


Quality
inMotion®

 **MITSUBISHI
ELECTRIC**
Changes for the Better

ESCALATORS
For USA


S
series

Enhanced energy-efficiency, safety and design contextualism drive forward our mission to create the escalators of the future, utilizing our advanced technologies.



Principle

Based on our policy, "Quality in Motion," we provide elevators and escalators that will satisfy our customers with high levels of comfort, efficiency, ecology and safety.



Comfort

Efficiency

Ecology

Safety

Our 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 place on consideration for the environment. As the times change, we promise to utilize the collective strengths of its advanced and environmental technologies to offer its customers safe and reliable products while contributing to society.

We strive to be green in all of our business activities.

We take every action to reduce environmental burden during each process of our elevators' and escalators' lifecycle.



* Quality in Motion is a registered trademark of Mitsubishi Electric Corporation.

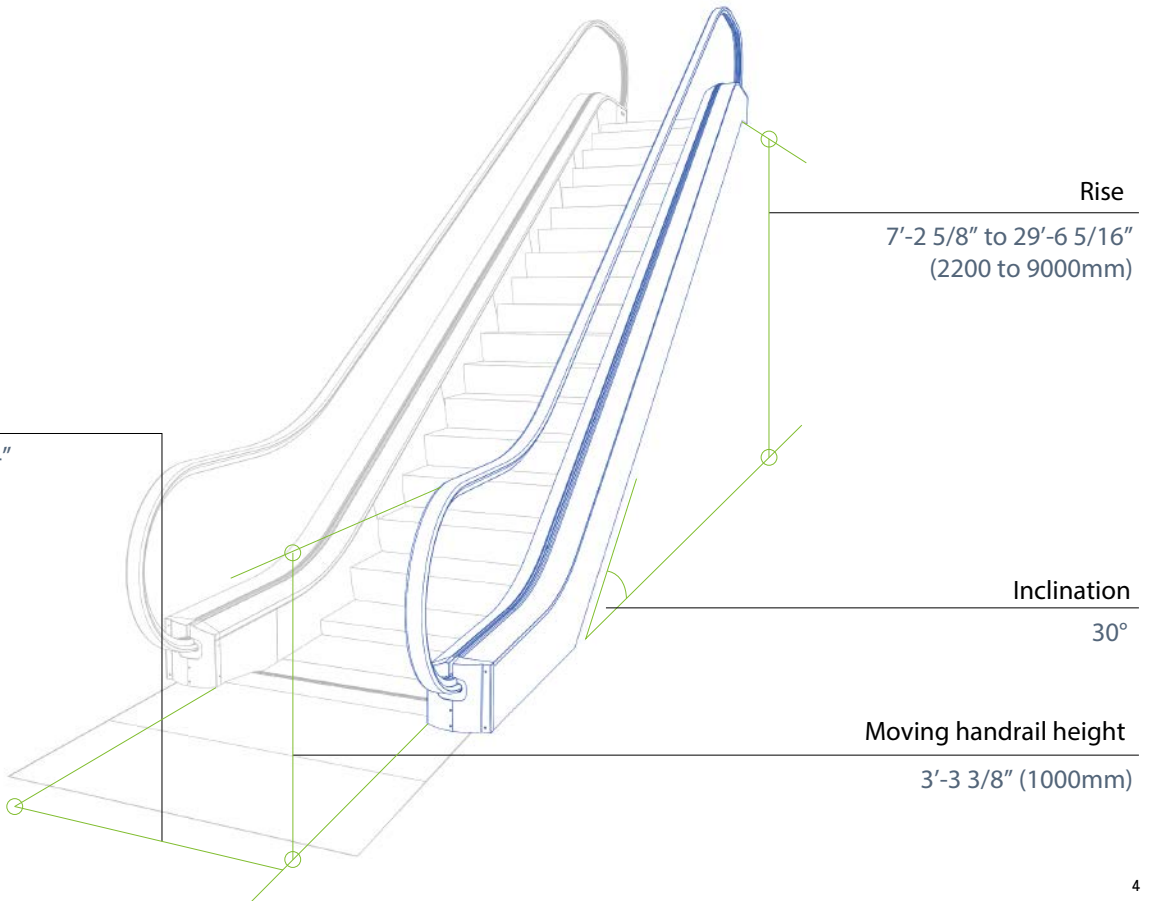
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Dimensions

