MITSUBISHI ELECTRIC

Changes for the Better

for a greener tomorrow

Quality in Motion

PASSENGER ELEVATOR
(COMPACT MACHINE ROOM SYSTEM)
Series-IP/AP Version 2
Series-IP

NexWay-S

2nd Edition

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.

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 place 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.

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.

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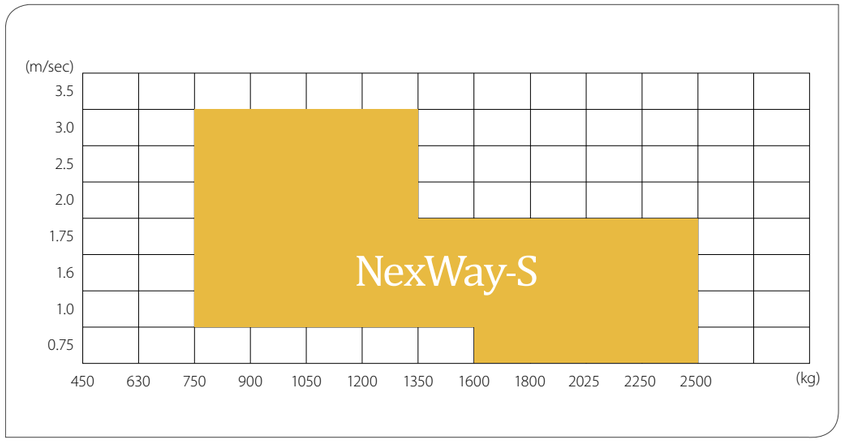
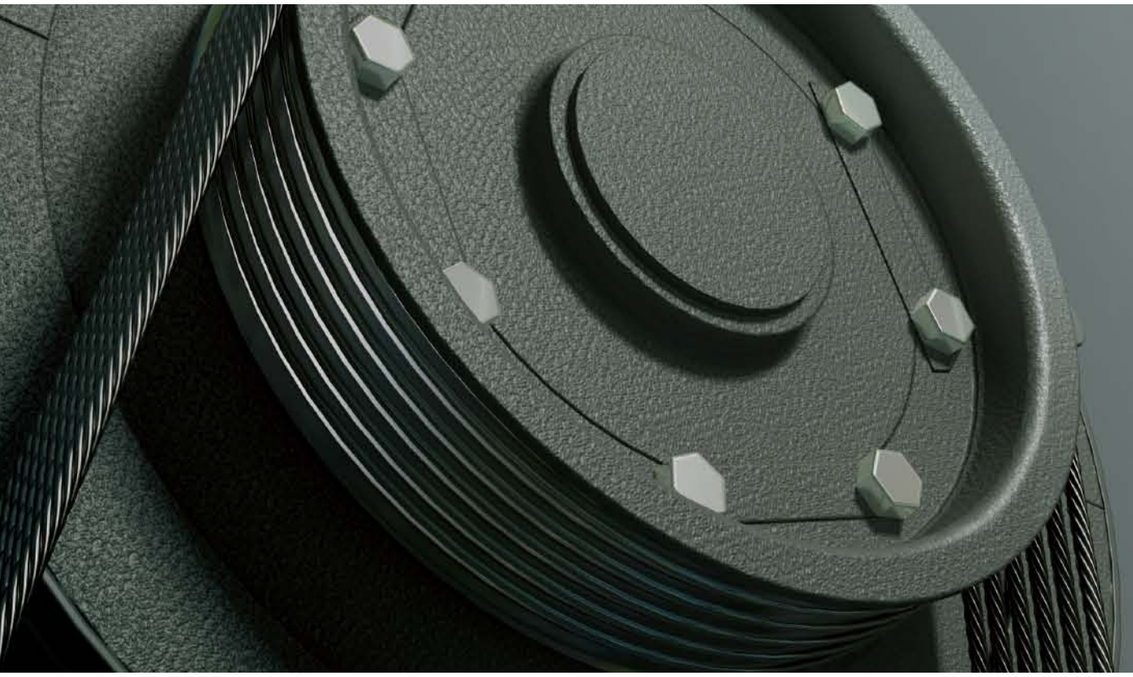
Application



Note: The applicable range of the rated capacity may differ depending on the manufacturing factory, please consult our local agents for details.

Our Global Standards for Compact Machine Room Elevators



Green Technology

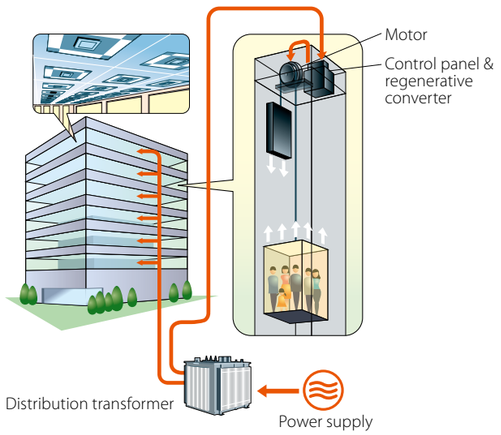
SUSTAINABLE ENERGY USE

Mitsubishi Electric's leading-edge technologies have made it possible for elevators to conserve energy. Our Regenerative Converter makes the most of power generated by the traction machine. Additionally, thanks to the joint-lapped core in permanent magnet (PM) motor and energy-saving features, the elevators use energy more wisely and efficiently.

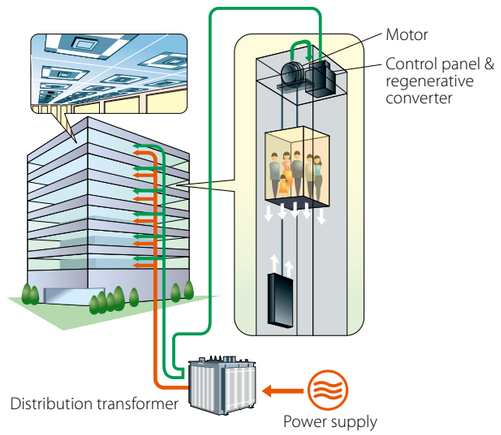
Regenerative Converter (Optional)

Efficient use of power

Elevators usually travel using power from a power supply (powered operation); however, when they travel down with a heavy car load or up with a light car load (regenerative operation), the traction machine functions as a power generator. Although the power generated during traction machine operation is usually dissipated as heat, the Regenerative Converter transmits the power back to the distribution transformer and feeds it into the electrical network in the building along with electricity from the power supply. Compared to the same type of elevator without a regenerative converter, this system provides an energy-saving effect of up to 35%. (Reduction in CO_2 emissions: 1400 kg/year)
In addition, the regenerative converter has the effect of decreasing harmonic currents.



Powered operation



Regenerative operation

Joint-lapped Core in Permanent Magnet (PM) Motor

Smaller carbon footprint

The joint-lapped core built in the PM motor of the traction machine features flexible joints. The iron core can be like a hinge, which allows coils to be wound around the core more densely, resulting in improved motor efficiency and compactness. High-density magnetic field is produced, enabling lower use of energy and resources and reduced CO_2 emissions.

Energy-saving Features

Curbing energy consumption

Mitsubishi Electric offers features that help to reduce the energy consumption of elevators.

Energy-saving Operation
– Number of Cars (ESO-N) (Optional for ΣAI-22)

The number of service cars is automatically reduced to some extent without affecting passenger waiting time.

