of passengers, reducing waiting and traveling time.

Machine-room-less
As all equipment is installed within the hoistway, there are far fewer restrictions on building design.

Group Control
Advanced group control systems enhance transport efficiency and reduce passenger waiting time through optimum car allocation.

Pleasant Design
Increased design options make elevators more pleasant and easier to use.

Our Global Standards for Machine-room-less Elevators

The chart shows the application of ELENESSA (Series-IP Version2) with varying speeds and capacities from 630 kg to 2500 kg.

The rated capacity has been extended from 1600 kg to 2500 kg for the ELENESSA Series-IP Version2.
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 (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 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
  The number of service cars is automatically reduced to some extent without affecting passenger waiting time.

Energy-saving Operation
- Allocation Control
  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
  The car lighting/ventilation fan is automatically turned off if there are no calls for a specified period.

Note: *The Regenerative Converter is applicable to the elevators with the rated capacity of 630kg to 1600kg.
Variable Traveling Speed Elevator System (VSE) (Optional)*

The Variable Traveling Speed Elevator System allows elevators to travel faster than their rated speed depending on the number of passengers in the car (rapid mode). When the weight is well-balanced between the car and the counterweight, the traction machine does not need its full power to make the elevator travel at the rated speed. Thus, by utilizing the unused power of the traction machine, the elevator can travel faster. Its efficient transport reduces frustratingly long waiting and traveling time. VSE is a solution for users seeking time-savings in elevator travel.

**TIME-SAVING**

With Mitsubishi Electric’s industry-first Variable Traveling Speed Elevator System, an elevator can travel faster than its rated speed according to the number of passengers, ultimately reducing waiting and traveling time.

Traveling time can be reduced by approximately 32% when the elevator travels from the bottom to the top floor directly under rapid mode in VSE.

According to Mitsubishi Electric’s simulation, waiting time can be reduced up to approximately 15% when VSE is applied.

<table>
<thead>
<tr>
<th>Traveling speed (m/sec)</th>
<th>1.0m/sec (Rated speed)</th>
<th>1.6m/sec (Rated speed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car load (%):</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>1.0 m/sec (2-3 persons)</td>
<td>1.25m/sec (2-3 persons)</td>
<td>1.5m/sec (5-6 persons)</td>
</tr>
<tr>
<td>1.5 m/sec (9-10 persons)</td>
<td>1.6m/sec (9-10 persons)</td>
<td>1.5 m/sec (9-10 persons)</td>
</tr>
<tr>
<td>1.25m/sec (6-9 persons)</td>
<td>1.6m/sec (9-10 persons)</td>
<td>1.5 m/sec (9-10 persons)</td>
</tr>
<tr>
<td>1.25m/sec (2-5 persons)</td>
<td>1.6m/sec (9-10 persons)</td>
<td>1.5 m/sec (9-10 persons)</td>
</tr>
<tr>
<td>1.0 m/sec (1-2 persons)</td>
<td>1.25m/sec (2-3 persons)</td>
<td>1.5m/sec (5-6 persons)</td>
</tr>
</tbody>
</table>

*Note: *The Variable Traveling Speed Elevator System is applicable to the elevators with a rated speed of 1.0m/sec and the rated capacity of 630kg to 1600kg.
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.

Mitsubishi Electric has succeeded in miniaturizing all key elevator equipment.

The gearless traction machine with a compact PM motor is installed within the hoistway and the slim control panel (98mm thick*) is located on the shaft side wall. This arrangement of equipment frees up space normally required for separate machine rooms such as a penthouse. The control panel and equipment are configured for easy maintenance, and the entire compact system is optimally organized for performance and service.

*In cases when the rated capacity is 630kg to 1050kg.

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**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.

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**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.

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

<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>ΣAI-22 System</td>
<td>Small to medium</td>
<td>3 to 4 cars</td>
</tr>
<tr>
<td>ΣAI-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 ΣAI-2200C only. Please refer to page 32 and 33, 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 time.

DOAS-S (Lobby floor(s))

DOAS-S hall operating panels are installed only on busy floors 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 is especially useful in buildings with heavy up-peak traffic.

Dynamic Rule-set Optimizer

Selects the best rule-set that optimizes transport efficiency.

DOAS-S (All Floors)

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

Cooperative Optimization Assignment

Forecasts a near future hall call to reduce long waits

When a hall call is registered, the algorithm assumes a near-future call 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.

Performance

Average Waiting Time

Long-Wait Rate (60 seconds or longer)

Cooperative Optimization Assignment

Forecasts a near future hall call to reduce long waits

When a hall call is registered, the algorithm assumes a near-future call 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.
Pleasant Design

PASSENGER-FRIENDLY
Mitsubishi Electric designs elevators with not only safety and a comfortable ride, but also passenger-friendliness in mind. Its design makes elevators more pleasant and easier to use.