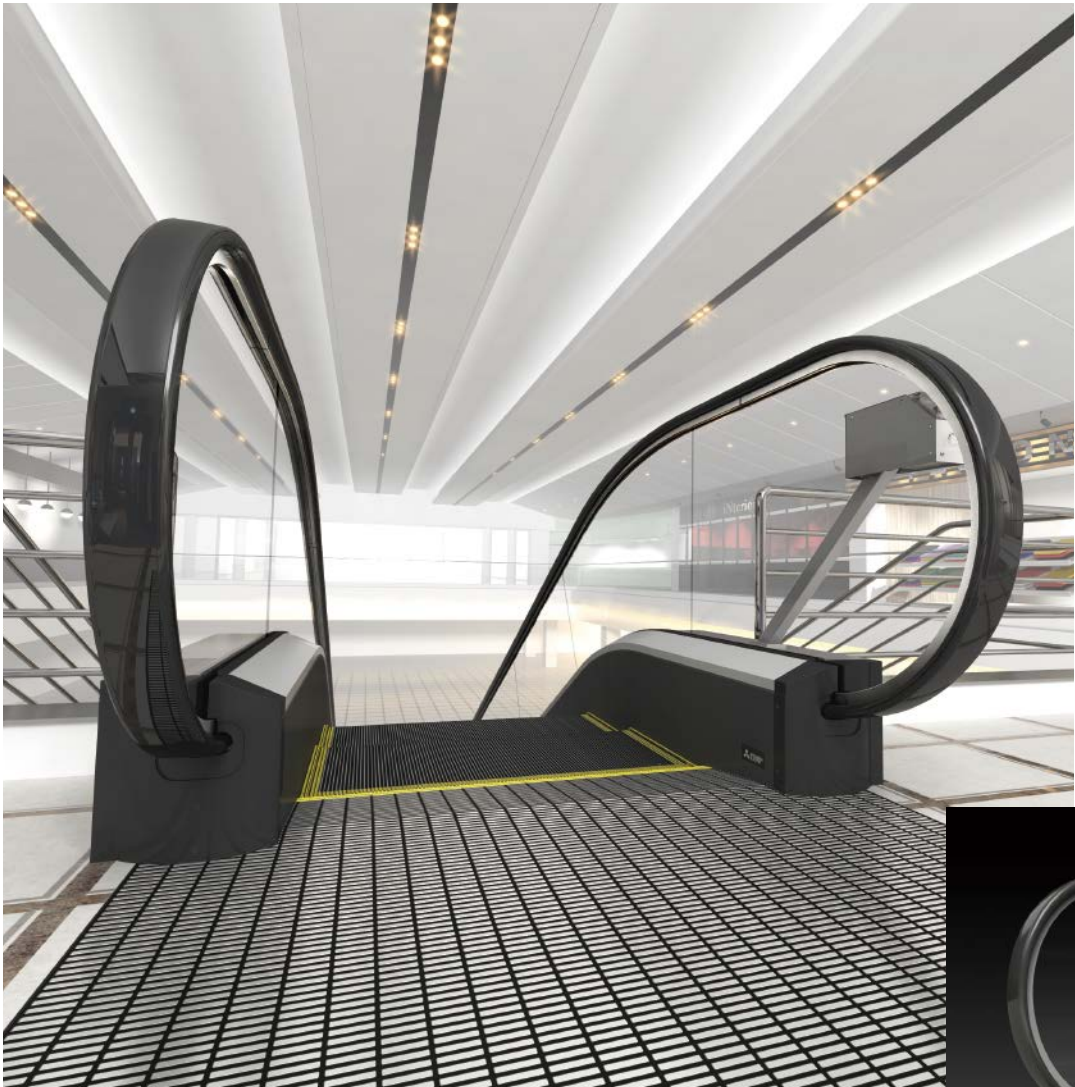
Step width

- Type S24": 1'-11 3/4" (S600: 604mm)
- Type S32": 2'-7 5/8" (S800: 804mm)
- Type S40": 3'-3 1/2" (S1000: 1004mm)



Models for Various Scenes

Simple designs and stylish curves matched to diverse settings



Glass Panel



SAS



Stainless-steel Panel



SAP

Moving Handrails*

Rubber

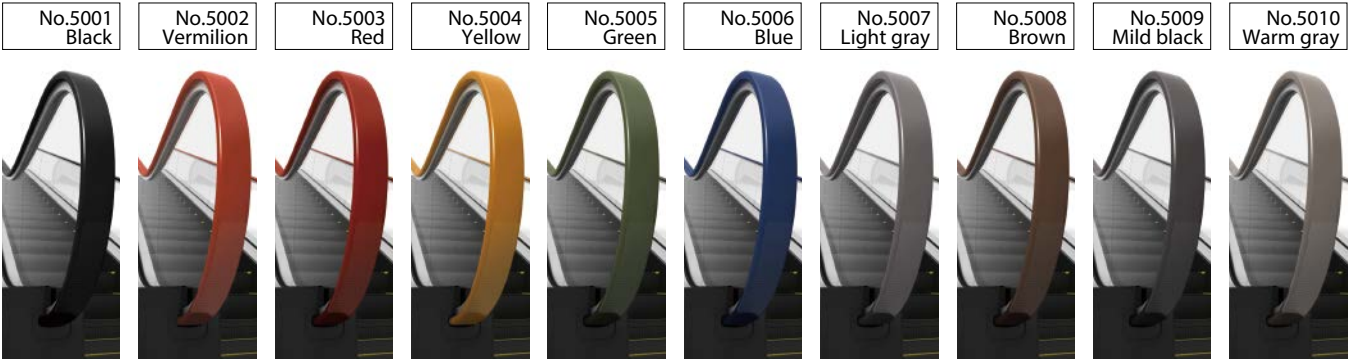
No.0001
Black



Standard

Polyurethane

Moving handrails made of polyurethane are highly resistant to dirt on their surface and create a shiny and brighter look.