Energy-saving Operation
– Allocation Control (ESO-W) (ΣAI-2200C only)

Based on each elevator's potential energy consumption, the system selects the elevator that best balances operational efficiency and energy consumption.

Car Light/Fan Shut Off
– Automatic (CLO-A/CFO-A)

The car lighting/ventilation fan is automatically turned off if there are no calls for a specified period.

Variable Traveling Speed Elevator System

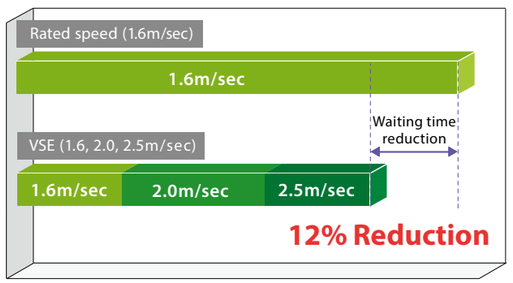
TIME-SAVING

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

Variable Traveling Speed Elevator System (VSE) (Optional)*

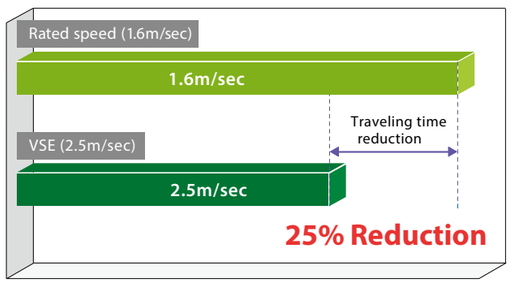
The Variable Traveling Speed Elevator System allows elevators to travel faster than their rated speed depending on the number of passengers in the car (rapid mode). When the weight is well-balanced between the car and the counter-weight, the traction machine does not need its full power to make the elevator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

Waiting Time Reduction



According to Mitsubishi Electric's simulation, waiting time can be reduced up to approximately 12% when VSE is applied.

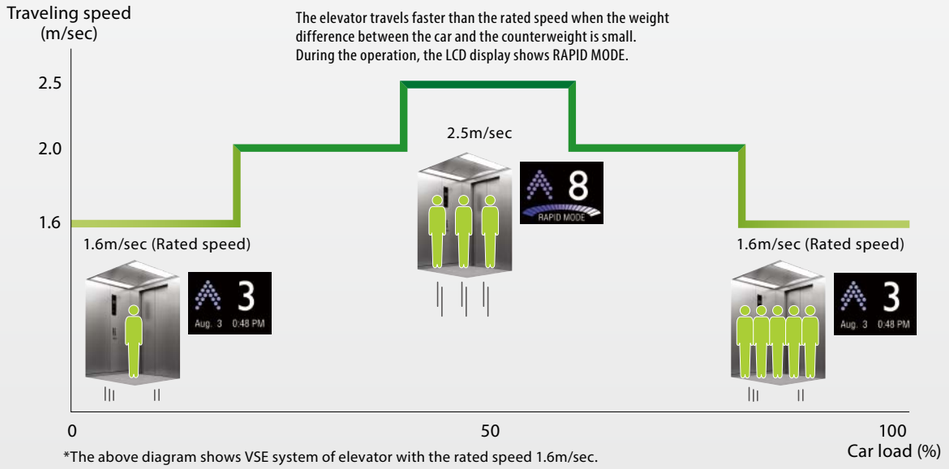
Traveling Time Reduction



Traveling time can be reduced by approximately 25% when the elevator travels from the bottom to the top floor directly under rapid mode in VSE.

(Conditions)
Travel: 36m, Floor height: 4.0m, 10 floors, Car load: 50%

Note: *The Variable Traveling Speed Elevator System is applicable to elevators with rated speeds of 1.6m/sec, 1.75m/sec and 2.0m/sec and the rated capacity of 750kg to 1350kg.
*The screen design for rapid mode differs slightly depending on car operating panel type.

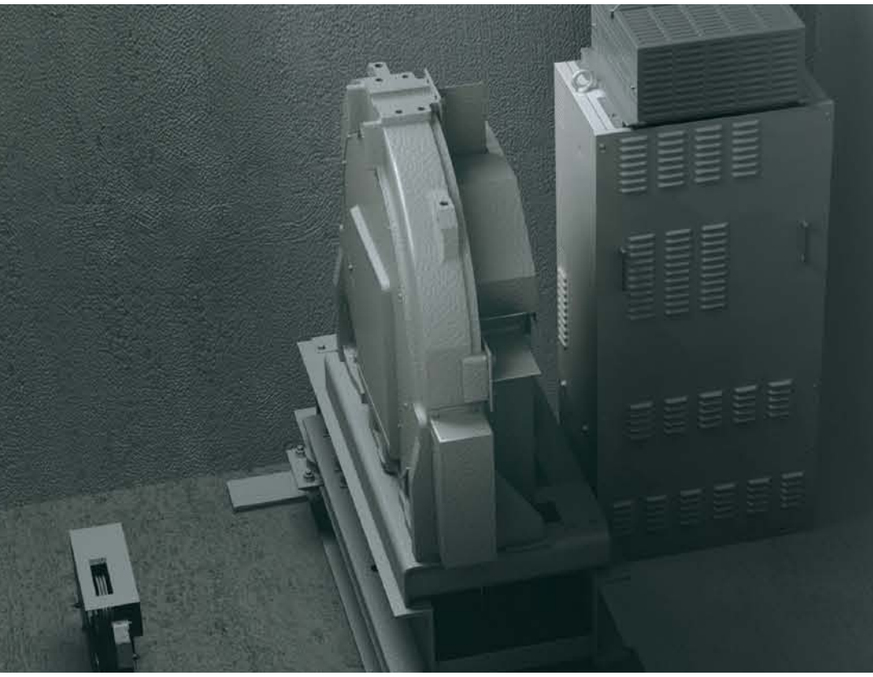


*The above diagram shows VSE system of elevator with the rated speed 1.6m/sec.

Maximum Speed and Car Load

		Car load				
		0%	50%			100%
Rated speed	1.6m/sec	1.6m/sec [1 person]	2.0m/sec [2-4 persons]	2.5m/sec [5-9 persons]	2.0m/sec [10-11 persons]	1.6m/sec [12-14 persons]
	1.75m/sec	1.75m/sec [1 person]				1.75m/sec [12-14 persons]
	2.0m/sec	2.0m/sec [1-2 persons]		2.5m/sec [3-10 persons]		2.0m/sec [11-14 persons]

[Number of passengers in the car when the maximum number of passengers is 14.]

