for a greener tomorrow

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 to contribute to the realization of a sustainable society.

MITSUBISHI ELECTRIC CORPORATION
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http://www.mitsubishielectric-elevator.com

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

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Our new escalator **Series Z** offers more than just a way to carry passengers.

Aesthetic elegance and flexibility are concepts expected more than ever. Our new escalator Series Z comes in a simple, yet sophisticated design, offering the utmost in flexibility to blend with any building decor. Our years of experience in safety-oriented production, based on a strong belief in the importance of safety, have led to a variety of safety features, as well as a wide range of value-added functions that help you customize your own escalators, creating uniqueness in and incomparable value for your building properties.

The Mitsubishi Electric Series Z Escalator fulfills and indeed exceeds customer expectations, through the collaboration and utmost performance of visual, functional and safety elements.

Feel the elegance, high quality and comfort of the **Series Z** in your building.
**Models for various scenes**

**CLASS PANEL ZS**

The simplest of designs blends with any building decor, adding a quiet, sophisticated air to your architecture.

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**Dimensions**

- **Step width**
  - Type S600: 604mm
  - Type S800: 804mm
  - Type S1000: 1004mm

- **Rise**
  - 30°: max 7000mm
  - 35°: max 6000mm

- **Inclination**
  - 30° or 35°

- **Moving Handrail height**
  - 950mm or 1000mm

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*1 Please refer to the enclosed leaflet for rises exceeding 7000mm.*

*2 Please contact your local Mitsubishi Electric sales agent for 1000mm-high Moving Handrails.

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**CLASS PANEL WITH UNDER-HANDBRAIL LIGHTING ZL**

Lighting under the Moving Handrails creates an effect of warm, glowing elegance.

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*Not applicable to semi-outdoor and outdoor use.*

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**STAINLESS PANEL ZP**

Stainless steel panel that exudes strength and durability.

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Escalators in the graphics are based on the Japan Code, with optional Fluoropolymer Coating on Skirt Guard.
Features that blend with architecture

Our new Escalator Series Z serves passengers naturally and peacefully.

Rounded Handrail Inlet Cap
Our rounded Handrail Inlet Cap streamlines with the Moving Handrails, lending a silent elegance to the boarding and landing areas.

Screw-free Inner Deck
Removing screws from the Inner Deck side face not only presents an even softer, more simple look, but also removes the danger of passengers snagging their clothes.

Clearly-contrasted Floor Plate
For improved visibility and smoother passenger flows, extended areas from the Moving Handrails feature different pattern with a clear contrast.

Space Saving
Shortening the Truss by 205mm* requires less escalator installation space and increases freedom in building layout.

Colors available for Moving Handrails (rubber)

* Compared with the Mitsubishi Electric Series J Escalator (for EN115), except for VVVF control.

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**Safety-oriented and customer-friendly designs**

You’ll truly feel the difference. Safety and ride comfort are the ultimate goals for Mitsubishi.

**Step with Anti-Slip Grooves**

Grooves along the corner edge of each Step improve anti-slip performance while improving the visibility of each Step for further passenger safety, especially in downward operation.

**Stepped Demarcation Line**

Demarcation along both sides of a Step extrudes from the Step surface, thereby preventing passengers from getting too close or coming into direct contact with the Skirt Guard.

**Comb with Smaller Angle**

Mitsubishi recognizes how critical the Comb teeth angle is: even a small gap between the Comb and Step can result in a serious accident. Putting our years of experience and research to full use, we have made the angle the smallest it can be (10° to the horizontal) to keep passengers and items such as baggage from stumbling or getting caught between the Comb and Step.

**Brighter Demarcation Color**

Attention to the smallest details is the chief theme of Mitsubishi’s safety criteria, and the color of the Demarcation Line is no exception. The yellow Step and Comb Demarcation Line comes as standard and its brightness has been improved to provide better visibility of the Step, Comb and Floor Plate than in our other models.

Safety and ride comfort are the ultimate goals for Mitsubishi.
Versatile functions to select from

A wide range of optional features help you customize your own escalators, contributing to increased property value.