Optional

Note:
* Actual handrail colors may differ slightly from those shown.

Safety

Features Supporting the Safety of All Users

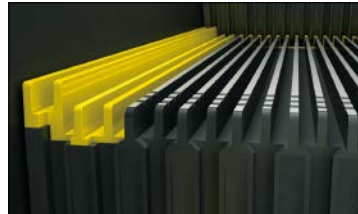
Various features that ensure the safety of all users from the elderly to children and support users in boarding and getting off escalators smoothly



Tiered Demarcation Line

Standard

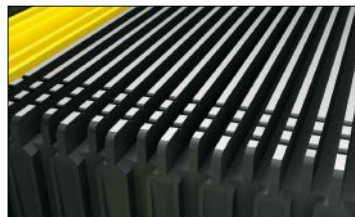
Demarcations along both sides of a step are raised from the step surface, providing enhanced safety.



Step with Anti-Slip Grooves

Standard

Grooves along the corner edge of each step improve anti-slip performance and the visibility of each step for further passenger safety.



Brighter Demarcation Color

Standard

The brightness of the yellow demarcation lines has been improved to provide better visibility.



Low-Friction Material on Skirt Guard

Standard

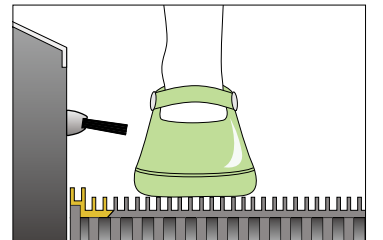
The skirt guards have a special painting/coating on the surface, ensuring a low coefficient of friction and minimizing the risk of items getting caught.



Skirt Brush

Optional *

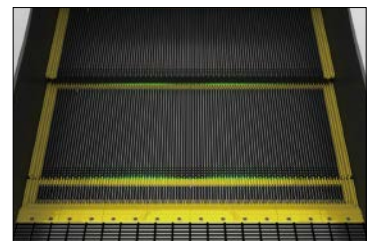
Skirt brushes installed on the skirt guard prevent passengers' clothes or shoes from getting caught between the step and the skirt guard.



• Comb Light • Step Demarcation Lighting

LED Optional
LED Optional

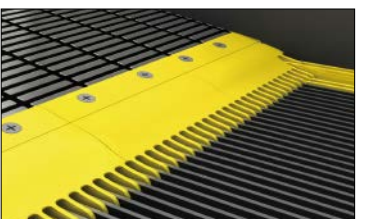
Lighting provided at comb level and under the steps improves passenger safety at boarding and landing areas.



Comb with Smaller Angle

Standard

We have made the angle the smallest it can be to keep passengers from tripping at boarding and landing areas.

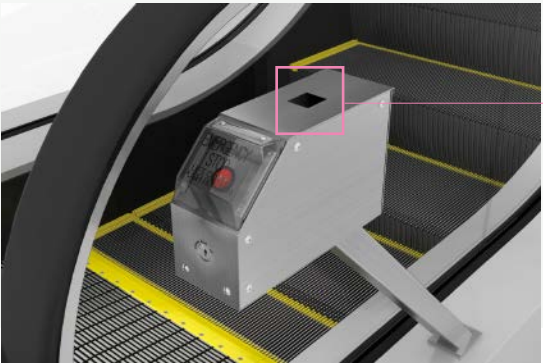


Note:
* Please note that passengers' clothes or shoes may be dirtied if the brushes get dirty after a long period of use.

Comfort

Functional Beauty Inspired by Users

Universal designs that pursue true user-friendliness and smart design features based on maximum consideration of users



Fault Indicator*



Optional

If a fault occurs on the escalator, the fault indicator displays the fault code, and the operation manager can judge whether the operation can be resumed by the color of the lamp indicated next to the fault code. The indicator displays the operation speed in normal operation.

Example of indication:
At fault occurrence



(Fault code)

At normal operation



(Operation speed; for example, 50 when the operation speed is 100fpm [0.5m/sec])

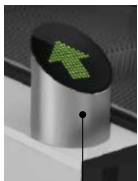
Direction Indicator*



Optional

LEDs form an arrow to indicate the travel direction of the escalator at the boarding area, or a no-entry sign at the landing area.

SAS



Hairline-finished stainless steel



At boarding area



At landing area

Note:

* Direction indicator and Fault indicator are not applicable for stainless-steel panel type (SAP).

Floor Name

Optional

Floor names can be engraved on each floor plate to help passengers quickly identify which floor they are on.