Increased Design Options
A sophisticated car design that suits various uses creates a pleasant and comfortable impression.

LCD Position Indicator
Various graphic indication patterns increase visibility.

<Indication examples>

Tactile Button
Popular stainless-steel buttons are available.

Swing-type Car Operating Panel
Incorporated in the front return panel, the car operating panel adds stylish accents.

Higher Ceiling
A higher ceiling provides a spacious atmosphere in the car. The ceiling can be as high as 2700mm depending on the ceiling type.

Universal Design
Our elevators are designed to meet universal design concepts. Features such as the indicators, tactile buttons, handrails and mirrors are safe and easy to use for everyone, including the elderly and people with special needs.

(Universal Design: Copyright 1997 N.C. State University, The Center for Universal Design.)

See-through Doors
Large glass windows increase visibility at the hall area, which can enhance security.

See-through Doors

Items introduced on this page may be available as options.
Car Design

**S00 Standard**
- Central lighting

**Ceiling**
- Painted steel sheet (Y033) with a milky white resin lighting cover (Ceiling height: 2200mm*)
- SUS-HL

**Walls**
- SUS-HL

**Transom panel**
- SUS-HL

**Doors**
- SUS-HL

**Front return panels**
- SUS-HL

**Kickplate**
- Aluminum

**Flooring**
- PR18

**Car operating panel**
- CBE-N21

*Note: The higher ceiling type is available up to 2500mm as an option.

**Car Finishes**

<table>
<thead>
<tr>
<th>Walls</th>
<th>Standard</th>
<th>Stainless steel, hairline finish (SUS-HL)</th>
<th>Optional</th>
<th>Pattern-printed steel sheet</th>
<th>Stainless steel</th>
<th>Stainless steel, mirror finish (SUS-M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transom panel</td>
<td>Standard</td>
<td>Stainless steel, hairline finish (SUS-HL)</td>
<td>Optional</td>
<td>Pattern-printed steel sheet</td>
<td>Stainless steel</td>
<td>Stainless steel, mirror finish (SUS-M)</td>
</tr>
<tr>
<td>Doors</td>
<td>Standard</td>
<td>Stainless steel, hairline finish (SUS-HL)</td>
<td>Optional</td>
<td>Pattern-printed steel sheet</td>
<td>Stainless steel, mirror finish (SUS-M)</td>
<td>Glass windows</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Glass windows, non-through doors</td>
</tr>
</tbody>
</table>

**Kickplate**
- Standard
- Stainless steel, hairline finish (SUS-HL)

**Sill**
- Standard
- Optional
- Optional
- Optional
- Optional
- Extruded hard aluminum
- Stainless steel
- YH-51S (1 circular bar)
- YH-53S (1 cylindrical bar)
- YH-55S (Half size)
- YH-55SN (Full height)

**Pattern-printed Steel Sheet (Optional)**

<table>
<thead>
<tr>
<th>Painted Steel Sheet</th>
<th>Standard</th>
<th>Stainless steel, hairline finish (SUS-HL)</th>
<th>Optional</th>
<th>Pattern-printed steel sheet</th>
<th>Stainless steel</th>
<th>Stainless steel, mirror finish (SUS-M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP23</td>
<td>Standard</td>
<td>Stainless steel, hairline finish (SUS-HL)</td>
<td>Optional</td>
<td>Pattern-printed steel sheet</td>
<td>Stainless steel</td>
<td>Stainless steel, mirror finish (SUS-M)</td>
</tr>
<tr>
<td>CP53</td>
<td>Standard</td>
<td>Stainless steel, hairline finish (SUS-HL)</td>
<td>Optional</td>
<td>Pattern-printed steel sheet</td>
<td>Stainless steel</td>
<td>Stainless steel, mirror finish (SUS-M)</td>
</tr>
<tr>
<td>CP63</td>
<td>Standard</td>
<td>Stainless steel, hairline finish (SUS-HL)</td>
<td>Optional</td>
<td>Pattern-printed steel sheet</td>
<td>Stainless steel</td>
<td>Stainless steel, mirror finish (SUS-M)</td>
</tr>
</tbody>
</table>

**Walls, Doors, Transom Panel, and Front Return Panel**

**Stainless-steel Hairline (Standard)**

**Painted Steel Sheet (Optional)**
- Not applicable to front return panel

**Entrance columns**
- Standard
- Optional
- Optional
- Optional
- Optional
- Stainless steel, hairline finish (SUS-HL)

**Car Design**
- Durable vinyl tiles (Standard)

**Flooring**

- PR13
- PR18
- PR40
- PR45
- PR62
- PR86

**PR13**

**PR18**

**PR40**

**PR45**

**PR62**

**PR86**

**Car Design**

**Flooring**
- Durable vinyl tiles (Standard)

**PR13**

**PR18**

**PR40**

**PR45**

**PR62**

**PR86**

**Handrail**
- Standard
- Optional
- Optional
- Optional
- Optional
- Stainless steel
- Stainless steel, mirror finish (SUS-M)