**Lighting**

*Skirt Guard Lighting*[^2]

Lighting can be provided along the entire length of the Skirt Guard, lighting up the Step Demarcation for both passenger safety and visual effect.

*Comb Light*

Lighting provided at Comb level increases illumination, which further improves passenger safety around the Step as well as visual effect.

**Directional Indicators at boarding and landing areas**[^3][^4][^5]

*Handrail Inlet Cap LED Indicator*

LED lamps form an arrow to indicate the escalator’s traveling direction for boarding, or a No-Entry sign at the landing areas.

*Comb-Side LED Indicator*

A set of green lamps is illuminated in a constant scrolling motion to signal that passengers can enter the boarding area. It flashes red at the landing area, alerting passengers to the fact that entry is not permitted from that side.

**Warning System**[^4][^5]

*Outer Deck Sensor*

When a sensor on the Outer Deck detects a passenger leaning outside the Moving Handrail, a buzzer and voice sound to alert the passenger to the potential danger of bumping against an adjacent escalator or wall.

*Inlet Sensor*

This sensor keeps any passengers or foreign objects away from the Handrail Inlet, a warning buzzer and voice sounding when a person or object comes close to the Inlet.

**More Options**

*Floor Numbers on Floor Plates*

Floor Numbers can be engraved on each Floor Plate to help passengers quickly identify which floor they are on. Anti-slip patterns on the surface also provide increased safety.

*Fluoropolymer Coating on Skirt Guard*[^6]

The Skirt Guard can be coated with a friction-reducing resin to reduce the chance of passengers stumbling when their shoes come in contact with the Skirt Guard.

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[^2]: For available combinations of optional features, please refer to the Specifications on the enclosed leaflet.
[^3]: Not applicable to semi-outdoor and outdoor use.
[^4]: Not applicable to outdoor use.
[^5]: Not applicable to model ZP.
[^6]: Standard feature in countries where EN115 or ANSI applies.

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*Polyurethane Moving Handrail*[^2]

Available as an option, Moving Handrails made of polyurethane are highly resistant to dirt on their surface and create a shiny, brighter look.

Colors available for polyurethane Moving Handrail:

- No. 5001 Black
- No. 5002 Vermilion
- No. 5003 Red
- No. 5004 Yellow
- No. 5005 Green
- No. 5006 Light gray
- No. 5007 Brown
- No. 5008 Mild black
- No. 5012 Warm gray

Handrail colors shown in photos may differ slightly from the actual colors on products.
Automatic Operation / Variable-Speed Operation

Inverter-controlled Automatic and Variable-Speed Operations

VVVF Control (Variable Voltage, Variable Frequency)

Our newly-developed, innovative escalator inverter enables a unique way of controlling the escalator speed in Automatic and Variable-Speed Operations. In Variable-Speed Operation, the escalator speed can be selected according to the frequency of use, number of passengers, and more. Please contact your local Mitsubishi Electric sales agent for VVVF control.

Post-Free Automatic Operation

Sensor Posts are no longer needed, as the sensors embedded in the Handrail Inlet Cap detect passengers and control Automatic Operation. The escalator operates at a low speed in stand-by, and gradually increases speed to the rated speed after detecting a passenger approaching the boarding area.

Automatic Operation with Posts

Sensor Posts located on both sides of the landing and boarding areas incorporate traditional Beam Sensors, with or without Directional Indicators allowing or denying passenger entry. Control by AC1, instead of inverter control, can be adopted in Automatic Operation with Posts, whereby the escalator remains stationary on stand-by.

Variable-Speed Operation

Two more speeds, not exceeding the rated speed, can be added to your escalator to make it possible to operate at three different speeds. The speeds are selected using a key switch, set at Low or Middle for the added speeds and High for the rated speed, thereby allowing you to select the best speed for each set of traffic conditions.

*1: Handrail Inlet Cap LED Indicator:
- Remains the same regardless of the operating speed during Automatic Operation.
- A separate option, and not included in Post-Free Automatic Operation.

*2: Directional Indicators allowing or denying passenger entry.

