

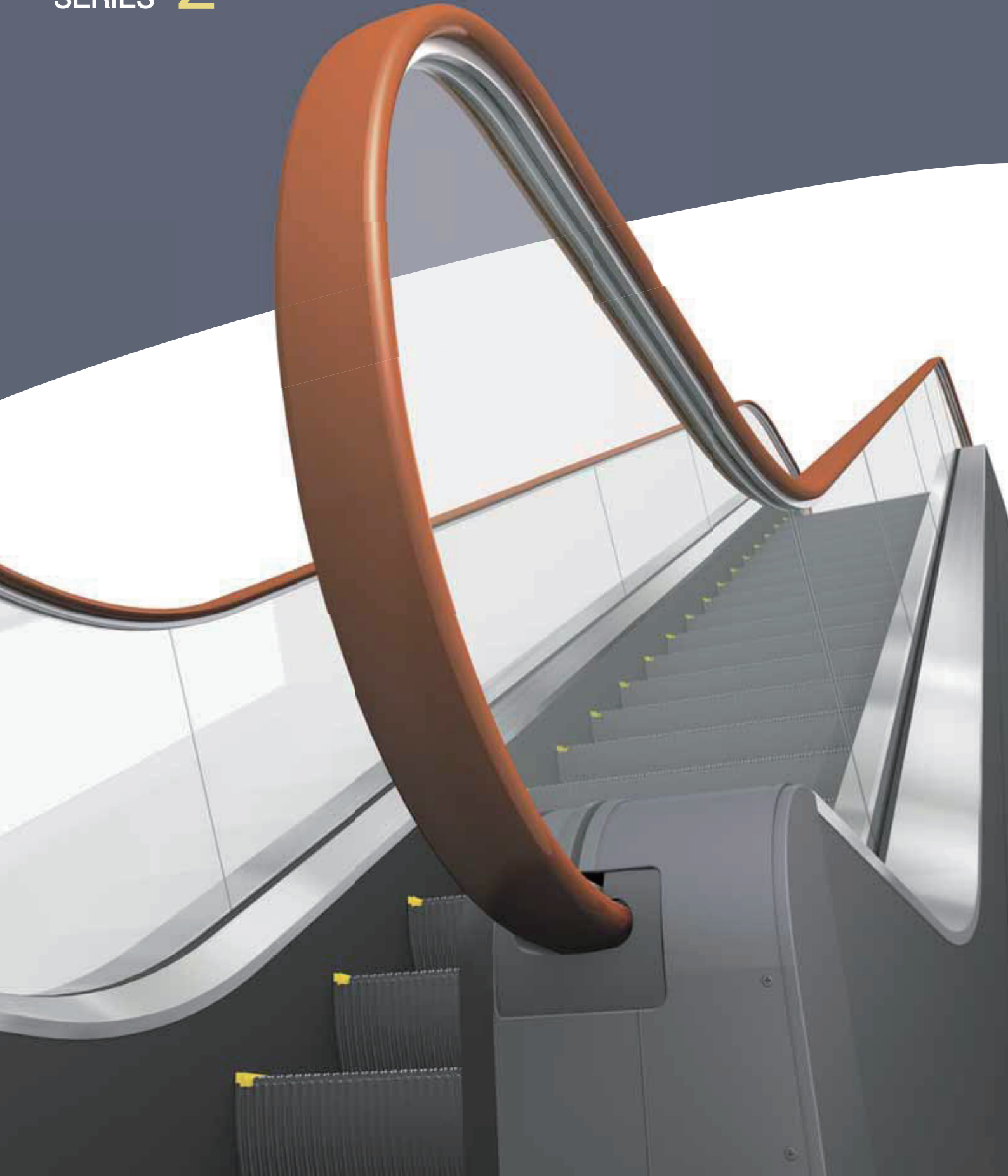
**mitsubishi
electric**

ESCALATORS

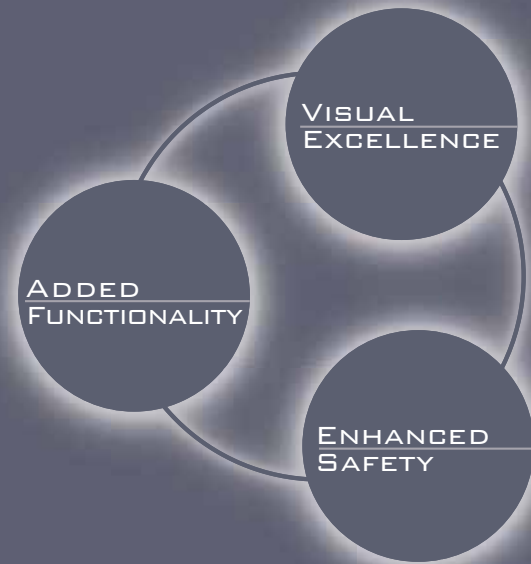
SERIES **Z**

Changes for the Better

Quality
inMotion



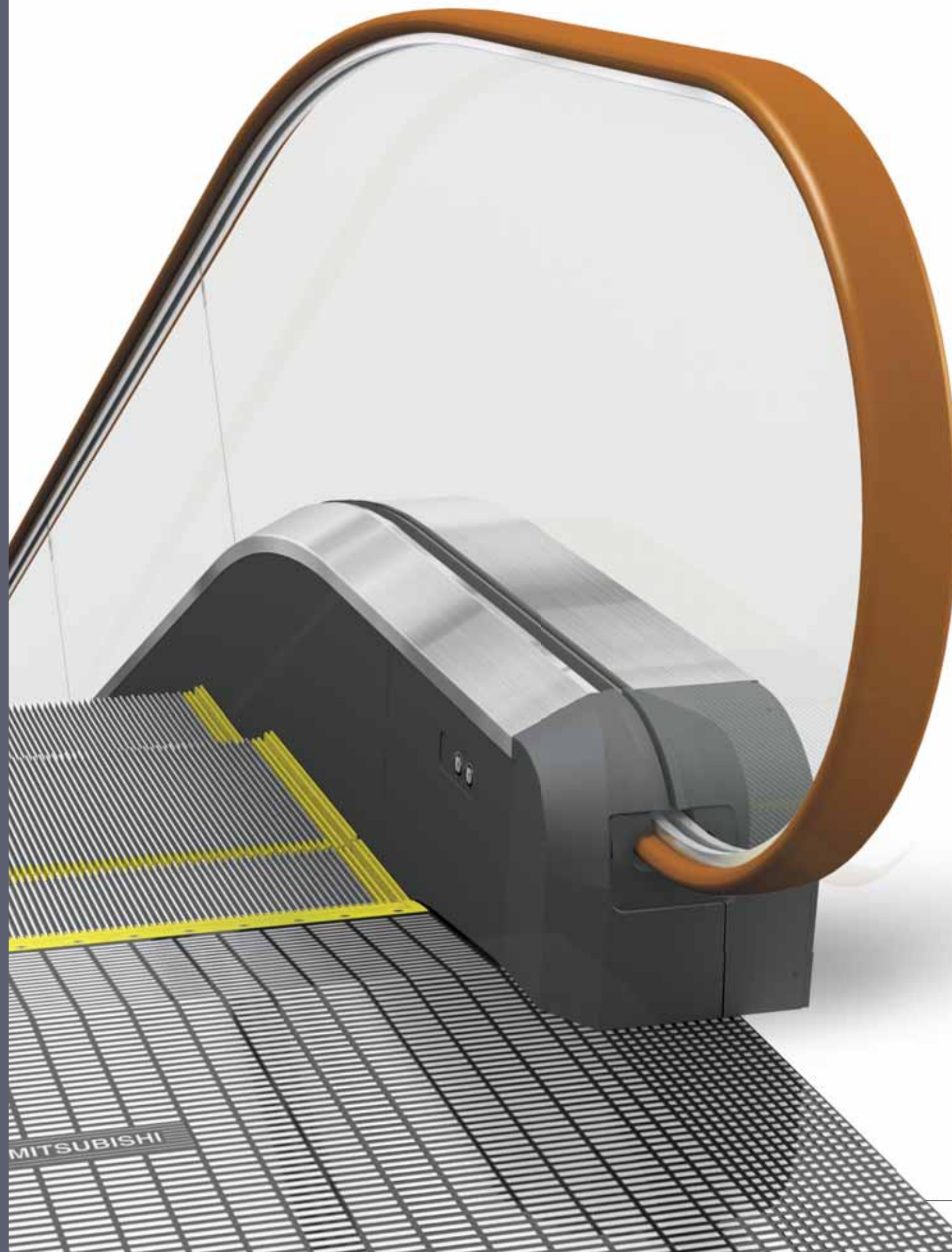
Our new escalator **Series Z** offers more than just a way to **carry passengers**



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 accumulated 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.



