PASSENGER ELEVATORS
(HIGH-SPEED CUSTOM-TYPE)

NexWay
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.
Premium Elevators Custom-designed to Match Your Needs

Mitsubishi Electric high-speed elevators are designed to keep pace with the vertical growth of cities as buildings soar to ever greater heights. Our premium elevators guarantee high levels of passenger safety and comfort, and can be customized for diverse applications including office buildings, hotels and shopping centers. We can tailor specifications to meet your exact needs and add a distinctive touch that sets your building apart from the rest.
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.

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.

Principle

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.

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Application

NexWay
The amount of lateral vibration generated by high-speed elevator cars is tremendous. As a world’s first innovation in the industry, Mitsubishi Electric’s Active Roller Guide technology reduces this vibration by approximately 50%. It works via an accelerometer that detects car vibration during operation, along with actuators that cancel the vibration through a controlled electromagnetic force. Mitsubishi Electric Active Roller Guides ensure a more comfortable ride than elevators employing conventional roller guides.

Super High-rise Rope Mechanics

Mitsubishi Electric’s new sfleX-rope™ comprising bundles of high-intensity steel wire strands, each covered with plastic, offers higher intensity than conventional rope for safe operation despite the greater weight of longer ropes. Each wire has a higher density and wider cross-sectional area than conventional rope, which helps to reduce rope stretching caused when passengers step into the elevator.

* Please consult our local agents for details.

The sfleX-rope™ is a trademark of Mitsubishi Electric Corporation.

Comfort

Active Roller Guide (Optional*)

The amount of lateral vibration generated by high-speed elevator cars is tremendous. As a world’s first innovation in the industry, Mitsubishi Electric’s Active Roller Guide technology reduces this vibration by approximately 50%. It works via an accelerometer that detects car vibration during operation, along with actuators that cancel the vibration through a controlled electromagnetic force. Mitsubishi Electric Active Roller Guides ensure a more comfortable ride than elevators employing conventional roller guides.

* Please consult our local agents for details.
Ecology

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

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>DC motor</td>
<td>Induction motor</td>
<td>Gearless motor</td>
<td>Permanent magnet motor</td>
</tr>
<tr>
<td>Traction machine</td>
<td>Gearless</td>
<td>Helical-gear</td>
<td>Geared</td>
<td>Gearless</td>
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<tr>
<td>Motor drive</td>
<td>Ward Leonard system</td>
<td>Thyristor control</td>
<td>VVVF*</td>
<td>Microcomputer</td>
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<tr>
<td>Control circuit</td>
<td>Relay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power consumption / CO2 emissions *</td>
<td>100%</td>
<td>95%</td>
<td>82%</td>
<td>57%</td>
</tr>
</tbody>
</table>

*1: Variable Voltage, Variable Frequency
*2: CO2 emissions in this table are from elevator operation and do not include emissions from manufacturing, transportation and other processes.

Devices that Use Less Energy

LED Lighting (Optional)
Used for ceiling lights and hall lanterns, LEDs boost the overall energy performance of the building. Furthermore, a long service life eliminates the need for frequent lamp replacement.

<table>
<thead>
<tr>
<th>Advantages of LEDs</th>
<th>Ceiling: L210S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service life (hr)</td>
<td>Power consumption (W)</td>
</tr>
<tr>
<td>LED</td>
<td>Incandescent lamp</td>
</tr>
<tr>
<td>25000</td>
<td>2000</td>
</tr>
<tr>
<td>Approximately 12.5 times longer</td>
<td>Approximately 75% reduction</td>
</tr>
</tbody>
</table>

Maximizing Operational Efficiency and Minimizing Energy Consumption

Energy-saving Operation — Allocation Control: ESO-W (EAI-2200C only)
This system selects the elevator in a group that best balances operational efficiency and energy consumption. Priority is given to operational efficiency during peak hours and energy efficiency during non-peak hours.

Through a maximum 10% reduction in energy consumption compared to our conventional system, this system allows building owners to cut energy costs without sacrificing passenger convenience.

Safety

Emergency Situations

Emergency Operations
Enhance safety by adding emergency operation features which quickly respond to a power failure, fire or earthquake. (Please refer to page 33 for details.)

Power failure
Mitsubishi Emergency Landing Device: MELD (Optional)
Upon power failure, the car automatically moves to the nearest floor using a rechargeable battery to facilitate the safe evacuation of passengers.

