Caring for you, and making you feel comfortable.

HUMAN FRIENDLY

What we are aiming is to fill a building with safe and comfortable products and services, and to make a town even more pleasant for all the people who live, work and visit there. Always caring for you. Always getting close to you.

HUMAN FRIENDLY is the R&D concept conveying our thoughts.

Hitachi Building Systems Co., Ltd.

Contact Address:
Hitachi Group is active in a wide range of business sectors. From the technology and experience built up over many years, come the synergies that feed new innovation. Hitachi has been developing and manufacturing elevators and escalators since 1924. As social demands on elevators change over time, Hitachi’s machine room-less elevator model OUG series ON1, developed in Japan, meets the needs of customers in terms of efficiency, safety, comfort, and space savings. Hitachi is creating a new history for elevators, and for your building.

Creating a New History

- **1932**: First elevator is delivered: freight elevator for Tokyo Electric Co.
- **1968**: 300-m/min. elevator is delivered to Japan’s first skyscraper: Kasumigaseki Building.
- **2003**: 300-m/min. double-deck elevator is delivered: Roppongi Hills Mori Tower, Tokyo.
- **2007**: 480-m/min., 2,850-kg high-rise shuttle elevator is delivered: Tokyo Midtown, Midtown Tower.
- **2008**: World’s largest Ultrahigh-Speed double-deck elevator is delivered: Shanghai World Financial Center.
- **2011**: 600-m/min. Ultrahigh-Speed elevator for the Middle East: Al Hamra Mixed-Use Complex, Kuwait.
- **2012**: High-Speed, large-capacity elevator providing access to Japan’s highest (450 m) observation platform: TOKYO SKYTREE.
- **2016**: Delivery of the Ultrahigh-Speed elevators, with a speed of 1,200 m/min. (20 m/s), to the Guangzhou CTF Finance Centre (530-m tall) in Guangzhou, China.
Four classifications of value we provide for your building

Energy efficiency

- **Reduced energy consumption with standard specifications**
  - Power consumption can be reduced to approximately 1/6.

- **LED lighting**
  - Use of LED lighting reduces the energy consumption by approximately 1/4 and its service life is three times longer compared with fluorescent lighting.

- **Automatic turn-off of car lighting and fan**
  - When the elevator is idle, the lighting and ventilation fan in the elevator are automatically turned off to conserve energy. Energy consumption is reduced by adopting LED lighting for the ceiling and by shortening the time until the lighting and fan turn off.

Comfort

- **Improved riding comfort**
  - Motor control and vibration-absorbing type guide shoes provide a quiet and smooth ride.
  - **Group control systems**
    - Group control systems provide passengers with appropriate guidance and help reduce the probability of long waits.

- **Door signal with multi-beam door sensor**
  - Door signal that tells when the door is going to close for enhanced safety.

- **Micro-leveling**
  - Automatically corrects the elevator landing level when there is a level difference between car and floor.

Safety & Emergency

- **Ion generator**
  - Ion generator works to improve air quality.

- **Automatic rescue device for power failure**
  - When a power failure is detected, the drive power supply switches over to battery power, and the elevator automatically moves to the nearest floor and releases the passengers.

Design

- **LCD indicators**
  - In-car indicator and hall indicator with color LCD are available. They provide a quick overview of the operating status.

- **Car and hall designs**
  - Select the most suitable design from the options available, including ceiling and 3 side walls designs created by Hitachi's designers to match a variety of building types.
Energy efficiency

LED lighting

By adopting LED lighting for all ceiling designs, energy consumption is reduced and service life is prolonged compared with fluorescent lighting.

Power consumption approx. 1/3

<table>
<thead>
<tr>
<th>Power consumption</th>
<th>Fluorescent ceiling lighting</th>
<th>BS-11 (LED)</th>
<th>BS-11 (LED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption</td>
<td>69 W</td>
<td>33 W*2</td>
<td>33 W*2</td>
</tr>
<tr>
<td>Service life</td>
<td>Approx. 12,000 hours</td>
<td>Approx. 40,000 hours*1</td>
<td></td>
</tr>
</tbody>
</table>

By changing the time until the lighting turns off during standby from three minutes to one minute... Power consumption can be reduced to approx. 1/6

Annual illumination duration: Approx. 3,000 hours
Annual power consumption: Approx. 207 kWh/year

*1 These ceilings are not compliant with EN81-20/50 and SS550. In case of EN81-20/50, they can be used if the customer agrees.
*2 Comparing with 10-passenger model with fluorescent ceiling lighting. Results may differ depending on ceiling configurations and dimensions.

Power consumption approx. 1/6

<table>
<thead>
<tr>
<th>Power consumption</th>
<th>Fluorescent ceiling lighting</th>
<th>SL-11 (LED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption</td>
<td>207 W</td>
<td>69 W</td>
</tr>
<tr>
<td>Service life</td>
<td>Approx. 12,000 hours</td>
<td>Approx. 40,000 hours*1</td>
</tr>
</tbody>
</table>

By changing the time until the lighting turns off during standby from three minutes to one minute... Power consumption can be reduced to approx. 1/12

Annual illumination duration: Approx. 3,000 hours
Annual power consumption: Approx. 621 kWh/year

Automatic turn-off of car lighting and fan

When the elevator is idle, the lighting and ventilation fan in the elevator are automatically turned off to conserve energy. Energy consumption is reduced by adopting LED lighting for the ceiling and by shortening the time until the lighting and fan turn off.