**Mirror**
- Standard
- Optional
- Optional
- Optional
- Optional
- YZ-52S (Half size)
- YZ-55S (Full height)

**Flooring**
- PR18

**Car operating panel**
- CBE-N21

**Note:** The higher ceiling type is available up to 2500mm as an option.

**This table may not be applicable to the elevators with the rated capacity of over 1600kg; please consult our local agents.**
Note: Please refer to page 13 and 14 for specifications of finishes. Actual elevator color may differ slightly from these shown.
Design Images

N40
- **Lighting**
  - Central lighting and downlights
- **Ceiling**
  - [Center] Resin panels with a half-mirrored surface
  - [Sides] Painted steel sheet (Y055)
- **Ceiling trim**
  - Black alumite
- **Walls**
  - Pattern-printed steel sheet (CP53)
- **Transom panel**
  - Pattern-printed steel sheet (CP53)
- **Doors**
  - Pattern-printed steel sheet (CP53)
- **Front return panels**
  - SUS-HL
- **Kickplate**
  - SUS-HL
- **Flooring**
  - PR86
- **Car operating panel**
  - CBE-N221

N90
- **Lighting**
  - Full lighting
- **Ceiling**
  - [Center] Painted steel sheet (Y055) with white acrylic blocks
  - [Sides] Milky white resin panels
- **Ceiling trim**
  - Black alumite
- **Walls**
  - Pattern-printed steel sheet (CP141)
- **Transom panel**
  - Pattern-printed steel sheet (CP141)
- **Doors**
  - Pattern-printed steel sheet (CP141)
- **Front return panels**
  - SUS-HL
- **Kickplate**
  - SUS-HL
- **Flooring**
  - PR45
- **Car operating panel**
  - CBE-N211

N100
- **Lighting**
  - Full lighting
- **Ceiling**
  - Arched Milky white resin panels
- **Ceiling trim**
  - Black alumite
- **Walls**
  - Pattern-printed steel sheet (CP23)
- **Transom panel**
  - Pattern-printed steel sheet (CP23)
- **Doors**
  - Pattern-printed steel sheet (CP23)
- **Front return panels**
  - SUS-HL
- **Kickplate**
  - Painted steel sheet (Y055)
- **Flooring**
  - PR40
- **Car operating panel**
  - CBE-C251

N110
- **Lighting**
  - Full lighting
- **Ceiling**
  - Painted steel sheet (Y055)
- **Ceiling trim**
  - Black alumite
- **Walls**
  - Pattern-printed steel sheet (CP101)
- **Transom panel**
  - Pattern-printed steel sheet (CP101)
- **Doors**
  - Pattern-printed steel sheet (CP101)
- **Front return panels**
  - SUS-HL
- **Kickplate**
  - Painted steel sheet (Y055)
- **Flooring**
  - PR13
- **Car operating panel**
  - CBE-C240

*Note: Please refer to page 15 and 16 for specifications of car finishes.*

Actual elevator color may differ slightly from those shown.
Natural light gives the car a spacious atmosphere.
Glass can be arranged in various positions and there are different ceiling types to choose from (N10, N10 to N40 and N90 to N110) to suit the elevator usage.

**Glass Arrangement**

- **NY-30A**: Rear & both sides
- **NY-30B**: Rear
- **NY-30C**: Both sides
- **NY-30D**: Rear & one side
- **NY-30E**: Rear & one side

**Design Image**

- **Ceiling type**: N10
- **Lighting**: Downlights
- **Walls (inside)**: SUS-HL
- **Walls (outside)**: Painted finish (N5.5: Gray)
- **Windows**: Transparent flat glass
- **Glass frame**: Aluminum
- **Transom panel**: SUS-HL
- **Doors**: SUS-HL with glass window
- **Front return panel**: SUS-HL
- **Kickplate**: SUS-HL
- **Flooring**: PR62
- **Handrail**: SUS-HL (YH-55S: Cylindrical type)
- **Car operating panel**: CBE-N211