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STANDARD

VISUAL EXCELLENCE

Features that blend with architecture 5-6

Brings elegance and sophistication to your building

STANDARD

ENHANCED SAFETY

Safety-oriented and customer-friendly designs 7-8

Offers enhanced safety and comfort

OPTIONAL

ADDED FUNCTIONALITY

Versatile functions to select from 9-10

Enables customization for uniqueness

OPTIONAL

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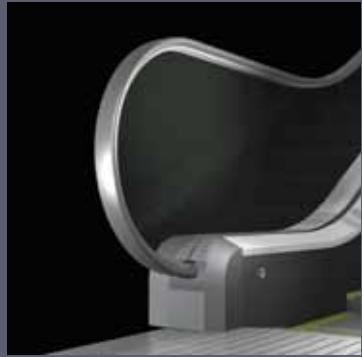
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Escalators in the graphics are based on the Japan Code, with optional Fluoropolymer Coating on Skirt Guard.



Models for various scenes

GLASS PANEL ZS



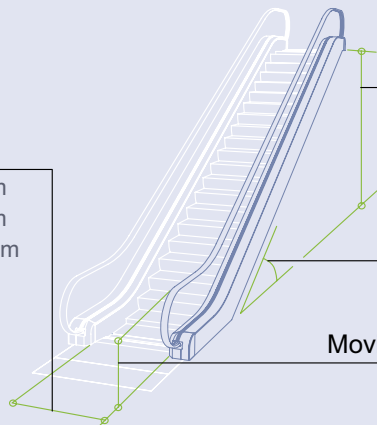
The simplest of designs blends with any building decor, adding a quiet, sophisticated air to your architecture.



Dimensions

Step width

Type S600 : 604mm
 Type S800 : 804mm
 Type S1000 : 1004mm



Rise

30° : max 7000mm
 35° : max 6000mm

Inclination

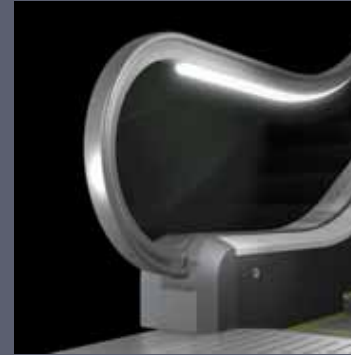
30° or 35°

Moving Handrail height

950mm or 1000mm
 (Option)