Regenerative system

Making use of energy generated by the elevator

Making use of the energy generated by the elevator when traveling downwards with a heavy car load or upwards with a light car load, the traction mechanism acts as a power generator and transmits power back to the electrical network in the building.

Flow of regenerated power

*1 In our model released in 2016, calculation of 30% energy saving is done based on no load in the lift car. The energy savings are calculated theoretically. *2 Differs depending on usage conditions.

- Reduction of power consumption

- Reduction of power consumption

Fluorescent ceiling lighting

BS-11 (LED)

SL-11 (LED)

Energy savings!
FI-600 Group control system

Group control systems help reduce waiting time. Shortening average waiting times and reducing the probability of a long wait1 are the most important tasks of the group control system of an elevator. Hitachi continues to develop control algorithms to meet these needs. The FI-600 employs a new type of algorithm, future reference trajectory control. It helps reduce the probability of long waits.

*1 “Long wait” refers to a waiting time of over 60 seconds.

Summary of future reference trajectory control

FIBEE Destination floor reservation system

FIBEE leads passengers more reliably to their destination floors. Hitachi has added a destination floor reservation system to the group control system. After each passenger registers their destination floor at the hall, they are informed ahead of time of the elevator they will use. This helps to reduce congestion in the hall.

Using elevators with FIBEE

1. Passenger registers the desired destination floor through the registration device.
2. The registration device indicates the elevator that has been assigned.
3. Passenger moves to the front of the assigned elevator and waits.
4. Passenger enters the elevator and will be taken to the destination floor.

Destination floor registration device

Conventional group control

Destination floor reservation system

Ion generator

Ion generator improves air quality.

An ion generator manufactured in Japan is mounted on top of the car. Nano-sized electrostatic atomized water particles work to improve air quality.

Elevator interior deodorizing test

With release of ionized particles

Reduction of odor intensity to less than rank 1 after 40 minutes

Deodorizing method: Release of ionized particles

Note: Results after 40 minutes in test performed in (13-passenger) elevator measuring approx. 5.5 m high. Results may differ from those in actual usage space.

About ionized particles

The ionized particles released into the air come into contact with odor molecules and the OH radicals break down substances that cause odor.2 Also, the ionized particles come into contact with allergens (pollen and mites), bacteria,3 and viruses,1 and the OH radicals denature their protein and suppress them.


3. Results after 40 minutes in test performed in (13-passenger) elevator measuring approx. 5.5 m high. Results may differ from those in actual usage space.

Note: 1 nm (nanometer) is one billionth of a meter.

Improved riding comfort

Measures such as control to suppress motor vibration and vibration-absorbing type guide shoes are utilized. These reduce noise and vibration when the elevator is in motion for a smooth and quiet ride.
Safety & Emergency

Door signal with multi-beam door sensor (Closing door alert)

The door signal flashes to notify passengers when the door is starting to close.
The multi-beam door sensor is backed by a door signal that notifies passengers when the door is going to close. The LED on the edge of the door starts to blink about one second before the door starts to close. If the door close button in the elevator car is pressed, the LED starts blinking at the same time as the door starts to close.

Micro-leveling

Automatic correction of elevator landing level when there is a level difference between car and floor.
This improves safety when getting on and off the elevator.

Automatic rescue device for power failure

In a power failure, the elevator switches to battery operation, and moves to the nearest floor.
When a power failure is detected, the drive power supplies over to battery power, and the elevator automatically moves to the nearest floor and releases the passengers for safety. This lessens the worry of being trapped in the elevator that has stopped due to a power outage in a building with no private generator equipment.

Induction loop for hearing devices

This function allows passengers with impaired hearing to use the elevator with confidence. If it is necessary to use the intercom in the elevator to communicate with people at other locations in an emergency, the passenger can select the "Telecoil mode" on their hearing aid or cochlear implant to have the audio signal from the intercom conveyed to them directly. The induction loop for hearing devices is an auxiliary device of the intercom that outputs audio signals magnetically, separately from the usual audio output. The induction loop for hearing devices covers an effective range of 0.5 meters from the operating panel, between 1.2 to 1.7 meters above the floor. Operating panel equipped with this function bears the "Induction loop" symbol.

Other locations (e.g. Control room)

When this function is applied, the “Induction loop” symbol and the indicator light of the “Bell-shaped” symbol and the “Telephone-shaped” symbol are installed on the operating panel.

"Induction loop” symbol:
Not illuminated (Only mark)
"Bell-shaped” symbol:
The yellow graphical symbol blinks from the initiation of the alarm until the end of the alarm.
"Telephone-shaped” symbol:
The green graphical symbol illuminates during voice communication.

Note: Induction loop for hearing devices is used in combination with EN81-20/50.
Note: The illustration is an example.
Ceiling designs (Silkscreen print)

By applying silk screening to the ceilings of SL-11 and DX-101, Hitachi ceiling designs coordinate your elevator with the building decor.