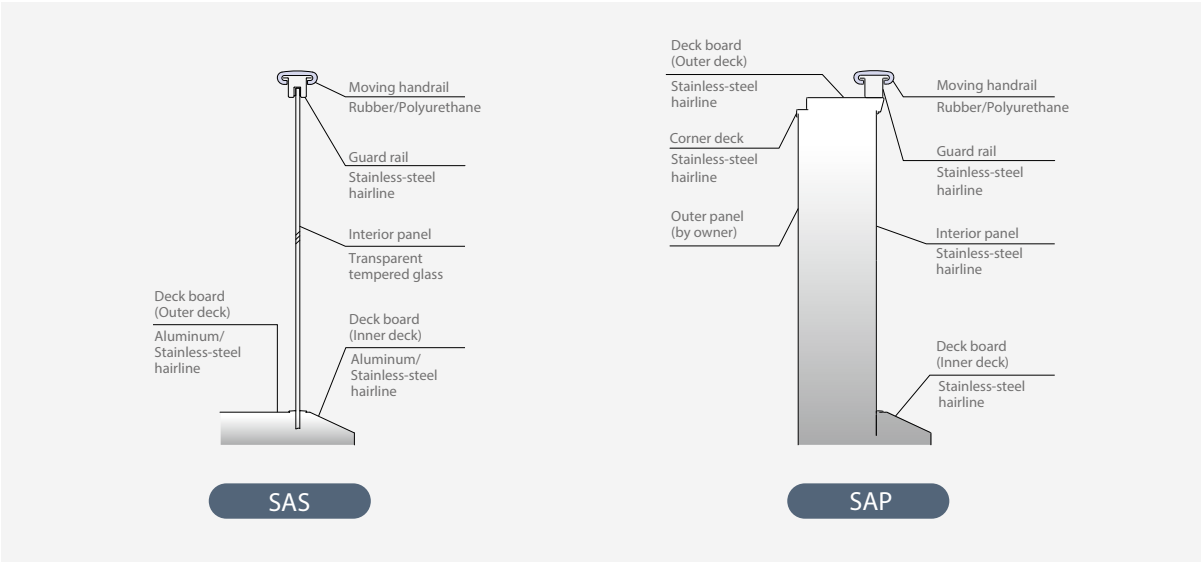
Specifications

Basic specifications

Item	S24" (S600)	S32" (S800)	S40" (S1000)
Models	SAS/SAP		
Codes	ASME A17.1		
Power supply	AC 3-phase, 60Hz		
Lighting power supply	AC single-phase, 60Hz		
Rated speed	100ft/min (0.5m/sec)		
Control system	Standard: AC1		
Theoretical transport capacity*1	4500	6750	9000
Inclination	30°		
Environment	Indoor*2		
Min. rise	7'-2 5/8" (2200mm)		
Max. rise	29'-6 5/16" (9000mm)		
Step width	1'-11 3/4" (604mm)	2'-7 5/8" (804mm)	3'-3 1/2" (1004mm)
Escalator width	3'-9 1/4" (1150mm)	4'-5 1/8" (1350mm)	5'-1" (1550mm)
Between moving handrails	2'-9 1/16" (840mm)	3'-4 15/16" (1040mm)	4'-0 13/16" (1240mm)
Between skirt guards	1'-11 15/16" (608mm)	2'-7 13/16" (808mm)	3'-3 11/16" (1008mm)
Truss width	3'-7 5/16" (1100mm)	4'-3 3/16" (1300mm)	4'-11 1/16" (1500mm)
Floor opening	4'-1 3/16" (1250mm)	4'-9 1/16" (1450mm)	5'-4 15/16" (1650mm)

Notes:
*1: Transport capacity varies depending on actual traffic conditions, so some dimensions and the motor capacity may have to be changed.
Please contact our representative for details if the number of passengers during peak time may equal or exceed the following numbers:
S24" (S600): 500 persons per 10 minutes.
S32" (S800): 750 persons per 10 minutes.
S40" (S1000): 1000 persons per 10 minutes.
*2: Please refer to "Environmental Requirements" on page 17.

Sections of the balustrade



Applications

●: Standard, ○: Optional N/A: Not applicable

Division	Specification	SAS	SAP
Control system	AC1: Manual key switch operation	●	●
Horizontal steps	2 horizontal steps	●	●
Indicator	Direction indicator (LED)	○	N/A
	Fault indicator (LED)	○	N/A
Finish and decorative components	Interior panel (See page 11 for the sections of the balustrade.)	●	N/A
	Transparent tempered glass	N/A	●
	Stainless-steel, hairline-finish	●	●
	Skirt guard	●	●
	Low-friction paint finish (black)	●	●
	Skirt brush	○	○
	Deck board	●	●
	Inner deck	●	N/A
	Stainless-steel, hairline-finish	○	●
	Outer deck	●	N/A
	Aluminum	○	●
	Stainless-steel, hairline-finish	○	●
	Step	●	●
	Aluminum alloy step tread (Black)	●	●
	Aluminum alloy cleat riser (Black)	●	●
	Step with anti-slip grooves	●	●
	Yellow demarcation line	●	●
	Floor plate	●	●
	Embossed stainless-steel plate (with black-paint grooves)	○	○
	Floor name (with black-paint grooves)	○	○
	Extension of floor plate	○	○
	Connection of adjacent floor plates	○	○
	Comb	●	●
	Moving handrail (See page 5 for the colors.)	●	●
	Rubber	○	○
	Polyurethane	○	○
	Handrail inlet cap	○	○
	Resin (black)	○	○
	MelEye	○	○
Others	Automatic oiler	○	○