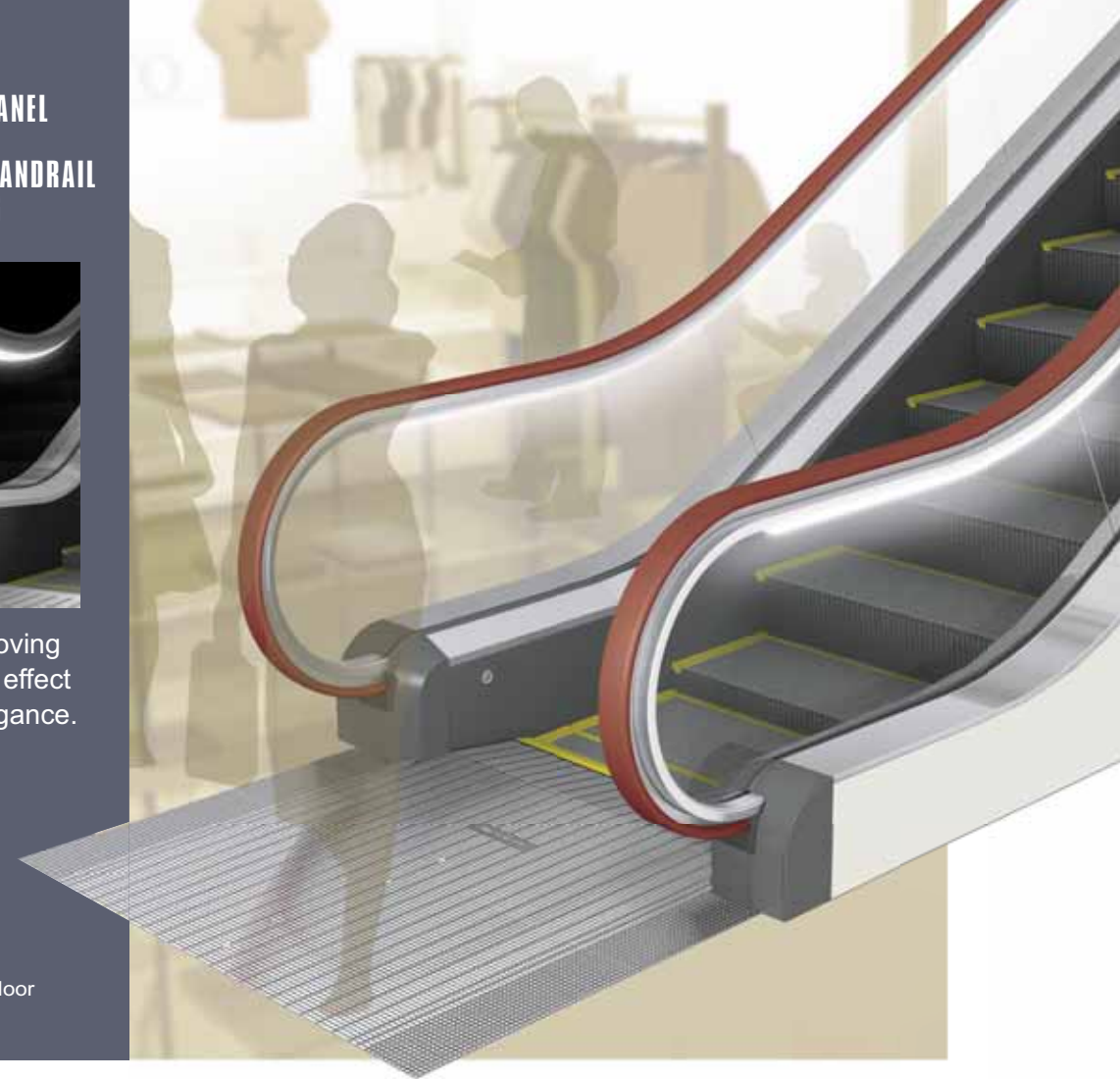
Escalators in the graphics are based on the Japan Code, with optional Fluoropolymer Coating on Skirt Guard.

ZL * GLASS PANEL WITH UNDER-HANDRAIL LIGHTING



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

*Not applicable to semi-outdoor and outdoor use.



STAINLESS PANEL ZP



Stainless steel panel that exudes strength and durability.



VISUAL
EXCELLENCE

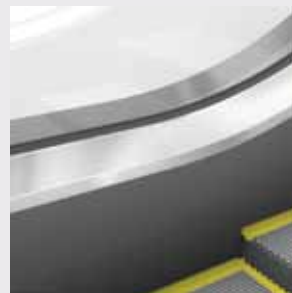
Features that blend with architecture

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

Extended areas from the Moving Handrails feature a different pattern for a clearer contrast for enhanced visibility and smoother passenger flows.



Space Saving

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

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

Colors available for Moving Handrails (rubber)



Handrail colors for outdoor use are different from these shown on this page. Please contact your local Mitsubishi Electric sales agent for details. Handrail colors shown in photos may differ slightly from the actual colors on products.