Actual elevator color may differ slightly from those shown.
Hall Design

Jamb

**E-102** Narrow Jamb
*(Standard)*

**E-302** Splayed Jamb

**E-202** Square Jamb

**E-312** Splayed Jamb with Transom Panel

**E-212** Square Jamb with Transom Panel

See-through Doors

**Jamb**
- Painted steel sheet (Y051)

**Doors**
- Painted steel sheet (Y116)

**Hall position indicator**
- PIE-A210N

**Jamb**
- Painted steel sheet (Y116)

**Doors**
- Painted steel sheet (Y116)

**Hall position indicator**
- RH-D421

**Hall position indicator**
- PID-D410

**Hall button**
- HBE-C210N

**Jamb**
- SUS-HL

**Transom panel**
- SUS-HL

**Doors**
- SUS-HE (EP-B-009)

**Hall position indicator**
- PID-D410

**Hall button**
- HBE-C710N

**Jamb**
- SUS-HL

**Transom panel**
- SUS-HL

**Doors**
- See-through doors

**Hall position indicator**
- PID-D410

**Hall button**
- HBE-C710N

**Etching Patterns**
- Non-etched surface
- Etched surface

**Entrance Finishes**

<table>
<thead>
<tr>
<th>Jamb</th>
<th>Standard</th>
<th>Optional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamb</td>
<td>Painted steel sheet (Y051)</td>
<td>Painted steel sheet (Y116)</td>
</tr>
<tr>
<td>Doors</td>
<td>Painted steel sheet (Y051)</td>
<td>Painted steel sheet (Y054)</td>
</tr>
<tr>
<td>Hall position indicator</td>
<td>PIE-A210N</td>
<td>HBE-C260N</td>
</tr>
</tbody>
</table>

**Jamb**
- Painted steel sheet (Y116)

**Transom panel**
- SUS-HL

**Doors**
- SUS-HE (EP-B-009)

**Hall position indicator**
- PID-D410

**Hall button**
- HBE-C710N

*Note: Please refer to page 30 for the sectional image of the boxless type.*

*This table may not be applicable to the elevators with the capacity of over 1600kg, please consult our local agent.*

Actual elevator color may differ slightly from those shown.
Car Signal Fixtures

Car Operating Panels (For side wall)

CBE-N211
(Standard for 2 to 10 floors)
Tactile button (Plastic)

CBF-N211
Tactile button (Plastic)

CBE-N217
(With alarm indication for EN81-70)*1
Tactile button (Plastic)

CBE-N218
(With alarm indication for EN81-70)*1
Tactile button (Plastic)

CBV-N211
Tactile button (Stainless-steel matte)

CBV-N217
(With alarm indication for EN81-70)*1
Tactile button (Stainless-steel matte)

CBV-N218
(With alarm indication for EN81-70)*1
Tactile button (Stainless-steel matte)

CBJ-N211
Flat button*2 (Plastic)

CBE-N221
(LCD indicator)
Tactile button*3 (Plastic)

Notes:
*1: Interphone which complies with EN81-28 is required.
*2: Please note that flat (non-tactile) buttons and buttons without color contrast cannot be used in countries where regulations such as EN81-70 mandate specific measures for physically disabled passengers.
*3: Flat buttons are also available as CBF-N221.

Actual elevator colors may differ slightly from those shown.
Car Signal Fixtures

Car Operating Panels (For front return panel)

CBE-C240
- Tactile button
  (Plastic)

CBF-C240
- Flat button *1
  (Plastic)

CBV-C240
- Tactile button *1
  (Stainless-steel matte)

CBJ-C240
- Flat button *1
  (Plastic)

CBE-C251
- Tactile button *2
  (Plastic)

CBE-D221
- Tactile button *2
  (Plastic)

Notes:
*1: Please note that flat (non-tactile) buttons and buttons without color contrast cannot be used in countries where regulations such as EN81-70 mandate specific measures for physically disabled passengers.
*2: Flat buttons are also available as CBF-C251 / CBF-D221.

Actual elevator colors may differ slightly from those shown.
### Hall Position Indicators and Call Buttons

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIE-A210N</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>PIE-A210B</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>PIE-A220N</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>PIE-A220B</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>PIE-C210N</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>PIE-C220N</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>PIV-C210N</td>
<td>Stainless-steel matte</td>
<td>Tactile button *2</td>
</tr>
<tr>
<td>PIV-C220N</td>
<td>Stainless-steel matte</td>
<td>Tactile button *2</td>
</tr>
<tr>
<td>PU-C210N</td>
<td>Stainless-steel matte</td>
<td>Flat button *2 (Plastic)</td>
</tr>
<tr>
<td>PU-C220N</td>
<td>Stainless-steel matte</td>
<td>Flat button *2 (Plastic)</td>
</tr>
</tbody>
</table>

### Hall Buttons

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBE-A210N</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>HBE-A210B</td>
<td>Standard</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>HBE-C210N</td>
<td>Stainless-steel matte</td>
<td>Tactile button *2 (Stainless-steel matte)</td>
</tr>
<tr>
<td>HBE-C260N</td>
<td>Stainless-steel matte</td>
<td>Tactile button *2 (Stainless-steel matte)</td>
</tr>
<tr>
<td>HBV-C210N</td>
<td>Stainless-steel matte</td>
<td>Tactile button *2 (Stainless-steel matte)</td>
</tr>
<tr>
<td>HBV-C215N</td>
<td>Stainless-steel matte</td>
<td>Tactile button *2 (Stainless-steel matte)</td>
</tr>
<tr>
<td>HBJ-C210N</td>
<td>Stainless-steel matte</td>
<td>Flat button *2 (Plastic)</td>
</tr>
<tr>
<td>HBJ-C220N</td>
<td>Stainless-steel matte</td>
<td>Flat button *2 (Plastic)</td>
</tr>
</tbody>
</table>