Operation by Emergency Power Source — Automatic/Manual: OEPS (Optional)
Upon power failure, predetermined cars use the building’s emergency power supply to move to a specified floor and open the doors for passengers to evacuate. After all cars have arrived, the predetermined cars will resume normal operation.

Fire
Fire Emergency Return: FER (Optional)
When a key switch or the building’s fire sensor is activated, all cars immediately return to a specified floor and open the doors to facilitate the safe evacuation of passengers.

Firefighters’ Emergency Operation: FE (Optional)
When the fire operation switch is activated, the car immediately returns to a predetermined floor. The car then responds only to car calls, which facilitates firefighting and rescue operations.

Earthquake
Earthquake Emergency Return: EER-P/EER-S (Optional)
When a primary and/or secondary wave seismic sensor is activated, all cars stop at the nearest floor and park there with the doors open to facilitate the safe evacuation of passengers.

For Safe Boarding

Door Safety Devices
Our reliable safety devices ensure that the doors are clear to open and close. Depending on the type of sensor, the detection area differs.

Hall Motion Sensor: HMS (Optional)
Multi-beam Door Sensor (Optional)
**Efficiency**

**Group Control Systems: ΣAI-22 and ΣAI-2200C**

ΣAI-22 and ΣAI-2200C control multiple elevators optimally according to the building size.

**Performance**

- **Average waiting time**
  - Improved: Max. 40%
  - Improved: Max. 80%

**Forecasting Near-future Hall Calls to Reduce Long Waits**  
(ΣAI-2200C only)

**Cooperative Optimization Assignment**

When a hall call is registered, the algorithm predicts 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.

**Advantages of DOAS at Hall**

**Without DOAS**

Passengers wait for cars wondering which car will arrive first. Once a car arrives, regardless of the destination, passengers rush to get into the car.

**With DOAS**

When passengers enter a destination floor at a hall, the hall operating panel indicates which elevator to take. As passengers proceed to the assigned elevator, the car is on its way and there is no hurry when the car arrives.

**Destination Oriented Allocation System: DOAS (Optional for ΣAI-2200C)**

**Allocating 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 waiting and traveling time.

(Car destination floor indicator can be installed on the car operating panel as an option to display which floors the car stops at.)

**Example of hall arrangement**

**Without DOAS**

Passengers wait for cars wondering which car will arrive first. Once a car arrives, regardless of the destination, passengers rush to get into the car.

**With DOAS**

When passengers enter a destination floor at a hall, the hall operating panel indicates which elevator to take. As passengers proceed to the assigned elevator, the car is on its way and there is no hurry when the car arrives.

**Advantages of DOAS at Hall**

- **Without DOAS**
  - Passengers wait for cars wondering which car will arrive first. Once a car arrives, regardless of the destination, passengers rush to get into the car.

- **With DOAS**
  - When passengers enter a destination floor at a hall, the hall operating panel indicates which elevator to take. As passengers proceed to the assigned elevator, the car is on its way and there is no hurry when the car arrives.

**Please refer to the ΣAI-2200C brochure for details.**
**Displays**

**LCD Information Display***
(10.4- or 15-inch)
The cutting-edge LCD display delivers elevator information with stereoscopic direction arrows and animated pictures, and entertains the passengers with DVD playback/television (NTSC/PAL).

Example display of partial-screen animated picture

**Colors**
Select the best color from our five popular and eye-catching background colors.

- **Urban Black**
- **Stylish Blue**
- **Fine Green**
- **Modern White**
- **Elegance Brown**

**Language**
Standard elevator information, and date and time are available in English (US, UK or Singapore), Chinese, French, Japanese, Portuguese or Spanish.

- **Chinese**
- **French**
- **Japanese**
- **Portuguese**
- **Spanish**

**Note**: Please consult our local agents for production terms, etc.

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**IT Solutions**

**Elevator Monitoring and Control System: MelEye (Optional)**

MelEye closely observes the operational status of elevators that handle continually changing passenger traffic. This allows building managers to rapidly respond to changing traffic patterns, thus optimizing the performance of elevators and maximizing the added value of the whole building. The application of the latest network technology has also greatly increased the number of controllable elevators, which minimizes the cost spent on facilities such as supervisory rooms and monitors. MelEye is our solution to futuristic building traffic monitoring systems.

- **Monitoring screens**
  - MelEye’s user-friendly screen shows the detailed operational status of the elevators in real time.
- **Statistical information**
  - The past fault logs of the elevators and escalators are recorded in addition to the operation logs of the computer.

- **Remote control**
  - A computer allows remote control of special and emergency operations.