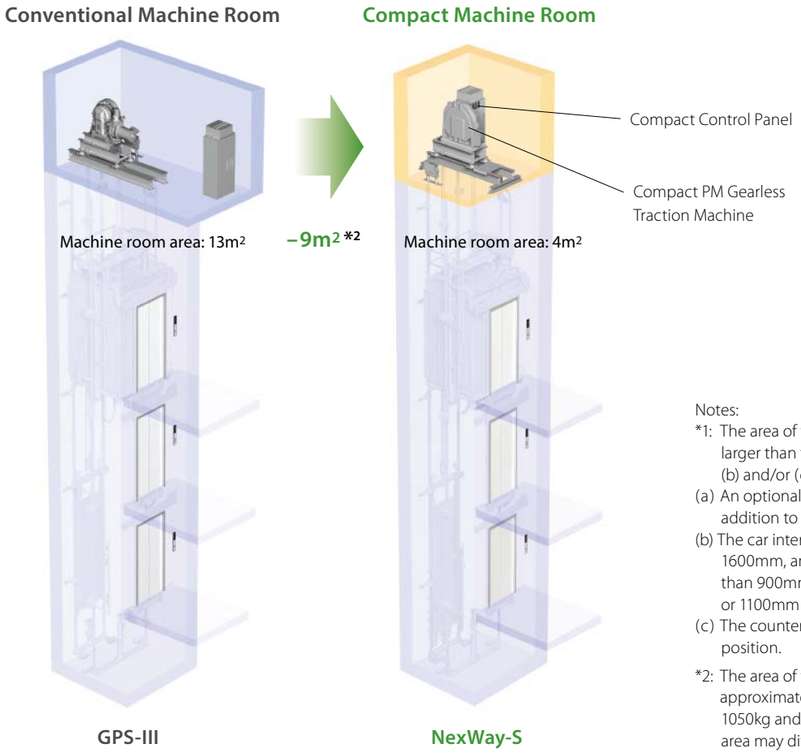


Compact Machine Room

SPACE-SAVING

Through the development of the Compact Gearless Traction Machine and Compact Control Panel, Mitsubishi Electric has successfully reduced the machine room area to that of hoistway*1, where the machine room used to require an area twice as large as that of hoistway. It offers the most advanced elevator features without requiring a large machine room, thus maximizing the use of building space.

Example of Space-saving



Notes:
*1: The area of the machine room may have to be larger than that of the hoistway in case of (a), (b) and/or (c) below.
(a) An optional feature that requires a panel(s), in addition to the control panel, is requested.
(b) The car interior width (AA) is less than 1600mm, and the entrance width (JJ) is less than 900mm for 2-panel center opening (CO) or 1100mm for 2-panel side opening (2S).
(c) The counterweight is installed in a side drop position.

*2: The area of the machine room can be reduced approximately 9m^2 when the rated capacity is 1050kg and the rated speed is 1.75m/sec. The area may differ depending on the conditions.

Compact PM Gearless Traction Machine

Mitsubishi Electric was the first company to replace induction motors with its highly sophisticated PM (permanent magnet) motors for high-speed and super high-speed elevators.

The extremely thin PM motor manufactured using Mitsubishi Electric's unique stator core technology –Joint-lapped Core* in Permanent Magnet (PM) Motor– has dramatically reduced not only the size of traction machines but also energy consumption.

Furthermore, the PM motor suppresses harmonic noise and torque ripple, providing greater riding comfort.

Note: *Please refer to page 4 for details.

Compact Control Panel

The control panel that drives the PM motor has also been reduced in size. Incorporating the most advanced, low-loss IGBT (Insulated Gate Bipolar Transistor) into an optimal design, the power unit has decreased in size significantly, making the control panel itself smaller than previous models. The functions and performance of this Compact Control Panel remain unchanged.

The VVVF Inverter Control delivers smooth, high-precision control of the traction machine. A combination of these state-of-the-art components contributes to significant power savings, while achieving the desired functions and performance of the control panel.

Group Control

EFFICIENT TRANSPORTATION

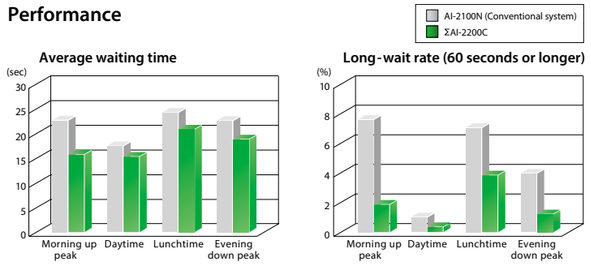
Mitsubishi Electric's breakthrough AI Neural Network* technology in elevator control enhances transport efficiency and reduces passenger waiting time through optimum car allocation, which allows elevators to use energy effectively. Two basic group control systems offer a variety of innovative group control features.

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

Group control systems	Suitable building size	Number of cars in a group
ΣAI-22 system	Small to medium	3 to 4 cars
ΣAI-2200C system	Large (Especially buildings with dynamic traffic conditions)	3 to 8 cars

The features introduced on these pages are applicable to ΣAI-2200C only. Please refer to page 13 and 14, and the ΣAI-2200C brochure for other features and details.

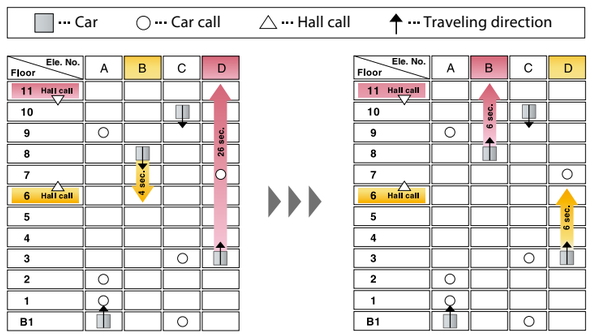
Performance



Cooperative Optimization Assignment

Forecasts a near-future hall call to reduce long waits

When a hall call is registered, the algorithm assumes 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.



AI-2100N (Conventional system)
[A hall call is registered at 6th Fl.]
Allocates the closest car B.
[Another hall call is soon registered at 11th Fl.]
Allocates D, resulting in long wait of 26 sec.

ΣAI-2200C (New)
[A hall call is registered at 6th Fl.]
Allocates D, which is moving upward.
[Another hall call is soon registered at 11th Fl.]
Allocates B, which immediately arrives at the floor.

Dynamic Rule-set Optimizer

Selects optimum car allocation through rule-set simulations

Based on real traffic data, passenger traffic is predicted every few minutes. According to the prediction, real-time simulation selects the best rule-set (multiple rules have been set as car allocation patterns), which optimizes transport efficiency.

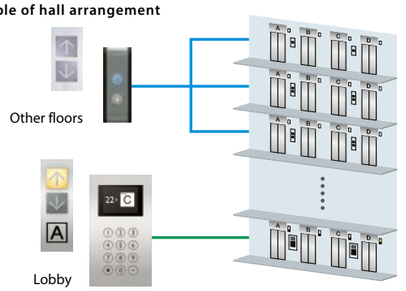
Destination Oriented Prediction System (DOAS-S) (Optional)

Allocates passengers to cars depending on destination floors

When a passenger enters a destination floor at a hall, the hall operating panel immediately indicates which car will serve the floor. Because the destination floor is already registered, the passenger does not need to press a button in the car. Furthermore, dispersing passengers by destination prevents congestion in cars and minimizes their waiting and traveling time.

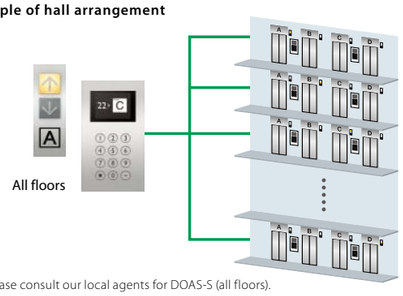
DOAS-S (Lobby floor(s))
DOAS-S hall operating panels are installed only on busy floor(s) such as the lobby while other floors have conventional hall fixtures. This is particularly beneficial for improving the traffic flow leaving from the busy floor. It is especially useful in buildings with heavy up-peak traffic.

Example of hall arrangement



DOAS-S (All floors)
DOAS-S hall operating panels are installed on all floors. Cars receive destination information from all floors to provide the best service for more complex traffic conditions throughout the day.