### Hall Position Indicators

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIH-D410</td>
<td>Plastic</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>PIH-D421</td>
<td>Plastic</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
</tbody>
</table>

### Hall Lanterns

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLH-A10</td>
<td>Plastic</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
<tr>
<td>HLV-A10</td>
<td>Plastic</td>
<td>Tactile button *1 (Plastic)</td>
</tr>
</tbody>
</table>

### Cross-section of boxless fixtures

These hall signal fixtures can be easily mounted on the wall surface without having to cut into the wall to embed the back box. HBE-A210 and HBE-C260 are not applicable to the top floor. Please consult our local agents for details.

Notes:

*1: Flat buttons are also available as PIE-A210N / PIE-A220N / PIE-C210N / PIE-C220N / HBF-A210N / HBF-C210N / HBF-C220N.

*2: Please note that flat (non-tactile) buttons and buttons without color contrast cannot be used in countries where regulations such as EN81-70 mandate specific measures for physically disabled passengers.
Features (1/2)

### OPERATIONAL AND SERVICE FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe Landing (SFL)</td>
<td>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.</td>
</tr>
<tr>
<td>Next Landing (NL)</td>
<td>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.</td>
</tr>
<tr>
<td>Continuity of Service (COS)</td>
<td>A car which is experiencing trouble is automatically withdrawn from group control operation to maintain overall group performance.</td>
</tr>
<tr>
<td>Automatic Bypass (ABP)</td>
<td>A fully loaded car bypasses hall calls in order to maintain maximum operational efficiency.</td>
</tr>
<tr>
<td>Overload Holding Stop (OHS)</td>
<td>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.</td>
</tr>
<tr>
<td>Automatic Call Cancellation (ACC)</td>
<td>If the number of registered car calls does not correspond to the car load, all calls are canceled to avoid unnecessary stops.</td>
</tr>
<tr>
<td>Can Fan Shut Off — Automatic (CFO-A)</td>
<td>If there are no calls for a specified period, the ventilation fan will automatically turn off to conserve energy. Please refer to page 6.</td>
</tr>
<tr>
<td>Light Shut Off — Automatic (LSO-A)</td>
<td>If there are no calls for a specified period, the lighting will automatically be turned off to conserve energy. Please refer to page 6.</td>
</tr>
<tr>
<td>Backup Operation for Group Controller (SCB)</td>
<td>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.</td>
</tr>
<tr>
<td>Out-of-Service Remote (ORS)</td>
<td>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 taken out of service.</td>
</tr>
<tr>
<td>Secret Service (SSC-B)</td>
<td>To enhance security, car calls for desired floors can be registered only by entering secret codes using the car buttons on the operating panel. This function is automatically deactivated during emergency operation.</td>
</tr>
<tr>
<td>Non-specific to Specific Floors — Car Button Type (NS/CS-B)</td>
<td>To ensure security, service to specific floors can be disabled using the car operating panel. This function is automatically deactivated during emergency operation.</td>
</tr>
<tr>
<td>Non-specific to Specific Floors — Silencing Time (NS/SAT)</td>
<td>To ensure security, service to specific floors can be disabled using a manual or timer switch. This function is automatically deactivated during emergency operation.</td>
</tr>
<tr>
<td>Out-of-service by Hall Key Switch (HKS/HS/KS-1)</td>
<td>For maintenance or energy-saving measures, a car can be taken out of service temporarily with a key switch (with or without a timer) mounted in a specified hall.</td>
</tr>
<tr>
<td>Return Operation (RET)</td>
<td>Using a key switch on the supervisory panel, a car can be withdrawn from group control operation and called to a specific floor. The car will park on that floor with the doors open, and not accept any calls until independent operations begin.</td>
</tr>
<tr>
<td>Attendant Service (AS)</td>
<td>Exclusive operation where an elevator can be operated using the buttons and switches located in the car operating panel, allowing smooth boarding of passengers or loading of baggage.</td>
</tr>
<tr>
<td>Independent Service (IND)</td>
<td>Exclusive operation where a car is withdrawn from group control operation for an independent use, such as maintenance or repair, and responds only to car calls.</td>
</tr>
<tr>
<td>Variable Traveling Speed Elevator System (VSE)</td>
<td>According to the number of passengers in the car, the car travels faster than the rated speed. Please refer to page 7 and 8.</td>
</tr>
<tr>
<td>Regenerative Converter (PCR)</td>
<td>For energy conservation, power regenerated by a traction machine can be used by other electrical systems in the building. Please refer to page 5.</td>
</tr>
</tbody>
</table>