**SL-11**

- SL-11-Oriental mosaic
- SL-11-Cube
- SL-11-Kaleidoscope

**DX-101**

- DX-101-Lattio
- DX-101-Geometric star
- DX-101-Arabesque

* These ceilings are not compliant with EN81-20/50 and SS550. In case of EN81-20/50, they can be used if the customer agrees.

Button designs

A wide range of buttons harmonizes with various building designs.

**High-contrast plastic buttons**

High-contrast and raised characters make numbers more legible. Button surfaces are rounded to make it easier to wipe them clean.

**Stainless steel buttons**

Various stainless steel buttons are available.

**Interphone button**

Designed for easy use in an emergency.

In-car LCD indicator

The LCD indicator makes it easy to find necessary information.

An in-car indicator with an 8.4-inch color LCD is available. The LCD with wide angle improves visibility. It displays indications of the operating status, such as earthquake emergency operation, to the user.

The LCD indicator makes it easy to find necessary information.

**Hall LCD indicator**

The hall LCD indicator displays abundant information in the hall.

A hall indicator with a 6.2-inch color LCD is available. Like the in-car LCD indicator, it displays indications of the operating status.

**Design variations**

Pressing a button that is designed for use during an emergency will stop the elevator immediately and open the doors. It will also activate an alarm and alert the building's emergency services.

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Designed for easy use in an emergency.
Recommended designs

Car designs

Choose from a wide range of design options to create an elevator look that matches your building.

Recommended designs

Samples of designs created by a designer.

<table>
<thead>
<tr>
<th>Stylish design</th>
<th>Chic design</th>
<th>Luxurious design</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Office</td>
<td>• Hotel</td>
<td>• Commercial building</td>
</tr>
</tbody>
</table>

Ceiling:
- SL-series (SL-11-Kaleidoscope)*1
  - 3 side walls: Decorated steel (Minamo white)
  - Car door: Decorated steel (Minamo white)

Front return panel/Transom:
- Stainless steel hairline

Floor:
- Vinyl tile (S 442M)*2

Indicator:
- LCD (8.4-inches)

Car operating panel:
- Stainless steel hairline

Stylish design (for office)

Specifications:
- Ceiling: SL-series (SL-11-Kaleidoscope)*1
- 3 side walls: Decorated steel (Minamo white)
- Car door: Decorated steel (Minamo white)

Chic design:
- Ceiling: SL-series (SL-12)
  - 3 side walls: Decorated steel (Mocha wood)
  - Car door: Decorated steel (Mocha wood)

Front return panel/Transom:
- Stainless steel hairline

Floor:
- Vinyl tile (S 442M)*2

Indicator:
- LCD (8.4-inches)

Car operating panel:
- Stainless steel hairline

Stylish design (for residence)

Specifications:
- Ceiling: DX-series (DX-104)
- 3 side walls: Decorated steel (Mocha wood)
- Car door: Colored stainless steel hairline

Chic design:
- Ceiling: DX-series (DX-11)
  - 3 side walls: Laminated plastic sheet (201NT)*1
  - Car door: Colored stainless steel hairline

Front return panel:
- Stainless steel hairline

Floor:
- Vinyl tile (S 442M)*2

Indicator:
- LCD (8.4-inches)

Car operating panel:
- Stainless steel hairline

Stylish design (for hotel)

Specifications:
- Ceiling: EX-series (EX-11)
  - 3 side walls: Decorated steel (Craft wood)
  - Car door: Stainless steel non-directional hairline

Chic design:
- Ceiling: DX-series (DX-101-Lattice)*1
  - 3 side walls: Colored stainless steel hairline
  - Car door: Colored stainless steel hairline

Front return panel/Transom:
- Stainless steel hairline

Floor:
- Vinyl tile (S 442M)*2

Indicator:
- LCD (8.4-inches)

Car operating panel:
- Stainless steel hairline

Note: Illustrations show simulated views of elevator interiors. Actual illumination brightness and colors may differ.

*1: These ceilings and LPS are not compliant with EN81-20/50 and SS550. In case of EN81-20/50, they can be used if the customer agrees.

*2: The tile is not compliant with SS550.

*1: These ceilings and LPS are not compliant with EN81-20/50 and SS550. In case of EN81-20/50, they can be used if the customer agrees.

*2: The tile is not compliant with SS550.
### Stylish design (for commercial building)

**Specifications**

- **Ceiling**: DX-series (DX-101-Lattice)*
- **3 side walls**: Colored stainless steel hairline
- **Car door**: Colored stainless steel hairline
- **Front return panel/Transom**: Stainless steel mirror
- **Floor**: Vinyl tile (S 660M)*
- **Indicator**: LCD (8.4-inches)
- **Car operating panel**: Stainless steel mirror

**Note:** Illustrations show simulated views of elevator interiors. Actual illumination brightness and colors may differ.

*1 The ceiling is not compliant with EN81-20/50 and SS550. In case of EN81-20/50, it can be used if the customer agrees.
*2 The tile is not compliant with SS550.

### Chic design (for hotel)

**Specifications**

- **Ceiling**: DL-series (DL-11)
- **3 side walls**: Laminated plastic sheet (S601/10)*
- **Car door**: Colored stainless steel hairline
- **Front return panel/Transom**: Colored stainless steel hairline
- **Floor**: Vinyl tile (S657M)*
- **Indicator**: LCD (8.4-inches)
- **Car operating panel**: Colored stainless steel hairline

**Note:** Illustrations show simulated views of elevator interiors. Actual illumination brightness and colors may differ.