Example of hall arrangement



Please consult our local agents for DOAS-S (all floors).

Standard Design

Car

Ceiling: S00

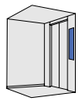
Car Design Example

Walls — SUS-HL
Transom panel — SUS-HL
Doors — SUS-HL
Front return panels — SUS-HL
Kickplate — Aluminum
Flooring — PR803
Car operating panel — CBV1-C760

Ceiling: Painted steel sheet (Y033)
with a milky white resin lighting cover
Lighting: Central lighting

Car operating panel

For front return panel



Yellow-orange lighting

Tactile button

CBV1-C760 *1

Segment LED indicators *2
Tactile button with yellow-orange lighting

Hall

Narrow Jamb: E-102

Hall Design Example

Jamb — SUS-HL
Doors — SUS-HL
Hall position indicator and button — PIV1-A710N Boxless

Hall position indicators and buttons

Metal-like resin faceplates

PIV1-A710N Boxless　PIV1-A720N Boxless

Segment LED indicators *2
Tactile button with yellow-orange lighting

Actual colors may differ slightly from those shown.
Please refer to the design guide for details and other designs.

Notes:
*1: Maximum number of floors: 22 floors
*2: Some letters of the alphabets are not available. Please consult our local agents for details.

Features (1/2)

Feature	Description	1C-2BC	2C-2BC	3C to 4C ΣAI-22	3C to 8C ΣAI-2200C
■ EMERGENCY OPERATIONS AND FEATURES					
Mitsubishi Emergency Landing Device (MELD)	Upon power failure, a car equipped with this function automatically moves and stops at the nearest floor using a rechargeable battery, and the doors open to facilitate the safe evacuation of passengers. (Maximum allowable floor to floor distance: 12m [Rated speed 1.0m/sec], 20m [Rated speed 1.6m/sec or faster])	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Operation by Emergency Power Source — Automatic/Manual (OEPS)	Upon power failure, predetermined car(s) use the building's emergency power supply to move to a specified floor, where the doors then open to facilitate the safe evacuation of passengers. After all cars have arrived, predetermined car(s) resume normal operation.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Fire Emergency Return (FER)	Upon activation of a key switch or a building's fire sensors, all calls are canceled, all cars immediately return to a specified evacuation floor and the doors open to facilitate the safe evacuation of passengers.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Firefighters' Emergency Operation (FE)	During a fire, when the fire operation switch is activated, the car calls of a specified car and all hall calls are canceled and the car immediately returns to a predetermined floor. The car then responds only to car calls which facilitate fire-fighting and rescue operations.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Earthquake Emergency Return (EER-P/EER-S)	Upon activation of primary and/or secondary wave seismic sensors, all cars stop at the nearest floor, and park there with the doors open to facilitate the safe evacuation of passengers.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Supervisory Panel (WP)	Each elevator's status and operation can be remotely monitored and controlled through a panel installed in a building's supervisory room, etc.	Ⓞ	Ⓞ	Ⓞ	Ⓞ #1
MelEye (WP-W) Mitsubishi Elevators & Escalators Monitoring and Control System	Each elevator's status and operation can be monitored and controlled using an advanced Web-based technology which provides an interface through personal computers. Special optional features such as preparation of traffic statistics and analysis are also available.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Emergency Car Lighting (ECL)	Car lighting which turns on immediately when power fails, providing a minimum level of lighting within the car. (Choice of dry-cell battery or trickle-charge battery.)	Ⓞ	Ⓞ	Ⓞ	Ⓞ
■ DOOR OPERATION FEATURES					
Door Sensor Self-diagnosis (DODA)	Failure of non-contact door sensors is checked automatically, and if a problem is diagnosed, the door-close timing is delayed and the closing speed is reduced to maintain elevator service and ensure passenger safety.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Automatic Door Speed Control (DSAC)	Door load on each floor, which can depend on the type of hall door, is monitored to adjust the door speed, thereby making the door speed consistent throughout all floors.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Automatic Door-open Time Adjustment (DOT)	The time doors are open will automatically be adjusted depending on whether the stop was called from the hall or the car, to allow smooth boarding of passengers or loading of baggage.	—	—	—	Ⓢ
Reopen with Hall Button (ROHB)	Closing doors can be reopened by pressing the hall button corresponding to the traveling direction of the car.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Repeated Door-close (RDC)	Should an obstacle prevent the doors from closing, the doors will repeatedly open and close until the obstacle is cleared from the doorway.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Door Nudging Feature — With Buzzer (NDG)	A buzzer sounds and the doors slowly close when they have remained open for longer than the preset period. With AAN-B or AAN-G, a beep and voice guidance sound instead of the buzzer.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Door Load Detector (DLD)	When excessive door load has been detected while opening or closing, the doors immediately reverse.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Safety Ray (SR) — 1-Beam	One or two infrared-light beams cover the full width of the doors as they close to detect passengers or objects. (Cannot be combined with the multi-beam door sensor or MBSS feature.)	Ⓢ #2	Ⓢ #2	Ⓢ #2	Ⓢ #2
Safety Ray (SR) — 2-Beam		Ⓞ	Ⓞ	Ⓞ	Ⓞ
Extended Door-open Button (DKO-TB)	When the button inside a car is pressed, the doors will remain open longer to allow loading and unloading of baggage, a stretcher, etc.	Ⓞ	Ⓞ	Ⓞ	—
Safety Door Edge (SDE) — One side	Sensitive door edge(s) detect passengers or objects during door closing. (Cannot be combined with the MBSS feature.)	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Safety Door Edge (SDE) — Both sides (CO doors only)		Ⓞ #3	Ⓞ #3	Ⓞ #3	Ⓞ #3
Electronic Doorman (EDM)	Door open time is minimized using safety ray(s) or multi-beam door sensors that detect passengers boarding or exiting.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Multi-beam Door Sensor	Multiple infrared-light beams cover a door height of approximately 1800mm to detect passengers or objects as the doors close. (Cannot be combined with the SR or MBSS feature.)	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Multi-beam Door Sensor — Signal Type (MBSS)	Multiple infrared-light beams cover a door height of approximately 1800mm to detect passengers or objects as the doors close. Additionally, LED lights on the door edge indicate the door opening/closing and the presence of an obstacle between the doors. (Cannot be combined with any of the following features: SDE, SR or multi-beam door sensor.)	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Hall Motion Sensor (HMS)	Infrared-light is used to scan a 3D area near open doors to detect passengers or objects.	Ⓞ	Ⓞ	Ⓞ	Ⓞ

Notes:
- 1C-2BC (1-car selective collective) - Standard, 2C-2BC (2-car group control) - Optional
  ΣAI-22 (3 to 4-car group control system) - Optional, ΣAI-2200C (3 to 8-car group control system) - Optional
- Ⓢ = Standard　Ⓞ = Optional　— = Not applicable
- #1: Please consult our local agents for the production terms, etc.
- #2: Optional feature when the rated capacity is from 1600kg to 2500kg.
- #3: Standard feature when the rated capacity is from 1600kg to 2500kg.