*3: For escalators stationary in stand-by, Directional Indicators are required in countries where EN115 applies.
Caution for outdoor use / Remote monitoring

1. How to define outdoor escalators

Outdoor escalators are defined as escalators exposed to environmental factors such as wind, rain, snow or direct sunlight, and they are classified into the following categories: outdoor, semi-outdoor and indoor.

- **Outdoor**: Defined as escalators exposed to environmental factors such as wind, rain, snow or direct sunlight, and the responsibility for carrying them out lies with the building owners. They are classified into three categories: outdoor, semi-outdoor and indoor.

2. Environmental requirements for outdoor escalators

| Permissible ambient temperature | Minimum | -10°C (special measures are required in cold districts where the ambient temperature can drop below -10°C) |
| Wind pressure | Escalators must not be exposed to direct wind pressure outside the following ranges: 490N/m² or less on the windward side, 245N/m² or less on the leeward side |
| Others | Measures are required for escalators installed within a 2-kilometer radius from the shore, to protect them from direct exposure to salty wind. |

3. Architectural requirements for outdoor escalators

(1) Intermediate support beams must be provided.
(2) The level of the escalator Floor Plate must be higher than the floor finish of the building to minimize the chance of rain or cleaning water running into the escalator truss. The capacity of the grease trap is determined according to the escalator size and maximum amount of expected rainfall.
(3) Drainage must be provided in the entire area marked C and covered with grating to keep away drainage water.
(4) The escalator pit must be waterproofed entirely when a whole truss is installed inside the pit. In addition, the upper pit floor must be sloped towards the lower floor, to let any water in the pit drain out and down.
(5) If there is a chance of the lower machine room getting flooded, drainage equipment, such as a drain pump, must be provided to discharge any water.
(6) Water in the lower pit will contain lubrication oil, so a grease trap should be provided to separate the lubrication oil from the water. The capacity of the grease trap is determined according to the escalator size and maximum amount of expected rainfall.

Remote monitoring

**Mitsubishi Electric’s MelEye** is a sophisticated Web-based elevator and escalator monitoring and control system that allows authorized personnel to respond rapidly to changing traffic patterns and other operational conditions. It improves passenger safety and reliability of your building management.

**Mitsubishi Electric 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.

**Work not included in escalator contract**

The following items are not included in Mitsubishi Electric’s escalator installation work, and the responsibility for carrying them out lies with the building owners or general contractors:

- Building construction and alterations associated with escalator installation
- Provision of intermediate support beams (if required)
- Provision of truss-supporting beams, including mounting plates
- Floor finishing after escalator installation
- Provision of fire-proofing and fire-prevention measures for escalator external materials and around escalator installation
- Provision of fire-prevention shutters (if required by local codes or regulations)
- Wiring for escalator’s main drive and lighting, from around the middle portion of the truss to the escalator’s Control Unit in the upper truss
- Other wiring and electric conduits
- Provision of convenience outlets in the upper and lower truss
- Outer panel sheathing of truss
- Provision of inspection doors (lockable doors if installed in an environment where anyone could access and open the doors)
- All items for which procurement by building owners is instructed (with wording such as “by owner”)

**Notes on building work**

- Tolerance in distance between supporting beams: +30mm to 0 or 13/8” to 0”
- Flooding around the escalator must not be finished until the escalator is installed
- Flooding within 300mm or 12” of the escalator Floor Plate must not be finished until the Floor Plates are in place
- Spindler pipes or wiring for soft lights, or any other electric conduits for items other than escalator, must not be placed inside the truss
- No walls or other parts of the building structure must be supported on the truss
- Allowable maximum weight of outer sheathing: 20kg/m² or 0.028 psi

**Ordering information**

Please submit the following information when ordering or requesting escalator quotations:

- Name and address of the building
- Escalator model (ZS or ZL or ZP)
- Escalator type (S1000 or S800 or S600)
- Rise (floor height) and number of floors
- Story height
- Option for the main drive and lighting
- Optional items required
- Whether or not fire-prevention shutters are required