* The ceiling is not compliant with EN81-20/50 and SS550. In case of EN81-20/50, it can be used if the customer agrees.
*2 The tile is not compliant with SS550. In case of SS550, it can be used if the customer agrees.

### Chic design (for residential building)

**Specifications**

- **Ceiling**: SL-series (SL-12)
- **3 side walls**: Decorated steel (Mocha wood)
- **Car door**: Decorated steel (Mocha wood)
- **Front return panel/Transom**: Stainless steel hairline
- **Floor**: Vinyl tile (S 673M)*
- **Indicator**: LCD (8.4-inches)
- **Car operating panel**: Stainless steel hairline

**Note:** Illustrations show simulated views of elevator interiors. Actual illumination brightness and colors may differ.

*1 The tile is not compliant with SS550.
*2 The LPS is not compliant with EN81-20/50 and SS550. In case of EN81-20/50, it can be used if the customer agrees.
### Hall designs

**Luxurious design (for commercial building)**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>EX-series (EX-11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling</td>
<td></td>
</tr>
<tr>
<td>3 side walls</td>
<td>Decorated steel (Craft wood)</td>
</tr>
<tr>
<td>Car door</td>
<td>Stainless steel non-directional hairline</td>
</tr>
<tr>
<td>Foot (front panel)</td>
<td>Stainless steel non-directional hairline</td>
</tr>
<tr>
<td>Floor</td>
<td>Vinyl tile (S 629 M)</td>
</tr>
<tr>
<td>Indicator</td>
<td>LCD (8.4-inches)</td>
</tr>
<tr>
<td>Car operating panel</td>
<td>Stainless steel non-directional hairline</td>
</tr>
</tbody>
</table>

*1 The ceiling is not compliant with EN81-20/50 and SS550. In case of EN81-20/50, it can be used if the customer agrees.

*2 The tile is not compliant with SS550.

---

**Luxurious design (for hotel)**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
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<tr>
<td>Floor</td>
<td>Vinyl tile (S 444 M)</td>
</tr>
<tr>
<td>Indicator</td>
<td>Dot-matrix</td>
</tr>
<tr>
<td>Car operating panel</td>
<td>Colored stainless steel hairline</td>
</tr>
</tbody>
</table>

**Jamb**

- Stainless steel hairline

**Hall door**

- Stainless steel hairline

**Indicator**

- LCD

---

### Option

**AS-1X (2PCO)**

- **Jamb**: Stainless steel hairline
- **Hall door**: Stainless steel hairline
- **Indicator**: Dot-matrix

**SS-1X (2PCO)**

- **Jamb**: Stainless steel hairline
- **Hall door**: Stainless steel hairline
- **Indicator**: Dot-matrix

**TS-1X (2PCO)**

- **Jamb**: Stainless steel hairline
- **Hall door**: Stainless steel hairline
- **Indicator**: Dot-matrix

**SL-2X (2PCO)**

- **Jamb**: Stainless steel hairline
- **Hall door**: Stainless steel hairline
- **Indicator**: LCD

**TL-2X (2PCO)**

- **Jamb**: Stainless steel hairline
- **Hall door**: Stainless steel hairline
- **Indicator**: LCD

---

Note: Illustrations show simulated views of elevator interiors. Actual illumination brightness and colors may differ.
Ceilings and Handrails

**Ceilings**

**Standard**

BS-11

Center: Milky white acrylic
Surrounding: Decorated steel (White)

**Select**

SL-11

Entire surface: Milky white acrylic
Surrounding: Extruded aluminum

SL-12

Entire surface: Painted steel (White)
Illumination slits: Painted steel (Black)
Surrounding: Extruded aluminum

**Premium**

EX-11

Entire surface: Glass fiber cloth

**Variations of SL-11**

- **Silkscreen print**
  - SL-11-Oriental mosaic
  - SL-11-Cube
  - SL-11-Kaleidoscope

**Variations of DX-101**

- **Silkscreen print**
  - DX-101-Lattice
  - DX-101-Geometric star
  - DX-101-Arabesque

**Handrails**

- **Round pipe type**
  - (stainless steel hairline)
  - Diameter: 32 mm
  - Width: 90 mm

- **Flat type**
  - (aluminum)
  - Width: 90 mm

- **Flat type**
  - (stainless steel hairline)
  - Width: 50 mm

Note: Illustrations show simulated views of handrail designs. Actual illumination brightness and colors may differ.

Note: It is also possible to use ceiling materials supplied and installed by the customer.
Note: Depending on applicable regulations, car top emergency trap door may be required.
*1 The ceiling is not compliant with EN81-20/50 and SS550. In case of EN81-20/50, it can be used if the customer agrees.
*2 For some car sizes, there are two milky white acrylic options.
Operating panels and indicators

Car operating panels

Stainless steel cover plate

Indicator type
(Dot-matrix) (LCD)

Car position indicators (LCD)

In addition to white, you can select black or blue as the background color.