Features (2/2)

Feature	Description	1C-2BC	2C-2BC	3C to 4C ΣAI-22	3C to 8C ΣAI-2200C
■ OPERATIONAL AND SERVICE FEATURES					
Safe Landing (SFL)	If a car has stopped between floors due to some equipment malfunction, the controller checks the cause, and if it is considered safe to move the car, the car will move to the nearest floor at a low speed and the doors will open.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Next Landing (NXL)	If the elevator doors do not open fully at a destination floor, the doors close, and the car automatically moves to the next or nearest floor where the doors will open.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Continuity of Service (COS)	A car which is experiencing trouble is automatically withdrawn from group control operation to maintain overall group performance.	—	Ⓢ	Ⓢ	Ⓢ
Overload Holding Stop (OLH)	A buzzer sounds to alert the passengers that the car is overloaded. The doors remain open and the car will not leave that floor until enough passengers exit the car.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Automatic Hall Call Registration (FSAT)	If one car cannot carry all waiting passengers because it is full, another car will automatically be assigned for the remaining passengers.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Car Call Canceling (CCC)	When a car has responded to the final car call in one direction, the system regards remaining calls in the other direction as mistakes and clears them from the memory.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Car Fan Shut Off — Automatic (CFO-A)	If there are no calls for a specified period, the car ventilation fan will automatically turn off to conserve energy. Please refer to page 4.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Car Light Shut Off — Automatic (CLO-A)	If there are no calls for a specified period, the car lighting will automatically turn off to conserve energy. Please refer to page 4.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Backup Operation for Group Control Microprocessor (GCBK)	An operation by car controllers which automatically maintains elevator operation in the event that a microprocessor or transmission line in the group controller has failed.	—	Ⓢ	Ⓢ	Ⓢ
Independent Service (IND)	Exclusive operation where a car is withdrawn from group control operation for independent use, such as maintenance or repair, and responds only to car calls.	Ⓢ	Ⓢ	Ⓢ	Ⓢ
Automatic Bypass (ABP)	A fully-loaded car bypasses hall calls in order to maintain maximum operational efficiency.	Ⓞ	Ⓢ	Ⓢ	Ⓢ
False Call Canceling — Automatic (FCC-A)	If the number of registered car calls does not correspond to the car load, all calls are canceled to avoid unnecessary stops.	Ⓞ	Ⓞ	Ⓞ	Ⓢ
False Call Canceling — Car Button Type (FCC-P)	If the wrong car button is pressed, it can be canceled by quickly pressing the same button again twice.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Out-of-service-remote (RCS)	With a key switch on the supervisory panel, etc., a car can be called to a specified floor after responding to all car calls, and then automatically be taken out of service.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Non-service Temporary Release for Car Call — Card Reader Type (NSCR-C)	To enhance security, car calls for desired floors can be registered only by placing a card over a card reader. This function is automatically deactivated during emergency operation.	Ⓞ#1	Ⓞ#1	Ⓞ#1	Ⓞ#1
Secret Call Service (SCS-B)	To enhance security, car calls for desired floors can be registered only by entering secret codes using the car buttons on the car operating panel. This function is automatically deactivated during emergency operation.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Non-service to Specific Floors — Car Button Type (NS-CB)	To enhance security, service to specific floors can be disabled using the car operating panel. This function is automatically deactivated during emergency operation.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Non-service to Specific Floors — Switch/Timer Type (NS/NS-T)	To enhance security, service to specific floors can be disabled using a manual or timer switch. This function is automatically deactivated during emergency operation.	Ⓞ	Ⓞ#1	Ⓞ	Ⓞ
Out-of-service by Hall Key Switch (HOS/HOS-T)	For maintenance or energy-saving measures, a car can be taken out of service temporarily with a key switch (with or without a timer) mounted in a specified hall.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Return Operation (RET)	Using a key switch on the supervisory panel, a car can be withdrawn from group control operation and called to a specified floor. The car will park on that floor with the doors open, and not accept any calls until independent operations begin.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Attendant Service (AS)	Exclusive operation where an elevator can be operated using the buttons and switches located in the car operating panel, allowing smooth boarding of passengers or loading of baggage.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Variable Traveling Speed Elevator System (VSE)	According to the number of passengers in the car, the car travels faster than the rated speed. Please refer to page 5 and 6.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Regenerative Converter (PCNV)	For energy conservation, power regenerated by a traction machine can be used by other electrical systems in the building. Please refer to page 3.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
■ GROUP CONTROL FEATURES					
Energy-saving Operation — Number of Cars (ESO-N)	To save energy, the number of service cars is automatically reduced to some extent, but not so much that it adversely affects passenger waiting time. Please refer to page 4.	—	—	Ⓞ	Ⓢ
Destination Oriented Prediction System (DOAS-S)	When a passenger enters a destination floor at a hall, the hall operating panel indicates which car will serve the floor. The passenger does not need to press a button in the car. Dispersing passengers by destination prevents congestion in the cars and minimizes their waiting and traveling time. (Cannot be combined with some features. Please consult our local agents for details.) Please refer to page 10.	—	—	—	Ⓞ#2
Intense Up Peak (IUP)	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 closing, etc. are controlled based on predicted traffic data.	—	—	—	Ⓞ
Up Peak Service (UPS)	Controls the number of cars to be allocated to the lobby floor, as well as the car allocation timing, in order to meet increased demand for upward travel from the lobby floor during office starting time, hotel check-in times, etc., and minimize passenger waiting time.	—	—	Ⓞ	Ⓞ
Down Peak Service (DPS)	Controls the number of cars to be allocated and the timing of car allocation in order to meet increased demand for downward travel during office leaving time, hotel check-out time, etc. to minimize passenger waiting time.	—	—	Ⓞ	Ⓞ
Main Floor Parking (MFP)	An available car always parks on the main (lobby) floor with the doors open/closed (China only).	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Forced Floor Stop (FFS)	All cars in a bank automatically make a stop at a predetermined floor on every trip without being called.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Special Floor Priority Service (SFPS)	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 indicators.)	—	—	Ⓞ#1	Ⓞ
Closest-car Priority Service (CNPS)	A function to give priority allocation to the car closest to the floor where a hall call button has been pressed, or to reverse the closing doors of the car closest to the pressed hall call button on that floor. (Cannot be combined with hall position indicators.)	—	—	Ⓞ#1	Ⓞ
Light-load Car Priority Service (UCPS)	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 indicators.)	—	—	Ⓞ#1	Ⓞ
Special Car Priority Service (SCPS)	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 indicators.)	—	—	Ⓞ#1	Ⓞ
Congested-floor Service (CFS)	The timing of car allocation and the number of cars to be allocated to floors where meeting rooms or ballrooms exist and the traffic intensifies for short periods of time are controlled according to the detected traffic density data for those floors.	—	—	Ⓞ	Ⓞ
Bank-separation Operation (BSO)	Hall buttons and the cars called by each button can be divided into several groups for independent group control operation to serve special needs or different floors.	—	Ⓞ#1	Ⓞ	Ⓞ
VIP Operation (VIP-S)	A specified car is withdrawn 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 will then respond only to car calls.	—	Ⓞ#1	Ⓞ	Ⓞ
Lunchtime Service (LTS)	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 for each car and the door opening and closing timing are all controlled based on predicted data.	—	—	Ⓞ	Ⓞ
Main Floor Changeover Operation (TFS)	This feature is effective for buildings with two main (lobby) floors. The floor designated as the "main floor" in a group control operation can be changed as necessary using a manual switch.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
■ SIGNAL AND DISPLAY FEATURES					
Flashing Hall Lantern (FHL)	A hall lantern, which corresponds to a car's service direction, flashes to indicate that the car will soon arrive.	Ⓞ	Ⓞ	Ⓞ	Ⓢ
Basic Announcement (AAN-B)	A synthetic voice (and/or buzzer) alerts passengers inside a car that elevator operation has been temporarily interrupted by overloading or a similar cause. (Voice available only in English.)	Ⓞ#3	Ⓞ#3	Ⓞ#3	Ⓢ
Car Arrival Chime — Car (AECC)	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.)	Ⓞ	Ⓞ	Ⓞ	—
Car Arrival Chime — Hall (AECH)		Ⓞ	Ⓞ	Ⓞ	Ⓢ
Sonic Car Button — Click Type (ACB)	A click-type car button which emits an electronic beep sound when pressed to indicate that the call has been registered.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Immediate Prediction Indication (AIL)	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.	—	—	Ⓞ	Ⓞ
Second Car Prediction (TCP)	When a hall is crowded to the extent that one car cannot accommodate all waiting passengers, a hall lantern will light up to indicate the next car to serve the hall.	—	—	—	Ⓞ
Voice Guidance System (AAN-G)	Information on elevator service such as the current floor or service direction is given to the passengers inside a car. (Voice guidance available only in English.)	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Auxiliary Car Operating Panel (ACS)	An additional car control panel which can be installed for large-capacity elevators, heavy-traffic elevators, etc.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Inter-communication System (ITP)	A system which allows communication between passengers inside a car and the building personnel.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Car LCD Position Indicator (CID-S)	This 5.7-inch LCD for car operating panels shows the date and time, car position, travel direction and elevator status messages.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Hall LCD Position Indicator (HID-S)	This 5.7-inch LCD for elevator halls shows the date and time, car position, travel direction and elevator status messages.	Ⓞ	Ⓞ	Ⓞ	—
Car Information Display (CID)	This LCD (10.4- or 15-inch) for car front return panels shows the date and time, car position, travel direction and elevator status messages.	Ⓞ	Ⓞ	Ⓞ	Ⓞ
Hall Information Display (HID)	This LCD (10.4- or 15-inch) for elevator halls shows the date and time, car position, travel direction and elevator status messages.	Ⓞ	Ⓞ	Ⓞ	—