### GROUP CONTROL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 control operations.</td>
</tr>
<tr>
<td>Psychological Waiting Time Evaluation</td>
<td>Cars are allocated according to the predicted psychological waiting time for each hall. The rules evaluating psychological waiting time to enter a car 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 11.</td>
</tr>
<tr>
<td>Car Travel Time Evaluation</td>
<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>
</tr>
<tr>
<td>Destination of Traffic Flow with Neural Networks (NTB)</td>
<td>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, is selected or canceled accordingly at the appropriate time.</td>
</tr>
<tr>
<td>Car Allocation Tuning (CAT)</td>
<td>The number of cars allocated or parked on crowded floors are controlled not just according to the conditions on those crowded floors but also the operational status of each car and the traffic on each floor.</td>
</tr>
<tr>
<td>Dynamic Rule-set Optimizer (DRO)</td>
<td>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 12.</td>
</tr>
<tr>
<td>Destination Oriented Prediction System (DDOS)</td>
<td>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 a button in the car. Dispensing passengers by destination provides congestion in the cars, too, minimizes their waiting and traveling time. (Cannot be combined with the IFP feature). Please refer to page 12.</td>
</tr>
<tr>
<td>Peak Traffic Control (PTC)</td>
<td>A floor which temporally 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.</td>
</tr>
<tr>
<td>Strategic Overall Spotting (SOE)</td>
<td>To reduce passenger waiting time, cars which have finished service are automatically directed to positions where they can respond to predicted hall calls as quickly as possible.</td>
</tr>
<tr>
<td>Intense Up Peak (IPU)</td>
<td>To maximize transport efficiency, an elevator bank is divided into two groups of cars to serve upper and lower floors separately.</td>
</tr>
<tr>
<td>Up Peak Service (UPS)</td>
<td>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 office starting time, hotel check-in time, etc., and minimize passenger waiting time.</td>
</tr>
<tr>
<td>Down Peak Service (DFS)</td>
<td>Controls the number of cars to be allocated and the timing of car allocation in order to meet increased demands for downward travel during office leaving time, hotel check-out time, etc., and to minimize passenger waiting time.</td>
</tr>
<tr>
<td>Forced Floor Stop (FFS)</td>
<td>All cars in a bank automatically make a stop at a predeterined floor on every trip without being called.</td>
</tr>
<tr>
<td>Main Floor Parking (MFP)</td>
<td>An available car always parks on the main (lobby) floor with the doors open to reduce passenger waiting time.</td>
</tr>
<tr>
<td>Energy-saving Operation — Number of Car (ESO-N)</td>
<td>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.</td>
</tr>
<tr>
<td>Special Floor Priority Service (SPS)</td>
<td>Exclusive floors, such as floors with VIP rooms or executive suites, are given higher priority for car allocation when a call is made on those floors. (Cannot be combined with hall position indicators).</td>
</tr>
</tbody>
</table>

Notes: 1. SCB: 2-3-5 cars (*car group control system - Optional*) 2. N.S. 2-3-4 cars (*car group control system - Optional*) 3. DA: 2-3-4 cars (*car group control system - Optional*) 4. DA: 2-3-4 cars (*car group control system - Optional*) 5. Standard feature when the rated capacity is from 1600kg to 2500kg. 6. Optional feature when the rated capacity is from 1600kg to 2500kg. 7. Please consult our local agents for the production terms, etc. 8. Non-specific to specific floors: (2BC) 9. The variable Traveling Speed Elevator System (VSE) is applicable to the elevators with a rated speed of 1.0m/sec and the rated capacity of 630kg to 1600kg. 10. The Regenerative Converter (PCR) is applicable to the elevators with a rated speed of 1.0m/sec and the rated capacity of 630kg to 1600kg.
Features (2/2)

DOOR OPERATION FEATURES

Door Sensor Self-diagnosis (DODA)
Failure of non-contact door sensors is checked automatically, and if a problem is diagnosed, the door close timing is delayed and the closing speed is reduced to maintain elevator service and ensure passenger safety.

Automatic Speed Control (DSC)
Door load on each floor, which can depend on the type of half door, is monitored to adjust the door speed, thereby making the door speed consistent throughout all floors.

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

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

Reopened Door-close (RDC)
Should an obstacle prevent the doors from closing, the doors will reopen, and close after the obstacle is cleared from the doorway.

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

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

Door Load Detector (DLD)
When excessive door load has been detected while opening or closing, the doors immediately reverse.

Safety Door Edge (SDE)
Sensitive door edges detect passengers or objects during door closing (Cannot be combined with the MBS feature).

Safety Ray (SR)
1-beam 2-beam 1-beam 2-beam
One or two infrared light beams cover the full width of the doors as they close to detect passengers or objects. (Cannot be combined with the multi-beam door sensor or MBS feature.)