Horizontal operating panels

Stainless steel cover plate

Indicator type
(Dot-matrix) (LCD)

Car button types

Plastic

Stainless steel hairline

Interphone button

White (standard color)
Black
Blue

Hall operating panels

Stainless steel cover plate

Incorporated type (Dot-matrix)

Incorporated type (LCD)

VIB-148/D
VIB-148/L

Horizontal indicators

Stainless steel cover plate

Dot-matrix

HBC

Hall lanterns

Square lanterns (LED)
Round lanterns (LED)

Triangle lanterns (horizontal type) (LED)
Triangle lanterns with dot-matrix indicator (LED)

Hall button types

Plastic

Stainless steel hairline

Illumination colors

Red White Yellow Blue

1) Illumination colors are only applicable for stainless steel hairline buttons.
2) Only circular interphone buttons are available. Other specifications (illumination color, Braille, etc.) of the interphone button change according to each floor button. Please consult Hitachi or a local agent if other specifications are required.
3) The LCD backlight can be changed from white to black or blue. (Standard color: White)
4) Stainless steel non-directional hairline cover is available. (Option)
5) The lantern illumination color can be changed to white. (Standard illumination color: Umber)
6) Illumination colors are only applicable for stainless steel hairline buttons.
**Materials**

**A** [Car] Front wall / Transom

- **Stainless steel**
  - Hairline
  - Non-directional hairline
  - Mirror

- **Colored stainless steel**
  - Gold
  - Bronze
  - Black

* Colored stainless steel is available for hairline and mirror options.

**B** [Car] Door / 3 side walls

- **Stainless steel**
  - Hairline
  - Non-directional hairline
  - Mirror

- **Colored stainless steel**
  - Gold
  - Bronze
  - Black

* Colored stainless steel is available for hairline and mirror options.

**C** [Hall] Jamb / Transom

- **Stainless steel**
  - Hairline
  - Non-directional hairline
  - Mirror

- **Colored stainless steel**
  - Gold
  - Bronze
  - Black

* Colored stainless steel is available for hairline and mirror options.

- **Decorated steel**
  - Mizo, white
  - Craft wood
  - Mocha wood

* Decorated steel cannot be used for the hall door.

**D** [Car] Floor

- **Vinyl tile**
  - S 442M
  - S 673M
  - P 0803
  - P 0807

Note: It is also possible to use floor materials supplied by the customer. The colors printed in the catalog may differ slightly from the actual colors.

*1 SUS430 (Standard), SUS304 (Option)
*2 These LPS are not compliant with EN81-20/50 and SS550. In case of EN81-20/50, they can be used if the customer agrees.
*3 These LPS are not compliant with EN81-20/50, but they can be used if the customer agrees.
*4 Stainless steel hairline etching and mirror etching can only be applied to SL-2X and TL-2X.
Design variations

### Car design variations

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Finish/Types</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stainless steel hairline</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Stainless steel hairline (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Stainless steel mirror etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Stainless steel hairline etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Colored stainless steel mirror (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Stainless steel etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Stainless steel mirror etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Colored stainless steel hairline (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Premium (EX-11)</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Deluxe (DX-101)</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Stainless steel hairline (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Colored stainless steel hairline (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Stainless steel hairline</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Stainless steel mirror etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Colored stainless steel mirror etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Stainless steel mirror etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
</tbody>
</table>

### Hall design variations

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Finish/Types</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Floor</td>
<td>Stainless steel hairline</td>
<td>○</td>
</tr>
<tr>
<td>33</td>
<td>Stainless steel mirror</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Stainless steel etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Stainless steel mirror etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Colored stainless steel mirror etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Stainless steel mirror</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Stainless steel etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Stainless steel mirror etching</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Stainless steel hairline etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Stainless steel mirror etching (Gold, Bronze, Black)</td>
<td>○</td>
<td></td>
</tr>
</tbody>
</table>

### Legend

- **Standard**: Used in standard application.
- **Option**: Used in optional application.

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*1* It is also possible to use materials specified and installed by the customer.

*2* These options are not compatible with EN1-2003 and SG5G. In case of EN1-2005, they can be used if the customer agrees.

*3* These options are not compatible with SG5G. In case of EN1-2005, they can be used if the customer agrees.

*4* Colour depth is 150 mm.

*5* Colour depth is 200 mm.

*6* The available button illumination colors are yellow, red, white, and blue.

*7* The available LPS cover plates are compliant with SS550.
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Simplex collective control</td>
<td>This is a fully automatic operation used for a single elevator system. Hall calls in the direction in which the elevator is traveling are responded to sequentially and when all calls in that direction are cleared, calls in the opposite direction are responded to. When there are no more calls, the elevator will stop at the last floor served.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Duplex collective control</td>
<td>This is a fully automatic operation used for a two-elevator system. Hall calls are responded to by whichever elevator can serve the hall call faster. When there are no more calls, one of the elevators will stand at the stand-by floor while the other elevator stops at the last floor served.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FIBEE</td>
<td>Allows the passenger to preselect the destination floor on the destination floor panel installed at the landing hall. This reduces button operations to one, improving the operability.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Fi-10</td>
<td>This is a simplified group control system used to operate three or four elevators. The system provides a ring control to allocate the elevator car closest to the floor where a new hall call is registered.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Group control</td>
<td>This is a control system used to operate three to six elevators in a medium-sized building. This control system uses &quot;reference-trajectory control&quot;, which is based on the theory used in the highest model of the &quot;future reference-trajectory control&quot;.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Fi-100</td>
<td>This is a group control system used to operate three to eight elevators in a large-sized building. This control system consists of three smart systems; &quot;future reference-trajectory control&quot;, &quot;learning system&quot; and &quot;intelligent system&quot;.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Down collective control</td>
<td>For this system, all floors have &quot;down&quot; call buttons only, except for the stand-by floor, where there is a &quot;up&quot; call button only. The other operations are the same as in simplex collective and duplex selective collective operations.</td>
<td></td>
</tr>
</tbody>
</table>