Notes: • 1C-2BC (1-car selective collective) - Standard, 2C-2BC (2-car group control) - Optional
ΣAI-22 (3 to 4-car group control system) - Optional, ΣAI-2200C (3 to 8-car group control system) - Optional
• Ⓢ = Standard Ⓞ = Optional — = Not applicable
• #1: Please consult our local agents for the production terms, etc.
• #2: When DOAS-S is applied, SR or multi-beam door sensor should be installed.
• #3: Standard feature when the rated capacity is from 1600kg to 2500kg.

Basic Specifications (750kg to 1350kg)

Horizontal Dimensions 1-Door 1-Gate

	Code number	Number of persons	Rated capacity (kg)	Door type	Counter-weight position	Car internal dimensions (mm) AAxBB	Entrance width (mm) JJ	Minimum hoistway dimensions (mm) AHxBH		
								Rated speed (m/sec)		
								1.0/1.6/1.75/2.0/2.5	2.5	3.0 *4
								Travel (m) TR		
								TR≤120	120<TR≤150	TR≤150
EN81-1	P11	11	825	CO	Rear	1400x1350	900	1950x1890	1950x1890	1950x2020
					Side			2160x1700 *1		
	P14	14	1050		Rear	1600x1400		2000x1940	2030x1990	2030x2070
					Side			2290x1740 *1		
				2S		1100x2100		1790x2510		
	P17	17	1275	CO	Rear	2000x1400	1100	2400x1990	2430x1990	2430x2070
					Side			2690x1770 *2		
				2S		1200x2300		1970x2710		
	P18	18	1350	CO	Rear	2000x1500		2400x2090	2430x2090	2430x2170
					Side			2690x1870 *1		
GB code	P10	10	750	CO	Rear	1400x1300	900	1950x1840	1950x1840	1950x1970
					Side			2140x1690 *1		
	P11	11	825		Rear	1400x1350		1950x1890	1950x1890	1950x2020
					Side			2160x1700 *1		
	P12	12	900		Rear	1600x1330		2000x1870	2030x1870	2030x2000
					Side			2290x1690 *1		
	P14	14	1050		Rear	1600x1400		2000x1940	2030x1990	2030x2070
					Side			2290x1740 *1		
					Rear	1800x1350	1000	2200x1890	2230x1940	2230x2020
					Side			2490x1700 *1		
					Rear	1600x1500	900	2000x2040	2030x2090	2030x2170
					Side			2290x1840 *1		
				2S		1100x2100		1790x2510		
	P16	16	1200	CO	Rear	1800x1500	1000	2200x2090	2230x2090	2230x2170
					Side			2490x1870 *1		
					Rear	2000x1350	1100	2400x1940	2430x1940	2430x2020
					Side			2690x1740 *2		
	P17	17	1275		Rear	2000x1400		2400x1990	2430x1990	2430x2070
					Side			2690x1770 *2		
				2S		1200x2300		1970x2710		
	P18	18	1350	CO	Rear	2000x1500		2400x2090	2430x2090	2430x2170
					Side			2690x1870 *1		
					Rear	1800x1680	1000	2200x2270	2230x2270	2230x2350
					Side			2490x2020 *3		

Horizontal Dimensions 1-Door 2-Gate

	Code number	Number of persons	Rated capacity (kg)	Door type	Counter-weight position	Car internal dimensions (mm) AAxBB	Entrance width (mm) JJ	Minimum hoistway dimensions (mm) AHxBH	
								Rated speed (m/sec)	
								1.0	1.6~2.5
								Travel (m) TR	
								TR≤60	TR≤80 or TR≤105
EN81-1 & GB code	P11	11	825	CO	Side	1400x1300	900	2160x1810*2 *6	
	P14	14	1050			1600x1400		2290x1910*1 *6	
				2S		1100x2100		1790x2754*5	
	P17	17	1275	CO		2000x1380	1100	2690x1890*2	
				2S		1200x2250		1970x2904	
	P18	18	1350	CO		2000x1450		2690x1960*1	

[Terms of the table]
- The contents of this table are applied to standard specifications only. Please consult our local agents for other specifications.
- Rated capacity is calculated at 75kg per person, as required by the EN81-1 and GB code.
- CO: 2-panel center opening doors, 2S: 2-panel side sliding doors.
- Minimum hoistway dimensions (AH and BH) shown in the table are after waterproofing of the pit and do not include plumb tolerance.
- Minimum hoistway dimensions (AH and BH) should be increased if fireproof landing door is required.