Safety Devices

Various safety devices ensuring high levels of safety and reliability

1 Handrail Entry Device (HGS) (Handrail Guard Safety Device)

- 1) Inlet Guard
A guard made of soft rubber, which fits over the outside of the moving handrail where it enters the balustrade to keep fingers, hands or foreign objects away from the moving handrail opening
- 2) Inlet Guard Switch
A safety device that stops escalator when physical contact is made with the inlet

2 Emergency Stop Button (E-STOP)

A button to immediately stop the escalator in emergency situations

3 Comb-Step Impact Device (CIS)

A safety device that stops the escalator if a horizontal or vertical movement of a comb is detected due to an entrapped foreign object or the impact from external forces

4 Skirt Obstruction Device (SSS) (Skirt Guard Safety Device)

A safety device to stop the escalator if a shoe or other item becomes trapped in the gap between the step and skirt guard

5 Step Up Thrust Device (CRS) (Step Motion Safety Device)

A safety device to stop the escalator when a step has been dislocated on its riser side due to an object caught between the Steps, or between the skirt guard and the step, or if an abnormality has been observed in the step motion

6 Step Level Device (SRS)

A safety device that stops the escalator if the horizontal level of a step has dropped

10 Handrail-Speed Monitoring Device (HSS) (Handrail Speed Safety Device)

A safety device that stops the escalator if the moving handrails fail to synchronize with the steps because of slippage, loosening or breakage of the moving handrails

11 Broken Drive-Chain Device (DCS) (Drive-Chain Safety Device)

A safety device that stops the escalator if the drive chain breaks or stretches beyond an allowable limit

12 Speed Governor/Reversal Stop Device (GOV)

A safety device that stops the escalator before the operating speed exceeds 120% of the rated speed or if the operation speed becomes unusually slow

13 Electromagnetic Brake

A safety device that stops the escalator in the case of power failure, or if any safety device or the emergency stop button has been activated

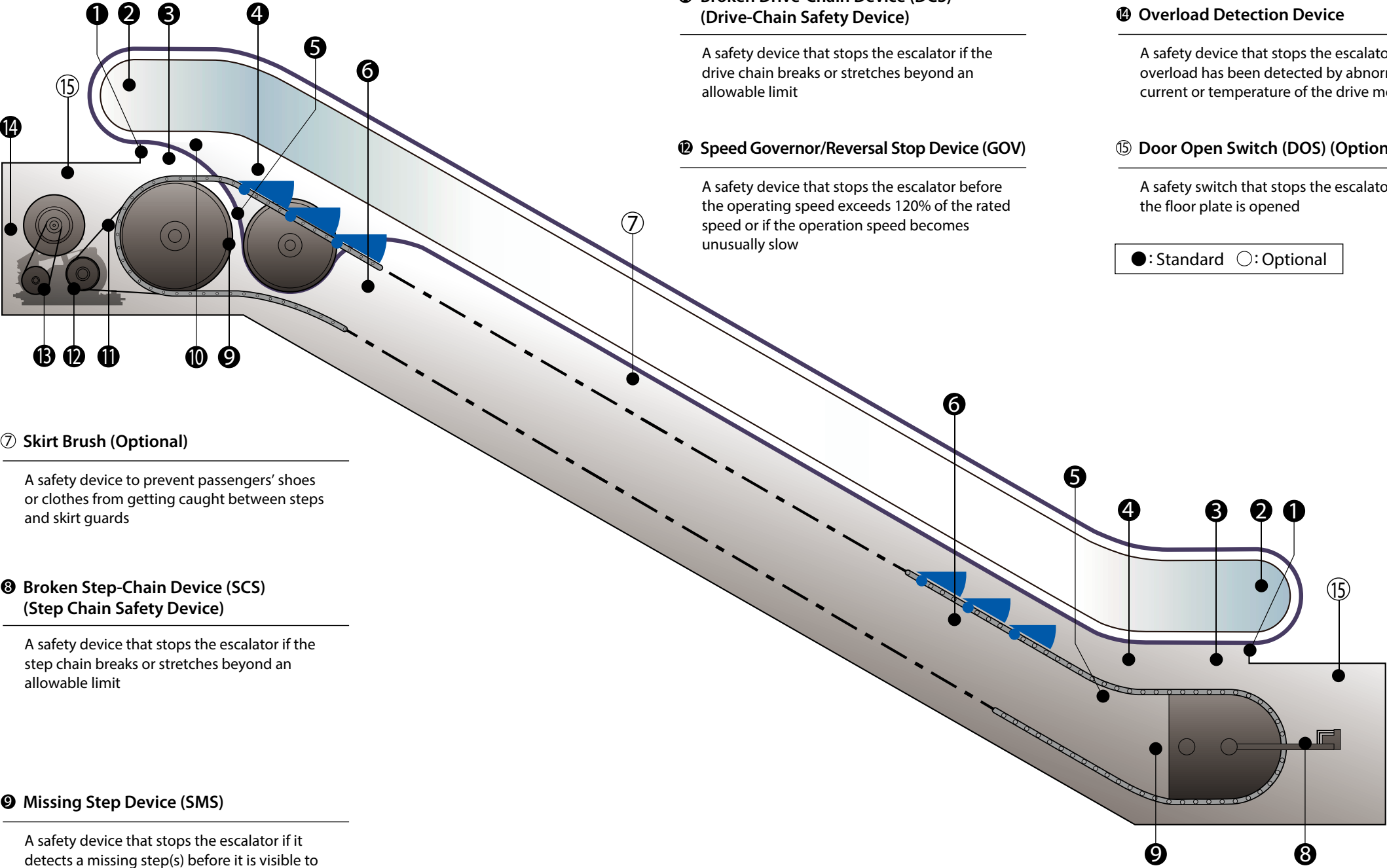
14 Overload Detection Device

A safety device that stops the escalator if overload has been detected by abnormal current or temperature of the drive motor