**Service functions**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Automatic return function</td>
<td>All the calls have been served. The elevator will return to the stand-by floor for stand-by.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Attendant operation</td>
<td>For this system, the stop floor is manually set by an attendant, such as in a department store.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Independent operation</td>
<td>This operation system is used when there is a need to serve special passengers. Under this operation, all hall calls for the elevator and it is reserved for exclusive use of the special passengers.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Parking operation</td>
<td>The elevator can be parked at the parking floor by a key switch.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Rush-hour schedule operation</td>
<td>If the elevators will automatically return to the stand-by floor, after serving the last call during this preset rush-hour timing.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Separated simplex operation</td>
<td>When simplex collective or group control is used, a selector switch on the control panel is used to switch between parallel operation and independent operation.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Interphone system</td>
<td>An interphone system is provided for emergency communication between the elevator and the master unit in the supervisory panel, etc.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Floor lock-out operation</td>
<td>Specific service floors can be locked out by activating a switch.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Temporary call registration of certain restricted floor</td>
<td>By inputting a pre-programmed code using the car operating board floor buttons, passengers can gain access to certain restricted floors.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Door nudging operation</td>
<td>When the door has been open for a certain period of time, a buzzer sounds and the door forcibly closes.</td>
<td></td>
</tr>
</tbody>
</table>

---

**Operating systems**

1. **Simplex collective control** - This is a fully automatic operation used for a single elevator system. Hall calls in the direction in which the elevator is traveling are responded to sequentially and when all calls in that direction are cleared, calls in the opposite direction are responded to. When there are no more calls, the elevator will stop at the last floor served.
2. **Duplex collective control** - This is a fully automatic operation used for a two-elevator system. Hall calls are responded to by whichever elevator can serve the hall call faster. When there are no more calls, one of the elevators will stand at the stand-by floor while the other elevator stops at the last floor served.
3. **FIBEE** - Allows the passenger to preselect the destination floor on the destination floor panel installed at the landing hall. This reduces button operations to one, improving the operability.
4. **Fi-10** - This is a simplified group control system used to operate three or four elevators. The system provides a ring control to allocate the elevator car closest to the floor where a new hall call is registered.
5. **Group control** - This is a control system used to operate three to six elevators in a medium-sized building. This control system uses "reference-trajectory control", which is based on the theory used in the highest model of the "future reference-trajectory control".
6. **Fi-100** - This is a group control system used to operate three to eight elevators in a large-sized building. This control system consists of three smart systems; "future reference-trajectory control", "learning system" and "intelligent system".
7. **Down collective control** - For this system, all floors have "down" call buttons only, except for the stand-by floor, where there is a "up" call button only. The other operations are the same as in simplex collective and duplex selective collective operations.

---

**Service functions**

1. **Automatic return function** - All the calls have been served. The elevator will return to the stand-by floor for stand-by.
2. **Attendant operation** - For this system, the stop floor is manually set by an attendant, such as in a department store.
3. **Independent operation** - This operation system is used when there is a need to serve special passengers. Under this operation, all hall calls are disabled for the elevator and it is reserved for exclusive use of the special passengers.
4. **Parking operation** - The elevator can be parked at the parking floor by a key switch.
5. **Rush-hour schedule operation** - If the elevators will automatically return to the stand-by floor, after serving the last call during this preset rush-hour timing.
6. **Separated simplex operation** - When simplex collective or group control is used, a selector switch on the control panel is used to switch between parallel operation and independent operation.
7. **Interphone system** - An interphone system is provided for emergency communication between the elevator and the master unit in the supervisory panel, etc.
8. **Floor lock-out operation** - Specific service floors can be locked out by activating a switch.
9. **Temporary call registration of certain restricted floor** - By inputting a pre-programmed code using the car operating board floor buttons, passengers can gain access to certain restricted floors.
10. **Door nudging operation** - When the door has been open for a certain period of time, a buzzer sounds and the door forcibly closes.
### Functions