Notes:
*1: The depth of the machine room becomes larger by 200mm because of the counterweight installed in a side drop position.
*2: The depth of the machine room becomes larger by 300mm because of the counterweight installed in a side drop position.
*3: The depth of the machine room becomes larger by 150mm because of the counterweight installed in a side drop position.
*4: Minimum hoistway dimensions (AH and BH) for the rated speed 3.0 m/sec shown in the table are not applicable to a single hoistway. Please consult our local agents for the single hoistway dimensions.
*5: The width of the machine room becomes larger by 50mm because of the counterweight installed in a side drop position.
*6: The value varies when JJ dimension is 800mm

Vertical Dimensions 1-Door 1-Gate & 1-Door 2-Gate

Rated speed (m/sec)	Maximum travel (m) TR	Maximum number of stops	Counter-weight position	Minimum overhead (mm) OH		Minimum pit depth (mm) PD		Minimum machine room clear height (mm) HM	Minimum floor to floor height (mm)
				Rated capacity (kg)					
				~1050 (kg)	~1350 (kg)	~1050 (kg)	~1350 (kg)		
1.0	60	36	Rear	4210	4310	1360	1400	2200*9	2500*10
			Side						
1.6	80		Side	4380	4480	1390	1430		
	105		Rear						
			Side*1						
1.75	80		Side	4410	4510	1430	1470		
	105		Rear						
			Side*1						
2.0	80		Side	4620	4720	1490*4	1540*5		
	105*1								
	120		Rear						
			Side*3						
2.5	80		Side	4700	4800	1840*7	1890		
	105*2								
	120		Rear						
			Side*3						
	150	50	Rear	4840*6	4810*6	2000*6	2040*6		
3.0*11	100	36	Rear	5150*8	5150	2610*6	2590*6		
	150	50							

Notes:
*1: When the car size is "1100x2100" of code number P14, "1200x2250" or "1200x2300" of code number P17, the maximum height is 105m.
*2: When the car size is "1100x2100" of code number P14 with 1-Door 2-Gate or "1200x2250" of code number P17 with 1-Door 2-Gate, the maximum height is 105m.
*3: When the car size is "1100x2100" of code number P14 with 1-Door 1-Gate or "1200x2300" of code number P17 with 1-Door 1-Gate, the maximum height is 120m.
*4: When the code number is P14, the door type is 2S, the elevator is 1-Door 1-Gate, and the travel exceeds 105m or more but less than 120m, the minimum pit depth requires 1670mm.
*5: When the code number is P17, the door type is 2S, the elevator is 1-Door 1-Gate, and the travel exceeds 105m or more but less than 120m, the minimum pit depth requires 1760mm.
*6: The value varies when the total height (OH + PD + Travel) exceeds 150m or more, please consult our local agents for details.
*7: The value varies when the elevator is 1-Door 1-Gate and maximum travel is 80m, please consult our local agents for details.
*8: The value varies when the total height (OH + PD + Travel) is100m or less, please consult our local agents for details.
*9: Some specifications require more than 2200mm as a minimum machine room height. Please consult our local agents for the appropriate machine room height.
*10: Some specifications require more than 2500mm as a minimum floor height. Please consult our local agents if the floor height is less than entrance height HH + 700mm, and the elevator is 1-Door 2-Gate.
*11: 1-Door 1-Gate only.

Specifications for Variable Traveling Speed Elevator System (Optional)

1-Door 1-Gate & 1-Door 2-Gate

Rated speed (m/sec)	Traveling speeds (m/sec)	Minimum overhead (mm) OH		Minimum pit depth (mm) PD	
		Rated capacity (kg)			
		~1050 (kg)	~1350 (kg)	~1050 (kg)	~1350 (kg)
1.6	1.6/2.0/2.5	4700 *1	4800	1840	1890
1.75	1.75/2.0/2.5				
2.0	2.0/2.5				

[Terms of the table]
- The Variable Traveling Speed Elevator System (VSE) is applicable to the elevators with rated speeds of 1.6m/sec, 1.75m/sec and 2.0m/sec.
- Except minimum overhead and pit depth dimensions (OH and PD), specifications shown in tables, "Horizontal Dimensions" and "Vertical Dimensions", on the page 15 to 16 are applicable to the Variable Traveling Speed Elevator System.

Note:
*1: The value varies when the car size is 1800x1350 and the counterweight is installed in a rear drop position. Please consult our local agents for details.

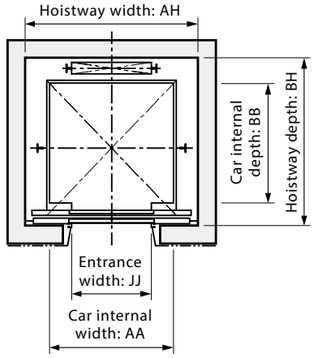
Applicable Standards

The NexWay-S Series-IP/AP Version2 and Series-IP comply with the EN81-1 or GB code.
For details of compliance with other national regulations,
please consult our local agents.

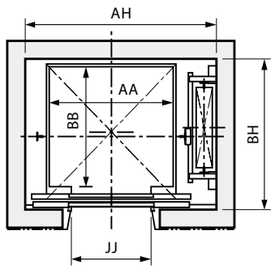
Basic Specifications (750kg to 1350kg)

1-Door 1-Gate

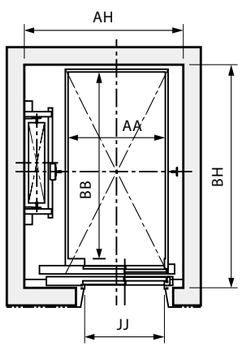
Hoistway Plan



Shown for CO doors
Counterweight rear drop

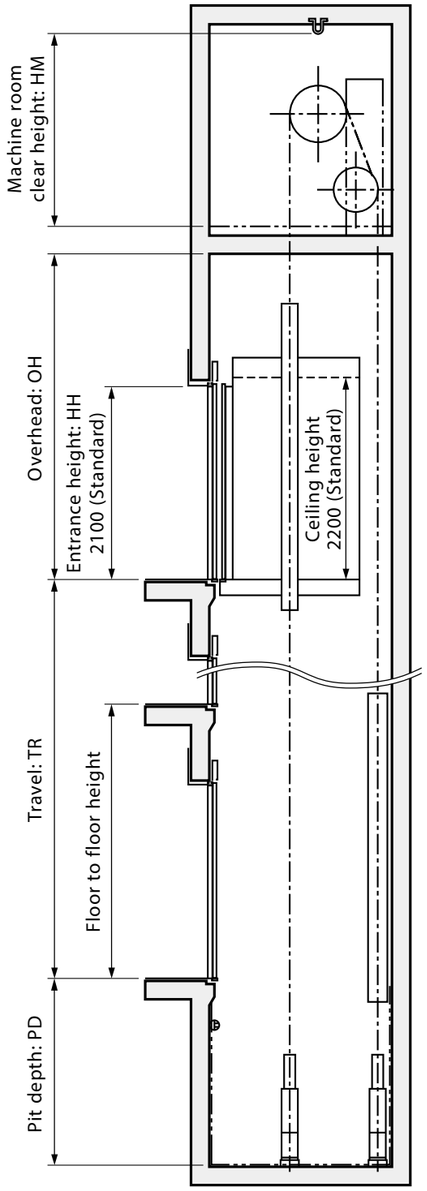


Shown for CO doors
Counterweight side drop



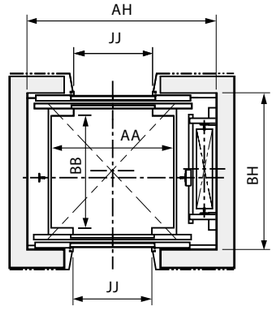
Shown for 2S doors
Counterweight side drop