Moving
Handrail

Screw-free
Inner Deck

Handrail
Inlet Cap

Floor Plate



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

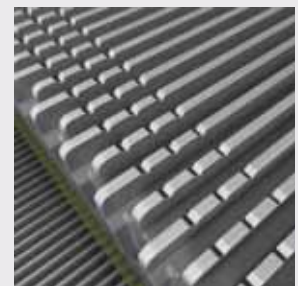




Safety-oriented and customer-friendly designs

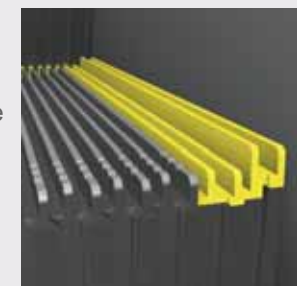
ENHANCED SAFETY

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



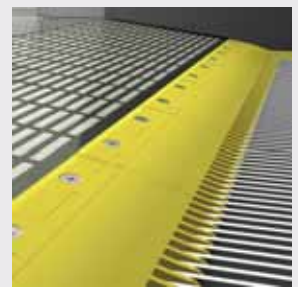
Step with Anti-Slip Grooves

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



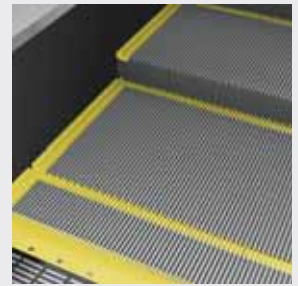
Stepped Demarcation Line

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 minimize the risk of passengers, or items such as baggage, 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 enhanced to provide better visibility of the Step, Comb and Floor Plate than in our other models.

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



ADDED
FUNCTIONALITY

Versatile functions to select from

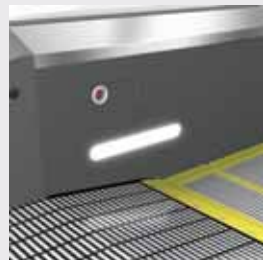
A wide range of optional features help you customize your own escalators, contributing to an increase in the value of your property.

Lighting*1



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 enhances passenger safety around the Step as well as visual effect.

Directional Indicators at boarding and landing areas*1 *3



Handrail Inlet Cap LED Indicator

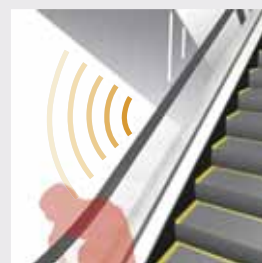
LED lamps form an arrow to indicate the escalator's traveling direction for boarding, or a No-Entry sign at the landing areas.



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*3



Outer Deck Sensor*4

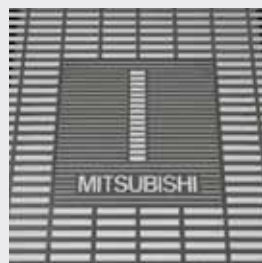
When a sensor on the Outer Deck detects a passenger leaning outside the Moving Handrail, a buzzer and voice sound to alert the passenger to the potential danger of bumping against an adjacent escalator or wall.



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*5

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.



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

Polyurethane Moving Handrail*3

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 Handrails

No.5001	No.5002	No.5003	No.5004	No.5005	No.5006	No.5007	No.5008	No.5009	No.5010
Black	Vermilion	Red	Yellow	Green	Blue	Light gray	Brown	Mild black	Warm gray

Handrail colors shown in photos may differ slightly from the actual colors on products.



A Automatic Operation / V Variable-Speed Operation

S Standard specifications

Inverter-controlled Automatic and Variable-Speed Operations

VVVF Control (Variable Voltage, Variable Frequency)

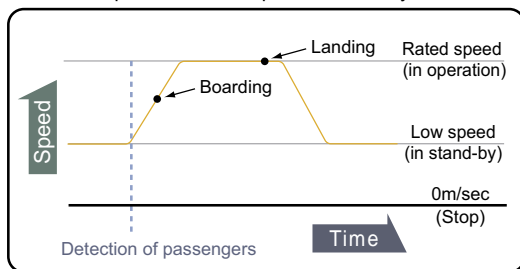
Our newly-developed, innovative escalator inverter enables a unique way of controlling the escalator speed in Automatic and Variable-Speed Operations. In Variable-Speed Operation, the escalator speed can be selected according to the frequency of use, number of passengers, and more.

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.



Escalators operate at a low speed in stand-by.



*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.
 - Required in countries where EN115 applies.

Automatic Operation with Posts



Sensor Posts located on both sides of the landing and boarding areas incorporate traditional Beam Sensors, with or without*2 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.

*2: Directional Indicators are required in countries where EN115 applies.

Variable-Speed Operation

Two more speeds*3, 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.



*3 : For an escalator with a rated speed of 0.6m/sec, for example, additional speeds of 0.5m/sec and 0.3m/sec can be set. For more information, contact your local Mitsubishi Electric sales agent.