15 Door Open Switch (DOS) (Optional)

A safety switch that stops the escalator when the floor plate is opened

● : Standard ○ : Optional



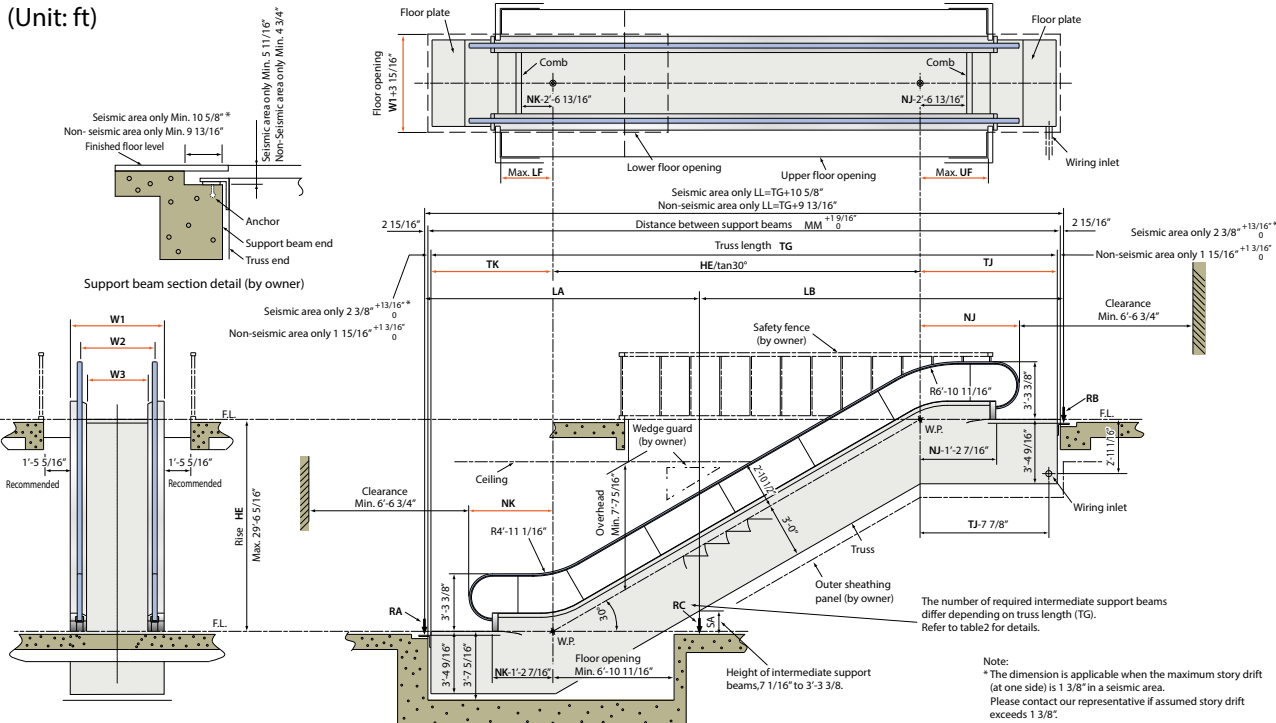


Table 1: Standard dimensions

Width	Type			Horizontal steps	Type	TJ		TK	NJ	NK	UF	LF
	S24" (S600)	S32" (S800)	S40" (S1000)			HE ≤ 7000	7000 < HE					
W1 (escalator width)	3' - 9 1/4"	4' - 5 1/8"	5' - 1"	2 steps	S40" (S1000)	7' - 11 1/2"	8' - 7 3/8"	7' - 3 5/8"	5' - 9 5/16"	5' - 1 7/16"	4' - 0 1/8"	3' - 4 3/16"
W2 (between moving handrails)	2' - 9 1/16"	3' - 4 15/16"	4' - 0 13/16"		S32" (S800)							
W3 (between skirt guards)	1' - 11 15/16"	2' - 7 13/16"	3' - 3 11/16"		S24" (S600)							
					S24" (S600)	8' - 7 3/8"						

Table 2: No. of intermediate support beam

Type	Without	1 beam	2 beams
S40" (S1000)	$TG \leq 48' - 8 \frac{5}{8}"$	$48' - 8 \frac{5}{8}" < TG \leq 71' - 4 \frac{5}{16}"$	$71' - 4 \frac{5}{16}" < TG$
S32" (S800)	$TG \leq 49' - 6 \frac{1}{2}"$	$49' - 6 \frac{1}{2}" < TG \leq 71' - 4 \frac{5}{16}"$	$71' - 4 \frac{5}{16}" < TG$
S24" (S600)	$TG \leq 50' - 10 \frac{1}{4}"$	$50' - 10 \frac{1}{4}" < TG \leq 75' - 11 \frac{7}{16}"$	$75' - 11 \frac{7}{16}" < TG$

Single beam bridge diagram showing supports RA and RB, and a single truss section TG.