Hoistway Section

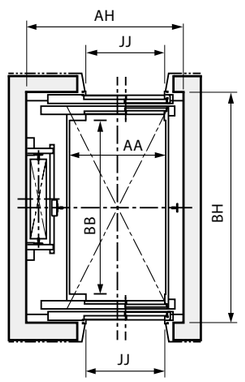


1-Door 2-Gate

Hoistway Plan

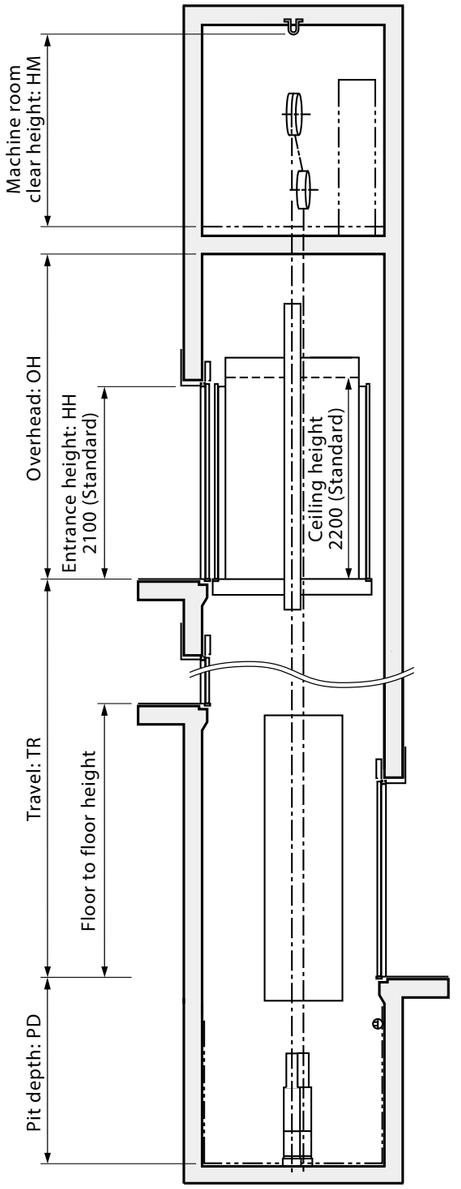


Shown for CO doors
Counterweight side drop



Shown for 2S doors
Counterweight side drop

Hoistway Section



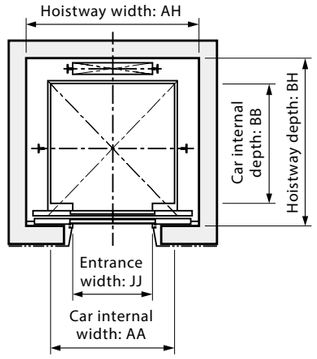
Basic Specifications (1600kg to 2500kg)

Horizontal Dimensions 1-Door 1-Gate

	Code number	Number of persons	Rated capacity (kg)	Door type	Counter-weight position	Car internal dimensions (mm) AAxBB	Entrance width (mm) JJ	Minimum hoistway dimensions (mm) AHxBH
EN81-1	P21	21	1600	CO	Rear	2000x1750	1100	2540x2460
	P24	24	1800			2100x1800	1100	2600x2550
	P27	27	2025			2100x1950	1200	2640x2740
	P30	30	2250			2300x1950	1200	2800x2750
	P33	33	2500			2300x2100	1200	2800x2900
GB code	P21	21	1600			2000x1750	1100	2540x2460
	P24	24	1800			2100x1800	1100	2600x2550
	P27	27	2025			2100x1950	1200	2640x2740
	P30	30	2250			2300x1950	1200	2800x2750
	P33	33	2500			2300x2130	1200	2800x2930

[Terms of the table]
- The contents of this table are applied to standard specifications only. Please consult our local agents for other specifications.
- Rated capacity is calculated at 75kg per person, as required by the EN81-1 and GB code.
- CO: 2-panel center opening doors
- Minimum hoistway dimensions (AH and BH) shown in the table are after waterproofing of the pit and do not include plumb tolerance.
- Minimum hoistway dimensions (AH and BH) should be increased if fireproof landing door is required.

Hoistway Plan



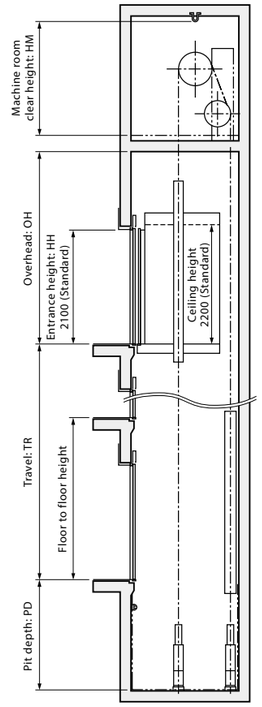
Shown for CO doors
Counterweight rear drop

Vertical Dimensions 1-Door 1-Gate

Rated speed (m/sec)	Maximum travel (m) TR	Maximum number of stops	Counter-weight position	Minimum overhead (mm) OH				Minimum pit depth (mm) PD				Minimum machine room clear height (mm) HM	Minimum floor to floor height (mm)
				Rated capacity (kg)				Rated capacity (kg)					
				1350<Cap.≦1600	1600<Cap.≦1800	1800<Cap.≦2025	2025<Cap.≦2500	1300<Cap.≦1600	1600<Cap.≦1800	1800<Cap.≦2025	2025<Cap.≦2500		
0.75	80	32	Rear	4750	4570	4570	4570	1550	1410	1550	1410	2500*1	2500*2
1.0				4850	4640	4850	4640	1600	1470	1600	1470		
1.6				4900	4730	4900	4730	1600	1480	1600	1480		
1.75				4950	4780	4950	4780	1650	1510	1650	1510		

Notes:
*1: Some specifications require more than 2500mm as a minimum machine room height. Please consult our local agents for the appropriate machine room height.
*2: Some specifications require more than 2500mm as a minimum floor height. Please consult our local agents if the floor height is less than entrance height HH + 700mm, and the elevator is 1-Door 2-Gate.

Hoistway Section



Applicable Standards
The NexWay-S Series-IP complies with the EN81-1 or GB code. For details of compliance with other national regulations, please consult our local agents.

Important Information on Elevator Planning

Work Not Included in Elevator Contract

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

- 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 the walls and floors in the vicinity of the entrance hall after installation has been completed.
- Construction of an illuminated, ventilated and waterproofed elevator hoistway.
- A ladder to the elevator pit.
- The provision of cutting the necessary openings and joists.
- Separate beams, when the hoistway dimensions markedly exceed the specifications, and intermediate beams when two or more elevators are installed.
- All other work related to building construction.
- The machine room power-receiving panel and the electrical wiring for illumination, plus the electrical wiring from the electrical room to the power-receiving panel.
- The laying of conduits and wiring between the elevator pit and the terminating point for the devices installed outside the hoistway, such as the emergency bell, intercom, monitoring and security devices, etc.
- The power consumed in installation work and test operations.
- 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 protection of the work as may be required during the process.
- The provision of a suitable, locked space for the storage of elevator equipment and tools during elevator installation.
- The security system, such as a card reader, connected to Mitsubishi Electric's elevator controller, when supplied by the building owner or general contractor.

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

Elevator Site Requirements

- The temperature of the 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.

ISO 9001 BUREAU VERITAS Certification

ISO 14001 JACO EC98J2017 UKAS ENVIRONMENTAL MANAGEMENT 051

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

ISO 9001 BUREAU VERITAS Certification UKAS QUALITY MANAGEMENT

ISO 14001 BUREAU VERITAS Certification UKAS ENVIRONMENTAL MANAGEMENT

Mitsubishi Elevator Asia Co., Ltd. has acquired ISO 9001 certification from the International Organization for Standardization based on a review of quality management.
The company has also acquired environmental management system standard ISO 14001 certification.

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 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/

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

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