- **Scheduling of special operations**
  - Scheduling of special operations (Optional)

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**Recording of logs**

Please refer to the Information Display brochure for details.

Please refer to the MelEye brochure for details.
Ceiling Designs

**Customized-1**
Distinctive design using vaulted lighting and marble floor finish

- Ceiling (Customized-1) — Panel: Painted steel sheet [Y033: White]
- Lighting: Central indirect lighting and downlights
- Walls: Colored (bronze) SUS-HE
- Transom panel: SUS-M
- Doors: Colored (bronze) SUS-HE
- Front return panels: SUS-M
- Kickplate: SUS-HL
- Flooring: Marble (supplied by customer)
- Car operating panel: CBV3-D750 (faceplate: SUS-M)
- Handrails: YH-59M
- Mirrors: YZ-55SN

**Customized-2**
Indirect center lighting and downlights create a relaxing atmosphere

- Ceiling (Customized-2) — Panel: Painted steel sheet [Y033: White]
- Lighting: Central indirect lighting and downlights
- Walls: Painted steel sheet
- Transom panel: Painted steel sheet
- Doors: Painted steel sheet
- Front return panels: SUS-HL
- Kickplate: SUS-HL
- Flooring: Marble (supplied by customer)
- Car operating panel: CBN4-C710
- Handrails: YH-59M
- Mirror: YZ-52A

Actual colors may differ slightly from those shown. Please refer to page 20 for the explanations of SUS-HL, colored SUS-HE and SUS-M.
Ceiling Designs

**L210**  Sophisticated atmosphere created by downlights and shadows

- **Ceiling (L210)**: Painted steel sheet [Y033: White]
- **Lighting**: Downlights (LEDs)
- **Walls**: Pattern-printed steel sheet [CP111: Dark grain]
- **Transom panel**: Pattern-printed steel sheet [CP111: Dark grain]
- **Doors**: Pattern-printed steel sheet [CP101: Silver]
- **Front return panels**: SUS-HL
- **Kickplate**: SUS-HL
- **Flooring**: Durable vinyl tiles
- **Car operating panel**: CBV3-N730
- **Handrails**: YH-59S

**Optional Ceiling Design L210S**
- Panel: SUS-HL
- Others: Same as L210.

**N300**  Terraced design with illusion of increased ceiling height

- **Ceiling (N300)**: Painted steel sheet [Y033: White]
- **Lighting**: Central indirect lighting and downlights
- **Walls**: Colored (gold) SUS-HL
- **Transom panel**: Colored (gold) SUS-HL
- **Doors**: SUS-M
- **Front return panels**: SUS-M
- **Kickplate**: Colored (gold) SUS-HL
- **Flooring**: Rubber tile (supplied by customer)
- **Car operating panel**: CBV1-C730 (faceplate: SUS-M)
- **Handrails**: YH-59M

**Optional Ceiling Design N300S**
- Panel: SUS-HL
- Others: Same as N300.

Optional Ceiling Design L210S
- Panel: SUS-HL
- Others: Same as L210.

Optional Ceiling Design N300S
- Panel: SUS-HL
- Others: Same as N300.

Actual colors may differ slightly from those shown. Please refer to page 20 for the explanations of SUS-HL, colored SUS-HL and SUS-M.
Panels: [Center] Milky white resin panel  
[Sides] Resin panels with mirrored surface  
Lighting: Central lighting and downlights  
SUS-HE (EPA-3)  
SUS-M  
Rubber tile (supplied by customer)  
CBV5-N710  
YH-59M  

Note:  
*1: Etching pattern EPA-1 ~ 6 only.  
*2: Etching pattern EPA-1 ~ 3 only.  
*3: Only available in dark gray.  

Car Design Example  

Ceiling (N130) Panel: Milky white resin panels  
Lighting: Full lighting  
Walls Colored (bronze) SUS-HE (EPA-2)  
Transom panel Colored (bronze) SUS-HE (EPA-2)  
Doors Colored (bronze) SUS-HE (EPA-2)  
Front return panels SUS-HL  
Kickplate Colored (bronze) SUS-HL  
Flooring Rubber tile (supplied by customer)  
Car operating panel CBV1-N710 (faceplate: SUS-M)  
Handrails YH-59M  
Mirror ST-S3A  

Car Design Example  

Ceiling (N120) Panels: [Center] Milky white resin panel  
[Sides] Resin panels with mirrored surface  
Lighting: Central lighting and downlights  
Walls SUS-HE (EPA-3)  
Transom panel SUS-HE (EPA-3)  
Doors SUS-HE (EPA-3)  
Front return panels SUS-M  
Kickplate SUS-HL  
Flooring Rubber tile (supplied by customer)  
Car operating panel CBV5-N710  
Handrails YH-59M  

Car Finishes  

Materials/Finishes  |  Wall |  Transom panel |  Door |  Front return panel |  Kickplate |  Flooring |  Sill  |  
<table>
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</tr>
</tbody>
</table>
| Note:  
*1: Etching pattern EPA-1 ~ 6 only.  
*2: Etching pattern EPA-1 ~ 3 only.  
*3: Only available in dark gray.  