Single beam bridge diagram showing supports RA and RB, and two truss sections LA and LB separated by a central support RC.

Two beam bridge diagram showing supports RA and RB, and two truss sections LA and LB separated by a central support RC, with an additional support RD under the second section.

Type	Max. LA, LB or LC
S40" (S1000)	36' - 1 1/16"
S32" (S800)	
S24" (S600)	38' - 4 5/8"

Table 3: Loads (N)

	Without intermediate support beam	With intermediate support beam	
		1 beam	2 beams
RA	$\alpha \cdot LL + \frac{\beta 1 \cdot (LL - TK + X1) + \beta 2 \cdot (TJ - X2)}{LL}$	$\alpha \cdot LA + \beta 1 \cdot \frac{\beta 1 \cdot (TK - X1)}{LA}$	
RB	$\alpha \cdot LL + \frac{\beta 1 \cdot (TK - X1) + \beta 2 \cdot (LL - TJ + X2)}{LL}$	$\alpha \cdot LB + \beta 2 \cdot \frac{\beta 2 \cdot (TJ - X2)}{LB}$	
RC	_____	$\alpha \cdot LL + \frac{\beta 1 \cdot (TK - X1)}{LA} + \frac{\beta 2 \cdot (TJ - X2)}{LB}$	$\alpha \cdot (LA + LC) + \frac{\beta 1 \cdot (TK - X1)}{LA}$
RD	_____	_____	$\alpha \cdot (LB + LC) + \frac{\beta 2 \cdot (TJ - X2)}{LB}$

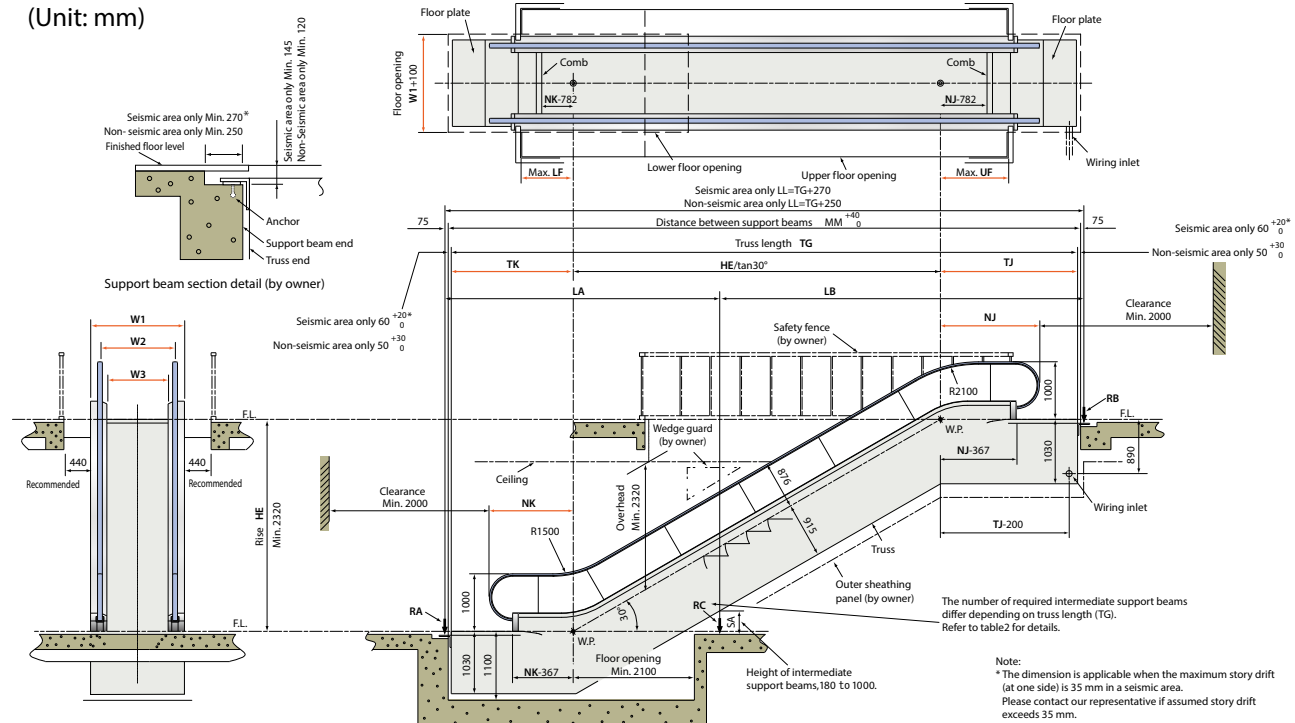


Table 1: Standard dimensions

Width	Type			Horizontal steps	Type	TJ		TK	NJ	NK	UF	LF
	S24" (\$600)	S32" (\$800)	S40" (\$1000)			HE ≤ 7000	7000 < HE					
W1 (escalator width)	1150	1350	1550	2 steps	S40" (\$1000)	2425	2625	2225	1760	1560	1223	1020
W2 (between moving handrails)	840	1040	1240		S32" (\$800)							
W3 (between skirt guards)	608	808	1008		S24" (\$600)							