Electronic Doorman (EDM)
Door open time is minimized using safety radii (or) multi-beam door sensors that detect passengers boarding or exiting.

Multi Beam Door Sensor
Multi infrared-light beams cover a door height of approximately 1880mm to detect passengers or objects as the doors close. (Cannot be combined with the SR or MBS feature.)

Multi Beam Door Sensor — Signal Type (MBSS)
Multi infrared-light beams cover a door height of approximately 1880mm to detect passengers or objects as the doors close. Additionally, LED lights on the edge will indicate the door opening/closing and the presence of an obstacle between the doors. (Cannot be combined with any of the following features: IDE, 1SR or multi-beam door sensor)

Hall Motion Sensor (HMS)
Infrared light is used to scan a 3D area near the open doors to detect passengers or objects.

DOOR OPERATION FEATURES

Main Floor Changeover Operation (TFS)
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.

 ■ EMERGENCY OPERATIONS AND FEATURES

Mitsubishi Emergency Landing Device (MELD)
Upon power failure, a car equipped with this function automatically moves and stops at the nearest floor using a rechargeable battery, and the doors open to facilitate the safe evacuation of passengers. (Max. allowable floor to floor distance: 18 meters)

Operation by Emergency Power Source — Automatic/Manual (EPS)
Upon activation of primary and/or secondary wave seismic sensors, all cars immediately return to a specified evacuation floor and the doors open to facilitate the safe evacuation of passengers.

Fire Emergency Return (FER)
During a fire, when the fire operation switch is activated, the car calls of a specified car and all hall calls are canceled and the car immediately returns to a predetermined floor. The car then responds only to car calls which facilitate fire-fighting and rescue operations.

Earthquake Emergency Return (EER) (FER-5)
During a fire, when the fire operation switch is activated, the specified cars 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.

Supervisory Panel (WP)
Car elevator's status and operation can be remotely monitored and controlled through a panel installed in a building's supervisory room, etc.

MelEye (WP-W)
Each elevator's status and operation can be monitored and controlled using an advanced Web-based technology which provides an interface through personal computers. Special optional features such as preparation of traffic statistics and analysis are also available.

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

Notes:
- 1. LDC (1: car selection collective — Standard, 2: DEC 2 or collective operation — Optional)
- 2. AAN (1: collective operation — Standard, 2: AAN-G — Optional)
- 3. 3A/2B:22 to 4: 6A group control system — Optional, 3A/2B:23 to 6A group control system — Optional
- 4. D: Standard, M: Optional, #: Not applicable
- 5. Please consult our local agents for the production terms, etc.
- 6. 1. Standard feature when the rated capacity is from 1600kg to 2500kg
- 7. 2. Standard feature when the rated capacity is from 1600kg to 2500kg
- 8. 3. Optional feature when the rated capacity is from 1600kg to 2500kg
- 9. 4. Not available when the rated capacity is from 1600kg to 2500kg

Features

Feature
Description

Door Call Button — Click Type (ACD)
A click-type car button which emits electronic beep sounds when pressed to indicate that the call has been registered.

Car Arrival Chime — Car or Hall (ACCH)
Electronic chimes to sound when a car will soon arrive. (The chimes are mounted either on the top and bottom of the car, or in each hall.)

Flashing Hall Lantern (FHL)
A buzzer sounds and the doors slowly close when they have remained open longer than the preset time. (Cannot be combined with the MAI feature.)

Immediate Prediction indication (AIL)
When a passenger has registered a hall call, the best car is selected based on the corresponding hall call button. (AIL may be combined with the MBS feature.)

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

Basic Announcement (AAN-B)
A synthetic voice (and/or buzzer) alerts passengers inside a car that elevator operation has been temporarily interrupted by overloading or a similar cause. (Voice available only in English.)

Voice Guidance System (AAN-G)
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 (AACP)
An additional car control panel which can be installed for large-capacity elevators, heavy-traffic elevators, etc.

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

LCD Position Indicator (CID-5)
This 7.5-inch LCD for car operating panels shows the date and time, car positions, travel direction and elevator status messages.
Basic Specifications