Basic specifications

Item	S600	S800*1	S1000
Models	ZS / ZL*1 / ZP		
Codes	EN115 / Japan		
Power supply	AC 3-phase, 50 or 60Hz		
Lighting power supply	AC single-phase, 50 or 60Hz		
Rated speed	0.5m/sec		
Control system	Standard: AC1 Option: VVVF		
Transport capacity*2 (persons/hr)	4500	6750	9000
Inclination	30° / 35°		
Environment	Standard: Indoor Option: Semi-outdoor / Outdoor *3		
Automatic oiler	Standard: None Option: Available		
Min. rise (mm)	30°: 2203	35°: 2527	
Max. rise (mm)	30°: 7000	35°: 6000	
Step width (mm)	604	804	1004
Escalator width (mm)	1150	1350	1550
Between Moving Handrails (mm)	840	1040	1240
Between Skirt Guards (mm)	610	810	1010
Truss width (mm)	1100	1300	1500
Floor opening (mm)	1250	1450	1650

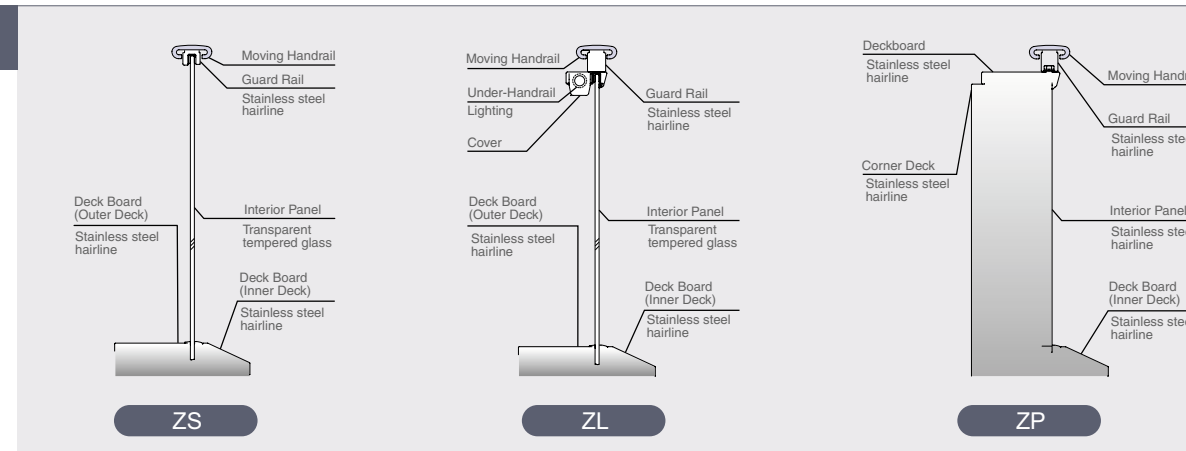
*1: Not applicable to semi-outdoor and outdoor use.

*2: Transport capacity varies depending on actual traffic conditions, so some dimensions and the motor capacity may have to be changed. Please consult your local Mitsubishi Electric sales agent for details if the number of passengers during peak time may equal or exceed the following numbers:

- S600: 500 persons per 10 minutes
- S800: 750 persons or more per 10 minutes
- S1000: 1000 persons per 10 minutes

*3: Please contact your local Mitsubishi Electric sales agent for semi-outdoor and outdoor use. For outdoor use, please refer to "Cautions for outdoor use" on page 13.

Sections of Balustrade



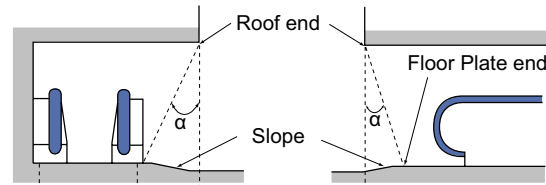
Cautions for outdoor use / Remote monitoring

Cautions for outdoor use

A roof must be provided over outdoor escalators. In rainy weather without a roof, passengers are in great danger of having their umbrellas blown away by the wind or falling down on the slippery Steps. In hot weather, the Moving Handrails and Deck Boards can easily heat up in the sun to a surface temperature exceeding 50°C, causing the unnecessary chance that passengers could get burnt on the overheated elements. In addition, when not covered by a roof, the life and performance of outdoor escalators seriously deteriorate, leading to shorter cycle and higher cost for maintenance.