Actual colors may differ slightly from those shown.
Notes:

1. Segment LED indicators cannot display some letters of alphabet. Please consult our local agents for details.
2. Please select a button type referring to page 27, and enter the number in the space shown as ■.
3. Faceplates with stainless-steel, mirror-finish are also available (optional). Please consult our local agents for details.
4. Maximum number of floors: 22 floors.
5. The types in parentheses ( ) show auxiliary car operating panels (optional). The design is slightly different from the above images. Please consult our local agents for further information such as installation location.
6. Please consult our local agents for the production terms, etc.
Car Operating Panels

For side wall

Notes:
*1: Segment LED indicators cannot display some letters of alphabet. Please consult our local agents for details.
*2: Please select a button type referring to page 27, and enter the number in the space shown as ■.
*3: Faceplates with stainless-steel, mirror-finish are also available (optional). Please consult our local agents for details.
*4: The types in parentheses ( ) show auxiliary car operating panels (optional). The design is slightly different from the above images. Please consult our local agents for further information such as installation location.
*5: Please consult our local agents for the production terms, etc.

Actual colors may differ slightly from those shown.
Hall Signal Fixtures

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**Hall position indicators and buttons**

- Segment LED indicator*2,6
  - With plastic case
  - PIV-A1010N
  - PIV-A1010B
  - PIV-C710N*1,4,5
  - PIV-C720N*1,4,6

- Segment LED indicator*1
  - PIV-C766N*1,4,5
  - PIV-C776N*1,4,6

- LCD indicator
  - PIV-C766N*3,4,6

- Dot LED indicator
  - PIV-C766N*3,4,5

---

**Hall buttons**

- With plastic case
  - HBV-A1010N*3,6
  - HBV-A1010B*3,6

- HBV-C710N*1,4
- HBV-C710N*3,4,5

- HBV-C710N*4,5

- SN-C10

---

**No-entry indicators for EN81-73**

- PIV-C710N*3,4,5

---

**Hall lanterns**

- HLV-A21S
- HLV-A31S
- HLV-E65 Gold ornament
- HLV-E66 Silver ornament
- HLV-E71
- HLH-A31S

---

**Hall position indicators**

- HLV-A16S
- HLH-A16S

- PIV-D417 (Segment LED indicator)
- PIV-D417 (Built into transom panel)

---

**LCD position indicator**

- PIV-C117 (5.7-inch)

---

**LCD information displays**

- PIV-C216 (10.4-inch)

---

**Hall position indicator with lantern**

- PIV-C226 (15-inch)

---

**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.

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**Notes:**

*1: Segment LED indicators cannot display some letters of alphabet. Please consult our local agents for details.

*2: Dot LED indicators are available (optional). Please consult our local agents for details.

*3: Please select a button type referring to page 27, and enter the number in the space shown as ■.

*4: These types are available only in KEK UO where one car is controlled independently.

*5: These types are applicable to EN81-70 compliant elevators only.

*6: These types are not applicable to elevators complying with EN81-70.
**Button Line-up**

Buttons accented with LED halo illumination
Illuminated characters and halos attract user’s attention.
Tactile and flat buttons (stainless-steel with non-directional hairline-finish) are available in three illumination colors: yellow-orange, white and blue.

---

**CBV/PIV/HBV**

Illumination colors

Yellow-orange

White

Blue

Tactile

CBV1/PIV1/HBV1

CBV3/PIV3/HBV3

CBV5/PIV5/HBV5

Flat*

CBV2/PIV2/HBV2

CBV4/PIV4/HBV4

CBV6/PIV6/HBV6

---

CBU

Flat

CBU2

CBU4

CBU6

---

CBN/HBN

Illumination colors

Yellow-orange

White

Blue

Flat* (plastic)

CBN2/HBN2

CBN4/HBN4

CBN6/HBN6

---

**Note:**

* Flat buttons are not applicable to regulation EN81-70.