#### User services

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Observation</td>
<td>The walls of the elevator are equipped with windows, giving the elevator interior a more open feel.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Door open time adjustment</td>
<td>The duration of the door open timing is tailored to usage conditions, substantially improving operational efficiency.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Door open prolong button</td>
<td>In the event that the fire button on the car operation board is pressed, the elevator doors remain open for a pre-set period of time.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Automatic bypass operation</td>
<td>In the event that the elevator is fully loaded, the operation will not respond to any hall calls and will only respond to the car calls.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Mischievous call cancellation</td>
<td>In the event that a large number of calls is registered by a small number of passengers, the calls are determined to be mischievous and will be automatically cancelled upon responding to the next call. This eliminates unnecessary stops.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Floor &quot;de-select&quot; function</td>
<td>This function allows passengers to cancel the selection of a floor which is accidentally pressed by pressing the button again. (This eliminates unnecessary stops.)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Supervisory panel</td>
<td>The panel provides various supervisory operations, including communication and status monitoring.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Elevator monitoring system (EMS)</td>
<td>The system shows the real-time situation of the elevators such as the elevator position, movement direction and abnormal operation on the PC (Personal Computer Display). It is also possible to turn on/off the elevators and change the service floors of the elevators using the PC.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Ion generator*</td>
<td>A device that generates ionic microparticles enclosed in water is mounted on top of the car to ensure pleasant air quality inside the elevator.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Air conditioner</td>
<td>An evaporative-type cooling unit eliminates the need for pit drainage. This enhances comfort inside the elevator.</td>
<td></td>
</tr>
</tbody>
</table>

#### Safety operations

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Earthquake emergency operation with primary wave sensor</td>
<td>When primary wave of an earthquake is detected, the elevator moves to the nearest floor and stops.</td>
</tr>
<tr>
<td>2</td>
<td>Fire emergency operation</td>
<td>In the event of fire, the elevator is automatically brought to the designated floor where it remains inoperative for passengers' safety. EN81-73 is available if required.</td>
</tr>
<tr>
<td>3</td>
<td>Automatic rescue device for power failure</td>
<td>In the event of power failure, the system automatically switches to battery power to bring the elevator to the nearest floor.</td>
</tr>
<tr>
<td>4</td>
<td>Emergency operation for power failure</td>
<td>The event of building power failure, the elevator can be operated by the building standby operator to move the elevator to the designated floor. (Automatic / Automatic and manual)</td>
</tr>
<tr>
<td>5</td>
<td>Pit flood operation</td>
<td>Elevator operation is paused when pit flooding is detected.</td>
</tr>
<tr>
<td>6</td>
<td>Fireman operation</td>
<td>In the event that the fireman switch is turned on, the elevator returns to the designated floor and will be ready for fireman's use.</td>
</tr>
</tbody>
</table>

#### Other functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Counterweight safety</td>
<td>A safety device is installed on the counterweight to maintain the rails and prevent falling.</td>
</tr>
<tr>
<td>2</td>
<td>Through door</td>
<td>Doors are installed on both sides of the elevator.</td>
</tr>
<tr>
<td>3</td>
<td>Freight condition of service lift</td>
<td>The elevator floor is reinforced to enable it to accommodate a larger volume of freight at once.</td>
</tr>
<tr>
<td>4</td>
<td>Over voltage detection device</td>
<td>When an abnormal increase in power supply to the elevator system is detected, the power supply will be cut off to prevent damage to the elevator equipment.</td>
</tr>
<tr>
<td>5</td>
<td>Maintenance operation</td>
<td>Elevator operation at lower speed during maintenance.</td>
</tr>
<tr>
<td>6</td>
<td>Overload detection system</td>
<td>In the event of overloading, the system will activate an audio / visual signal to prevent the elevator from moving.</td>
</tr>
<tr>
<td>7</td>
<td>Nearest landing door operation</td>
<td>In the event of temporary failure during operation, the elevator automatically open to the nearest floor at a low speed and doors will open to prevent passengers from being trapped inside.</td>
</tr>
<tr>
<td>8</td>
<td>Work for protection steel</td>
<td>Fire-safety rails are equipped with hooks to facilitate mounting of protective rails.</td>
</tr>
<tr>
<td>9</td>
<td>Checker plate</td>
<td>A steel plate is affixed to the floor of the elevator.</td>
</tr>
<tr>
<td>10</td>
<td>Protection plate (stainless steel hairline) (H=300 mm)</td>
<td>Protective stainless steel plates are installed to protect the area extending upward 300 mm from the bottom edge of the main doors in car.</td>
</tr>
<tr>
<td>11</td>
<td>Protection plate (stainless steel hairline) (H=1200 mm)</td>
<td>Protective stainless steel plates are installed to protect the area extending upward 1,200 mm from the bottom edge of three-side walls in car.</td>
</tr>
<tr>
<td>12</td>
<td>Sub-operating panel</td>
<td>Wheel for selection and door open/close buttons are located to be side-approached the main operating panel.</td>
</tr>
<tr>
<td>13</td>
<td>Keypad sub-car-operating board</td>
<td>In order to comply with the barrier-free code, especially for high-rise buildings, individual car call buttons can be replaced by a keypad system.</td>
</tr>
<tr>
<td>14</td>
<td>Fire rated door*</td>
<td>Hours fire-rated landing doors are available when required.</td>
</tr>
<tr>
<td>15</td>
<td>Fire insulation door(For Malaysia only)</td>
<td>Fires insolation landing doors are available where required.</td>
</tr>
<tr>
<td>16</td>
<td>Emergency landing door</td>
<td>If there is a long distance between floors, doors are installed in a location where the elevator can stop automatically in an emergency.</td>
</tr>
<tr>
<td>17</td>
<td>Switch for emergency exit</td>
<td>A switch stops the elevator when the emergency exit door is opened.</td>
</tr>
<tr>
<td>18</td>
<td>Switch for door/machine inspection opening</td>
<td>A switch stops the elevator when the door to the machine inspection opening is opened.</td>
</tr>
<tr>
<td>19</td>
<td>Painted equipment inside hoistway</td>
<td>Equipment in the hoistway is painted black.</td>
</tr>
<tr>
<td>20</td>
<td>Electromagnetic compatibility (EMC)</td>
<td>Electromagnetic compatibility function in response to EN81-20/50 regulation, etc.</td>
</tr>
<tr>
<td>21</td>
<td>Interfacing to building management system</td>
<td>This interfacing shall be done by means of electrical dry contact with the building management system for their monitoring.</td>
</tr>
</tbody>
</table>