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 three categories: outdoor, semi-outdoor and indoor.



Indoor	$\alpha > 70^\circ$
Semi-outdoor	$70^\circ \geq \alpha \geq 30^\circ$
Outdoor	$\alpha < 30^\circ$

Angle α in the illustration varies depending on the direction in which the escalator is viewed. Check how the angle varies, take the smallest angle, apply it to the table above and determine the escalator type.

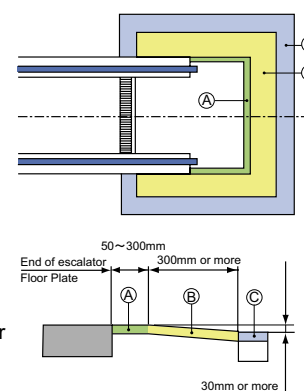
2. Environmental requirements for outdoor escalators

Permissible ambient temperature	Minimum	-10°C (special measures are required in cold districts where the ambient temperature can drop below -10°C)
	For escalator operation	0°C ~ less than 35°C
Wind pressure	Escalators must not be exposed to direct wind pressure outside the following ranges: 490N/m ² or less on the windward side, 245N/m ² or less on the leeward side	
Others	Measures are required for escalators installed within a 2-kilometer radius from a shore, to protect them from direct exposure to salty wind.	

3. Architectural requirements for outdoor escalators

- Intermediate support beams must be provided.
- 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. Area (B) in the illustrations to the right must be at a slope of at least 10 degrees, and the surface of (A) must be horizontal to minimize the risk of passengers stumbling.
- Drainage must be provided in the entire area marked (C) and covered with grating to keep away drain water.
- 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.
- 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.
- 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.
- Water may drip from the exterior panels of the escalator. Take waterproofing measures for equipment or items under the exterior panels if water is likely to cause problems or accidents.

Detail floor plan for outdoor escalators



Please contact your local Mitsubishi Electric sales agent for outdoor use.

Remote monitoring OPTIONAL

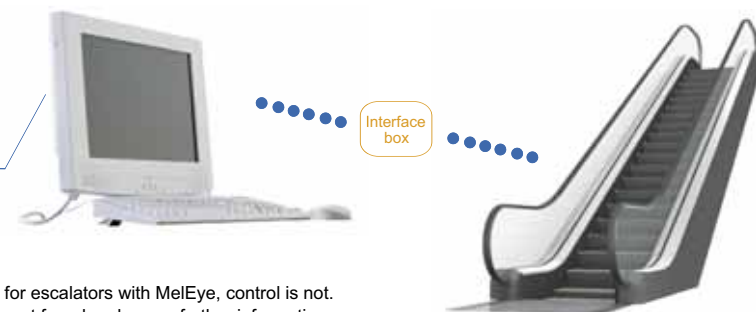
Mel Eye

Mitsubishi Electric's MelEye is a sophisticated Web-based elevator and escalator monitoring and control*1 system that allows authorized personnel to respond rapidly to changing traffic patterns and other operational conditions. It enhances passenger safety and reliability of your building management.

User-friendly screens



Operational failures and errors will be highlighted for easier recognition on the screen and to enhance rapid trouble shooting.



*1 : Please note that while monitoring is possible for escalators with MelEye, control is not.
*2 : Contact your local Mitsubishi Electric sales agent for a brochure or further information.

CAUTION

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 exterior 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") required

Notes on building work

- Tolerance in distance between supporting beams: +30mm to -10mm or 13/8" to -1/8"
- Flooring around the escalator must not be finished until the escalator is installed
- Flooring within 300mm or 12" of the escalator Floor Plate must not be finished until the Floor Plates are in place
- Sprinkler pipes or wiring for soffit lights, or any other electric conduits for items other than escalator, must not be laid 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/m 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
- Number of escalators
- Voltage and frequency of the power source for escalator's main drive and lighting
- Optional items required
- Whether or not fire-prevention shutters are required



Mitsubishi Electric Inazawa Works has acquired ISO 9001 certification by the International Standards Organization (ISO) based on a review of quality management for the System.

The plant has also acquired the environmental management system standard ISO 14001 certification.