---

**Interior**

**Mirrors**

YZ-52A

Half-size

YZ-53A

Two-mirror set

YZ-55SN

Full height

**Handrails**

YH-59S (SUS-HL)

YH-59M (SUS-M)

YH-59G (SUS-M)

YH-57S (SUS-HL)

YH-59S (SUS-M)

YH-57S (SUS-HL)

---

*Actual colors may differ slightly from those shown. Please refer to page 20 for the explanations of SUS-HL and SUS-M.*
Hall Designs

E-312 Splayed Jamb with Transom Panel
E-212 Square Jamb with Transom Panel

Hall Design Example of E-312
Jamb __________ SUS-HL
Transom panel __________ Colored (black) SUS-HE
Doors __________ Colored (black) SUS-HE
Hall lantern __________ HLV-E71
Hall button __________ HBV3-C710N

E-302 Splayed Jamb
E-202 Square Jamb

Hall Design Example of E-302
Jamb __________ SUS-HL
Doors __________ Painted steel sheet (Y033: White)
Hall lantern __________ HLV-E66
Hall button __________ HBV1-C710N

E-102 Narrow Jamb

Entrance Finishes
Please refer to pages 31 and 32 for materials and colors.

<table>
<thead>
<tr>
<th>Materials/Finishes</th>
<th>Jamb</th>
<th>Transom panel</th>
<th>Doors</th>
<th>Sill</th>
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</tr>
</tbody>
</table>

Actual colors may differ slightly from those shown.
### Materials and Colors

#### [Car] Walls, doors and transom panel

- **Colored stainless-steel, hairline-finish**
  - Gold
  - Bronze

- **Pattern-printed steel sheet**
  - CP23 Minimal stripe
  - CP101 Silver
  - CP111 Dark grain
  - CP121 Primary grain
  - CP141 Bright slate

- **Etching patterns** (gold or bronze)
  - EPA-1
  - EPA-2
  - EPA-3

  *Please refer to the etching finish pattern book, EFA1, for details.

#### Ceiling

- **Painted steel sheet**
  - Y033 White
  - Y055 Dark gray
  - Y073 Light beige

- **Etching patterns** (stainless-steel)
  - EPA-1
  - EPA-2
  - EPA-3
  - EPA-4
  - EPA-5
  - EPA-6

  *Please refer to the etching finish pattern book, EF4, for details.

#### [Hall] Doors, transom panel and jamb

- **Painted finish**
  - Y002 Dark brown
  - Y004 Beige
  - Y006 Green
  - Y014 Red-violet
  - Y016 Light brown
  - Y033 White
  - Y051 Pink
  - Y054 Pale yellow
  - Y055 Dark gray
  - Y071 Neutral beige
  - Y116 Blue

- **Etching patterns** (stainless-steel)
  - EPA-A-004
  - EPA-A-011
  - EPA-A-021
  - EP-B-009
  - EP-D-006
  - EP-F-004

  *Not applicable to the jamb; please refer to the etching finish pattern book, EFA1, for details.

#### Flooring

- **Durable vinyl tiles**
  - PR801 Cream beige
  - PR803 Gray
  - PR810 Ocher
  - PR812 Dark gray

---

Actual colors may differ slightly from those shown.
### OPERATIONAL AND SERVICE FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Management System (BMS)</td>
<td>Organizes and manages the building's operations, including lighting, air conditioning, and security systems.</td>
</tr>
<tr>
<td>Earthquake Emergency Refuge</td>
<td>Provides protection and shelter for occupants during earthquakes.</td>
</tr>
<tr>
<td>Emergency Car Lighting</td>
<td>Ensures visibility in case of power failure.</td>
</tr>
<tr>
<td>Preventive Maintenance</td>
<td>Regular checks and cleaning of the elevator system to ensure safe operation.</td>
</tr>
<tr>
<td>Operation Software &amp; Access Control System</td>
<td>Manages the operation of the elevator and controls access to specific floors.</td>
</tr>
<tr>
<td>Supervisory Panel</td>
<td>Allows for remote monitoring and control of the elevator system.</td>
</tr>
<tr>
<td>Firefighting Emergency Operation</td>
<td>In case of fire, priority is given to the firefighting task.</td>
</tr>
<tr>
<td>Multiple Hallway System</td>
<td>Allows for the allocation of elevators to multiple hallways.</td>
</tr>
<tr>
<td>Safety Ray (SR)</td>
<td>Prevents doors from closing on objects or people.</td>
</tr>
</tbody>
</table>