Horizontal Dimensions  <1-Door 1-Gate (1D1G)>

<table>
<thead>
<tr>
<th>Code number</th>
<th>Number of persons</th>
<th>Rated capacity (kg)</th>
<th>Door type</th>
<th>CO</th>
<th>2S</th>
<th>Side</th>
<th>Minimum hoistway dimensions (mm) XxY</th>
<th>Entrance width (mm)</th>
<th>Minimum overhead dimensions (mm) OH</th>
<th>Minimum pit depth (mm) PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>P8</td>
<td>8</td>
<td>630</td>
<td>25</td>
<td>1100x1400</td>
<td>900 Standard</td>
<td>1900x1720</td>
<td>1800x1720</td>
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<tr>
<td>P11</td>
<td>11</td>
<td>825</td>
<td>25</td>
<td>1350x1400</td>
<td>900 Standard</td>
<td>2050x1720</td>
<td>1900x1720</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>P14</td>
<td>14</td>
<td>1050</td>
<td>25</td>
<td>1600x1400</td>
<td>900 Standard</td>
<td>2275x1720</td>
<td>2000x1720</td>
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<tr>
<td>P17</td>
<td>17</td>
<td>1275</td>
<td>25</td>
<td>1300x1400</td>
<td>900 Standard</td>
<td>1715x2500</td>
<td>1550x2500</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vertical Dimensions  <1-Door 1-Gate (1D1G) & 1-Door 2-Gate (1D2G)>

<table>
<thead>
<tr>
<th>Rated speed (m/sec)</th>
<th>Rated capacity (kg)</th>
<th>Maximum travel (m)</th>
<th>Minimum overhead (mm)</th>
<th>Minimum pit depth (mm)</th>
<th>Minimum floor height (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>650</td>
<td>60</td>
<td>22</td>
<td>4220</td>
<td>1100</td>
</tr>
<tr>
<td>1.0</td>
<td>750</td>
<td>60</td>
<td>22</td>
<td>4220</td>
<td>1100</td>
</tr>
<tr>
<td>1.6</td>
<td>650</td>
<td>70</td>
<td>22</td>
<td>4190</td>
<td>1200</td>
</tr>
<tr>
<td>1.6</td>
<td>750</td>
<td>70</td>
<td>22</td>
<td>4190</td>
<td>1200</td>
</tr>
<tr>
<td>1.75</td>
<td>650</td>
<td>80</td>
<td>22</td>
<td>4190</td>
<td>1200</td>
</tr>
<tr>
<td>1.75</td>
<td>850</td>
<td>90</td>
<td>22</td>
<td>4190</td>
<td>1200</td>
</tr>
</tbody>
</table>

Specifications for Variable Traveling Speed Elevator System (Optional)

<table>
<thead>
<tr>
<th>Rated speed (m/sec)</th>
<th>Rated capacity (kg)</th>
<th>Maximum travel (m)</th>
<th>Minimum overhead (mm)</th>
<th>Minimum pit depth (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>1/1 2S/5.1/6</td>
<td>~1050</td>
<td>1710</td>
<td>1900</td>
</tr>
</tbody>
</table>

[Terms of the table]
- The contents of this page 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 the EN81-1.
- CO: Center opening doors, 2S: Side sliding doors.
- Maximum overhead dimensions (OH) and minimum pit depth dimensions (PD) should be increased when the travel is over 30m.
- Minimum overhead (OH) and minimum pit depth (PD) should be increased when the travel is over 30m.
- Specifications shown in tables, “Horizontal Dimensions” and “Vertical Dimensions,” on pages 37 and 38 are applicable to the Variable Traveling Speed System.

Applicable Standards

The ELENESSA complies with the EN81-1 code. For details of compliance with other national regulations, please consult our local agents.
Basic Specifications

Horizontal Dimensions <1-Door 2-Gate (1D2G)>

<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 dimensions (mm)</th>
<th>Entrance width (mm)</th>
<th>Minimum hoistway dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P11</td>
<td>11</td>
<td>825</td>
<td>CO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P14</td>
<td>14</td>
<td>1050</td>
<td>CO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P17</td>
<td>14</td>
<td>1110</td>
<td>CO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P27</td>
<td>27</td>
<td>2005</td>
<td>CO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P33</td>
<td>33</td>
<td>2300</td>
<td>CO</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>

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<th>Minimum hoistway dimension (mm)</th>
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Terms of the table:
- The contents of this table are applied to standard specifications only. Please consult our local agents for other specifications.
- Rated capacity is calculated at 75% per person, as required by the EN81-1.
- CO (panel center opening doors, 2S is panel side sliding doors.
- Minimum hoistway dimensions (X and Y) are after waterproofing of pit and do not include plumb tolerances.
- CO: 2-panel center opening doors, 2S: 2-panel side sliding doors.

Important Information on Elevator Planning

Work Not Included in Elevator Contract

The following items are excluded from Mitsubishi Electric’s elevator installation work, and are therefore the responsibility of the building owner or general contractor:

- Architectural finishing of the walls and floors in the vicinity of the entrance hall after installation has been completed.
- 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.

*Work responsibilities in installation and construction shall be determined according to local laws. Please consult our local agents for details.

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 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.

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

Important Information

Applicable Standards

The ELENESSA complies with the EN81-1 code. For details of compliance with other national regulations, please consult our local agents.

Please refer to page 36 for the vertical dimensions, and the specifications for the Variable Traveling Speed System Elevator.

[Image]