Table 2: No. of intermediate support beam

Type	Without	1 beam	2 beams
S40" (S1000)	$TG \leq 14850$	$14850 < TG \leq 21750$	$21750 < TG$
S32" (S800)	$TG \leq 15100$	$15100 < TG \leq 21750$	$21750 < TG$
S24" (S600)	$TG \leq 15500$	$15500 < TG \leq 23150$	$23150 < TG$

Diagram illustrating the support configuration for a single beam.

Diagram illustrating the support configuration for a single beam with a central support.

Diagram illustrating the support configuration for two beams.

Type	Max. LA, LB or LC
S40" (S1000)	11000
S32" (S800)	
S24" (S600)	11700

Table 3: Loads (N)

	Without intermediate support beam	With intermediate support beam	
		1 beam	2 beams
RA	$\alpha \cdot LL + \frac{\beta 1 \cdot (LL \cdot TK + X1) + \beta 2 \cdot (TJ \cdot X2)}{LL}$	$\alpha \cdot LA + \beta 1 \cdot \frac{\beta 1 \cdot (TK \cdot X1)}{LA}$	
RB	$\alpha \cdot LL + \frac{\beta 1 \cdot (TK \cdot X1) + \beta 2 \cdot (LL \cdot TJ + X2)}{LL}$	$\alpha \cdot LB + \beta 2 \cdot \frac{\beta 2 \cdot (TJ \cdot X2)}{LB}$	
RC	_____	$\alpha \cdot LL + \frac{\beta 1 \cdot (TK \cdot X1)}{LA} + \frac{\beta 2 \cdot (TJ \cdot X2)}{LB}$	$\alpha \cdot (LA + LC) + \frac{\beta 1 \cdot (TK \cdot X1)}{LA}$
RD	_____	_____	$\alpha \cdot (LB + LC) + \frac{\beta 2 \cdot (TJ \cdot X2)}{LB}$

Factors

α

Type	α (N/mm)
S40" (S1000)	4.24
S32" (S800)	3.86
S24" (S600)	3.49

X1, X2, $\beta 1$, $\beta 2$

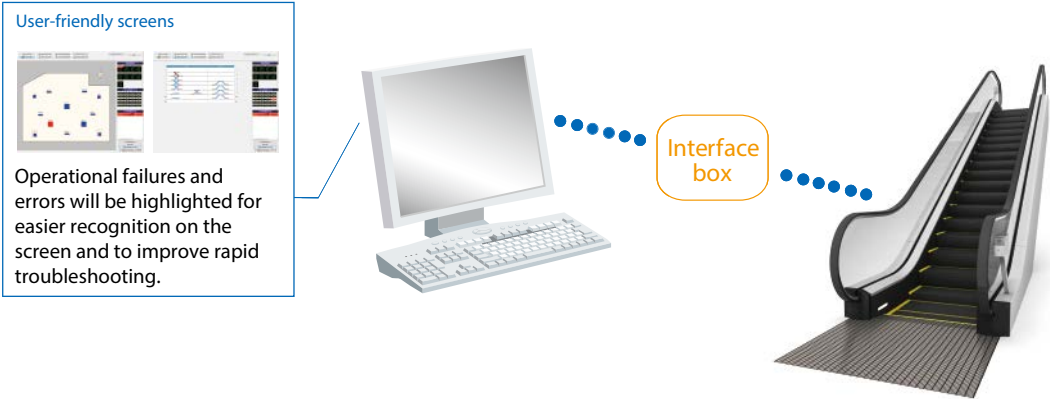
Horizontal steps	X1 (mm)	X2 (mm)	$\beta 1$ (N)	$\beta 2$ (N)
2 steps	999	1188	4500	13900

Remote Monitoring

MelEye

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.

* Please note that MelEye is designed for monitoring of escalator operation, not to control the escalators remotely.



Environmental Requirements

Escalator performance and quality are susceptible to environmental influences. The following environmental conditions shall be ensured for operation of this escalator model.

Location		Indoor (To be surrounded by building structures.)
Permissible ambient temperature	Minimum	14°F (-10°C) (Special measures are required in cold districts where the ambient temperature can drop below 14°F (-10°C).)
	For escalator operation	32°F (0°C) to less than 104°F (40°C)
Others		Measures are required for escalators installed within a radius of 1.24 miles (two-kilometer) from a shore to protect them from direct exposure to salty wind.

Important Information

Work not included in the escalator contract

The following items are not included in our 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 the 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: +1 3/16” (+30mm) to 0” (0mm)
- Flooring around the escalator must not be finished until the escalator is installed.
- Flooring within 11 13/16” (300mm) 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: 4.1lbf/ft² (196N/m²)



State-of-the-Art Factories... For the Environment. For Product Quality.

Our 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 Building Systems 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 Elevator Asia Co., Ltd. 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.



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