### OPERATIONAL FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
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<tbody>
<tr>
<td>Time Adjustment</td>
<td>Adjusts the time when the doors open and close.</td>
</tr>
<tr>
<td>Automatic Door Close</td>
<td>Closes the doors after a certain period of time if no one enters.</td>
</tr>
<tr>
<td>Door Lead Detector</td>
<td>Monitors the position of the doors.</td>
</tr>
<tr>
<td>Door Nudging Feature</td>
<td>Helps in cases where the doors are not closing properly.</td>
</tr>
<tr>
<td>Electronic Doorman (EDM)</td>
<td>Manages the operation of the elevator system using preprogrammed patterns.</td>
</tr>
<tr>
<td>Door Open-Up Feature</td>
<td>Allows the doors to open wider for easier access.</td>
</tr>
<tr>
<td>Door Self-Diagnosis</td>
<td>Identifies and diagnoses any door operation issues.</td>
</tr>
<tr>
<td>Electronic Door Monitor (EDM)</td>
<td>Monitors the operation of the doors.</td>
</tr>
<tr>
<td>Extended Door-Open Feature</td>
<td>Allows for a longer door opening time.</td>
</tr>
<tr>
<td>Hall Motion Sensor</td>
<td>Detects movement in the hall, activating the elevator as needed.</td>
</tr>
<tr>
<td>Hall Button Receptacle</td>
<td>Collects and processes hall button commands.</td>
</tr>
<tr>
<td>Manual Door Closure</td>
<td>Enables manual control of door opening and closing.</td>
</tr>
<tr>
<td>Safety Door Edge</td>
<td>Monitors the edges of the doors to prevent injuries.</td>
</tr>
<tr>
<td>Safety Ray</td>
<td>Monitors the area around the doors to prevent injuries.</td>
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### GROUP CONTROL FEATURES

<table>
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<tr>
<th>Feature</th>
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<tbody>
<tr>
<td>Bank Separation Operation</td>
<td>Separates the operation of different groups of elevators.</td>
</tr>
<tr>
<td>Car Allocation</td>
<td>Assigns cars to specific tasks or users.</td>
</tr>
<tr>
<td>Car Travel Time Evaluation</td>
<td>Monitors the travel times of cars.</td>
</tr>
<tr>
<td>Closed-door Operation</td>
<td>Ensures that doors close properly.</td>
</tr>
<tr>
<td>Congested-door Service</td>
<td>Handles crowded conditions efficiently.</td>
</tr>
<tr>
<td>Cooperative Optimization Assignment</td>
<td>Allocates cars and doors to minimize wait times.</td>
</tr>
<tr>
<td>Destination Oriented Allocation System</td>
<td>Directs the elevator to the destination floor automatically.</td>
</tr>
</tbody>
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### FEATURES (1/2)

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</tr>
</thead>
<tbody>
<tr>
<td>Self-diagnosis DODA</td>
<td>Monitors the self-diagnosis and operation of the doors.</td>
</tr>
<tr>
<td>Door Sensor</td>
<td>Sensing the open and closed status of the doors.</td>
</tr>
<tr>
<td>Door Nudging Feature</td>
<td>Nudges the doors if they are not closing properly.</td>
</tr>
<tr>
<td>Time Adjustment</td>
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</tr>
<tr>
<td>Supervisory Panel</td>
<td>Allows for remote monitoring and control of the elevator system.</td>
</tr>
<tr>
<td>Firefighting Emergency Operation</td>
<td>Prioritizes firefighting tasks during emergencies.</td>
</tr>
<tr>
<td>Multiple Elevator &amp; Group Control System</td>
<td>Manages multiple elevators and floors concurrently.</td>
</tr>
<tr>
<td>Emergency Lighting</td>
<td>Provides lighting in case of emergencies.</td>
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<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Control Features (Continued from the previous page.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunchtime Service LTS</td>
<td>Intense Up Peak IUP</td>
<td>Fuzzy Logic — Expert System and Priority Service UCPS — Speed Control ESO-V</td>
</tr>
<tr>
<td>Distinction of Traffic Flow and Neural Networks</td>
<td>DMS</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. to minimize passenger waiting time.</td>
</tr>
<tr>
<td>Dynamic Rule-set Optimizer DRO</td>
<td></td>
<td>Traffic flow in a building is constantly predicted using neural network technology, and an optimum rule-set for group control operations is selected throughout real-time simulations based on prediction results.</td>
</tr>
<tr>
<td>Energy-saving Operation — Allocation Control ESO-W</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Energy-saving Operation — Power Reduction during OH Peak ESO-A</td>
<td></td>
<td>In order to save energy, the car speed is automatically reduced to some extent, but not so much that it adversely affects passenger waiting time.</td>
</tr>
<tr>
<td>Energy-saving Operation — Speed Control ESO-N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expert System and Fuzzy Logic.</td>
<td></td>
<td>Artificial expert knowledge, which has been programmed using &quot;expert system&quot; and &quot;fuzzy logic,&quot; is applied to select the ideal operational rule which maximizes the efficiency of group control operations.</td>
</tr>
<tr>
<td>Forced Floor Stop FFS</td>
<td></td>
<td>All cars in a bank automatically make a stop at a predetermined floor on every trip without being called.</td>
</tr>
<tr>
<td>Intense Up Peak RUP</td>
<td></td>
<td>To maximize transport efficiency, an elevator bank is divided into two groups of cars to serve upper and lower floors separately during up peak. In addition, the number of cars to be allocated, the timing of car allocation to the lobby floor, the timing of door opening, etc. are controlled based on predicted traffic data.</td>
</tr>
<tr>
<td>Light-load Car Priority Service LCPPS</td>
<td></td>
<td>When traffic is light, empty or lightly-loaded cars are given higher priority to respond to hall calls in order to minimize passenger travel time. (Cannot be combined with hall position indications.)</td>
</tr>
<tr>
<td>Lunchtime Service LTS</td>
<td></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 to the main floor, the timing of car opening and closing, etc. are controlled based on predicted data.</td>
</tr>
<tr>
<td>Main Floor Changeover Operation TFS</td>
<td></td>
<td>The 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.</td>
</tr>
<tr>
<td>Main Floor Parking MFP</td>
<td></td>
<td>An available car always parks on the main (lobby) floor with the doors open. (In China, the car parks with the doors closed.)</td>
</tr>
<tr>
<td>Peak Traffic Control PTC</td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Psychological Waiting Time Evaluation —</td>
<td></td>
<td>The rules for evaluating psychological waiting time are automatically changed in a timely manner in response to actual service conditions.</td>
</tr>
<tr>
<td>Special Car Priority Service SCPPS</td>
<td></td>
<td>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 indications.)</td>
</tr>
<tr>
<td>Special Floor Priority Service SPFSS</td>
<td></td>
<td>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 indications.)</td>
</tr>
<tr>
<td>Strategic Overall Spacing SGWS</td>
<td></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>Up Peak Service UPS</td>
<td></td>
<td>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 to minimize passenger waiting time.</td>
</tr>
<tr>
<td>VIP Operation VIP-S</td>
<td></td>
<td>A specified car withdraws 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 then responds only to car calls.</td>
</tr>
</tbody>
</table>

### SIGNAL AND DISPLAY FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Panel</td>
<td>ACS</td>
<td>An additional car control panel which can be installed for large-capacity elevators, heavy-traffic elevators, etc.</td>
</tr>
<tr>
<td>Basic Announcement</td>
<td>AAS-B</td>
<td>A synchro voice and/or buzzer alert passengers inside a car that elevator operation has been temporarily interrupted by overloading or a similar cause. (Available in limited languages.)</td>
</tr>
<tr>
<td>Car Arrival Chime</td>
<td>ASC-C</td>
<td>Electronic chimes sound 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.)</td>
</tr>
<tr>
<td>Car Information Display</td>
<td>CID</td>
<td>The 5.7-inch LCD for car operating panels shows the date and time, car position, travel direction and elevator status messages. In addition, customized video images can be displayed in full screen or partial screen formats.</td>
</tr>
<tr>
<td>Car LCD Position Indicator</td>
<td>CID-S</td>
<td>The 5.7-inch LCD for car operating panels shows the date and time, car position, travel direction and elevator status messages.</td>
</tr>
<tr>
<td>Flashing Hall Lantern</td>
<td>FHL</td>
<td>A hall lantern, which corresponds to a car’s call service direction, blinks to indicate that the car will soon arrive.</td>
</tr>
<tr>
<td>Hall Information Display</td>
<td>HID</td>
<td>The 10.4- or 15-inch LCD for car recording panels shows the date and time, car position, travel direction and elevator status messages.</td>
</tr>
<tr>
<td>Hall LCD Position Indicator</td>
<td>HID-S</td>
<td>The 5.7-inch LCD for car operating panels shows the date and time, car position, travel direction and elevator status messages.</td>
</tr>
<tr>
<td>Immediate Prediction Indication</td>
<td>IPI</td>
<td>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 doors will open.</td>
</tr>
<tr>
<td>Intercommunication System</td>
<td>ITP</td>
<td>A system which allows communication between passengers inside a building and the building personnel.</td>
</tr>
<tr>
<td>Second Car Prediction</td>
<td>SCP</td>
<td>When a hall is crowded to the extent that one car cannot accommodate all waiting passengers, the hall lantern of the nearest car to serve the hall will light up.</td>
</tr>
<tr>
<td>Sonic Car Button — Click Type</td>
<td>ACP</td>
<td>A click-type car button which emits electronic beep sounds when pressed to indicate that the call has been registered.</td>
</tr>
<tr>
<td>Voice Guidance System</td>
<td>AAN-G</td>
<td>Information on elevator service such as the current floor or service direction is given to the passengers inside a car.</td>
</tr>
</tbody>
</table>

Notes: 1C-2C (1-car selective control); 3C-8C (2-car group control system); Optional 3A-12 (3- to 4-car group control system); Optional 3A-12/200C (3- to 8-car group control system); Optional. **Standard**: Optional. **T+** not applicable to 1C-2C — not applicable.

*Note: Please consult our local agents for the production terms, etc.*
Specifications

**Capacity and Speed**

<table>
<thead>
<tr>
<th>Rated Capacity (kg)</th>
<th>Number of persons</th>
<th>Rated speed (m/sec)</th>
<th>Mitsubishi Electric Standard</th>
<th>EN81-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>750</td>
<td>10</td>
<td>2.0</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.5</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.0</td>
<td>○</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.5</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.0</td>
<td>○</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.0</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.0</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.0</td>
<td>○</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.0</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.0</td>
<td>○</td>
<td>-</td>
</tr>
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<td></td>
<td></td>
<td>10.0</td>
<td>●</td>
<td>○</td>
</tr>
</tbody>
</table>

Notes:
- *1: The symbol ○ shown in the table indicates that a technical inquiry is required.
- *2: The symbol ● shown in the table indicates that a technical inquiry is required depending on conditions.

**Important Information on Elevator Planning**

**Work Not Included in Elevator Contract**

The following items are excluded from Mitsubishi Electric’s elevator installation work. Their details or conditions are to be conformed to the statement of local laws, or Mitsubishi Electric’s requirements, are therefore the responsibility of the building owner or general contractor.

- Construction of the elevator machine room with proper beams and slabs, equipped with a lock, complete with illumination, ventilation and waterproofing.
- Access to the elevator machine room sufficient to allow passage of the control panel and traction machine.
- Architectural finishing of the machine room floor, and walls and floors in the vicinity of the entrance hall after installation has been completed.
- Construction of an illuminated, ventilated and waterproofed hoistway.
- The provision of a ladder to the elevator pit.
- The provision of openings and supporting members as required for equipment installation.
- Separate beams, when the hoistway dimensions markedly exceed the specifications, intermediate beams and separator partitions when two or more elevators are installed.
- The provision of an emergency exit door, inspection door and pit access door, when required, and access to the doors.
- All other work related to building construction.
- The provision of the main power and power for illumination, and their electrical switch boxes in the machine room, and laying of the wiring from the electrical room.
- The provision of outlets and laying of the wiring in the machine room and the hoistway, plus the power from the electrical switch box.
- 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.
- The power consumed in installation work and test operations.
- All the necessary building materials for grouting in of brackets, bolts, etc.
- The test provision and subsequent alteration as required, and eventual removal of the scaffolding as required by the elevator contractor, and any other provision 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.

Note: Work responsibilities in installation and construction shall be determined according to local laws.

**Elevator Site Requirements**

- The temperature of the machine room and 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. Prevention shall be provided against icing and condensation occurring due to a rapid drop in the temperature in the machine room and elevator hoistway.
  c. The machine room and 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.
State-of-the-Art Factories…
For the Environment. For Product Quality.

Mitsubishi Electric elevators and escalators are currently operating in approximately 90 countries around the globe. Built placing priority on safety, our elevators, escalators and building system products are renowned for their excellent efficiency, energy savings and comfort. The technologies and skills cultivated at the Inazawa Works in Japan and 12 global manufacturing factories are utilized in a worldwide network that provides sales, installation and maintenance in support of maintaining and improving product quality.
As a means of contributing to the realization of a sustainable society, we consciously consider the environment in business operations, proactively work to realize a low-carbon, recycling-based society, and promote the preservation of biodiversity.

ISO9001/14001 certification

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

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

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

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