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*1 The ion generator is not available in the following cases:
(1) When the car internal depth is 1,250 mm or less.
(2) When the car internal width is less than 1,200 mm.
*2 The elevator door is provided as a standard specification when it is required by regulations.

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### Dimensions

#### AS-1X (2PCO)

- Building structure (by other contractors)
- Wall and floor finishing (by other contractors)

#### AS-1X (2S2P)

- Standard
- Grouting (by other contractors)

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Note: This structure is not for fire insulation door. Please consult Hitachi or a local agent for detail.
Dimensions

SS-1X (2PCO)

SS-1X (2S2P)

TS-1X (2PCO)

TS-1X (2S2P)

Note: []: With fire rated door
Note: This structure is not for fire insulation door. Please consult Hitachi or a local agent for detail.
Dimensions

Note: [ ] With fire rated door
Note: This structure is not for fire insulation door. Please consult Hitachi or a local agent for detail.
**Work to be done by building contractors**

The preparatory work for elevator installation outlined in the table below should be undertaken by building contractors in accordance with Hitachi drawings and in compliance with local or relevant codes and regulations.

<table>
<thead>
<tr>
<th>No.</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prepare hoistway with proper framing and enclosure, suitable pit of proper depth with drains and water-proofing if required, and property lift and ventilated hoistway of adequate size with concrete floors, access doors, ladders and guards as required.</td>
</tr>
<tr>
<td>2</td>
<td>Provide and/or cut all necessary holes, chases, openings and finishes after equipment installation.</td>
</tr>
<tr>
<td>3</td>
<td>Supply and secure all supports, reinforced concrete slab, etc., necessary for installation of the machinery, doors, buffers, etc.</td>
</tr>
<tr>
<td>4</td>
<td>Furnish all necessary cement and/or concrete for grouting of brackets, bolts, machine beams, etc.</td>
</tr>
<tr>
<td>5</td>
<td>Prepare and erect suitable scaffolding and protective measures during work in progress.</td>
</tr>
<tr>
<td>6</td>
<td>Furnish mains for three-phase electric power and single-phase lighting supply for car lighting and lift pit and power outlet to the hoistway, following the instructions of the elevator contractor on outlet position and wire size.</td>
</tr>
<tr>
<td>7</td>
<td>Provide, free of charge, a suitable theft-proof storage area for materials and tools during erection work.</td>
</tr>
<tr>
<td>8</td>
<td>Supply electric power for lighting of work area, installation work, elevator testing and spray painting.</td>
</tr>
<tr>
<td>9</td>
<td>Hoisting hook at top of the hoistway.</td>
</tr>
<tr>
<td>10</td>
<td>Hoistway ventilation to be provided to maintain the hoistway temperature at below 40°C.</td>
</tr>
<tr>
<td>11</td>
<td>Manufacture and installation of separating beam (if necessary).</td>
</tr>
</tbody>
</table>

**Hitachi Eco-Achievement**

Hitachi’s elevators achieved the highest energy efficiency class rating.

ISO 25745 is an international standard for evaluating the energy consumption and classifying the energy efficiency of elevators and escalators. ISO 25745-2 applies to the energy efficiency of elevators. It establishes seven classes, from A to G, with class A representing the highest level of energy efficiency.

Hitachi’s UAG-SN1 and OUG-ON1 have achieved the highest rating.

**Energy efficiency class A**

<table>
<thead>
<tr>
<th>Model</th>
<th>UAG-SN1/OUG-ON1</th>
<th>UAG-SN1/OUG-ON1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Japan</td>
<td>Japan</td>
</tr>
<tr>
<td>Rated load</td>
<td>1,050 kg</td>
<td>1,635 kg</td>
</tr>
<tr>
<td>Rated speed</td>
<td>1.75m/s (105m/min.)</td>
<td>1.75m/s (105m/min.)</td>
</tr>
<tr>
<td>No. of stops</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Travel</td>
<td>19.5 m</td>
<td>19.5 m</td>
</tr>
<tr>
<td>Operating days per year</td>
<td>365</td>
<td>365</td>
</tr>
<tr>
<td>Annual energy consumption</td>
<td>4,184 kWh</td>
<td>4,633 kWh</td>
</tr>
<tr>
<td>Usage category</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Classification of lift [A-G]</td>
<td>A</td>
<td>A</td>
</tr>
</tbody>
</table>

*Note: The measured class differs depending on the usage conditions.*

**Environmental activities**

The Hitachi Group is engaged in environmental initiatives at its factories and offices. Siam Hitachi Elevator Co., Ltd. (Thailand) is working to combat global warming by reducing energy consumption. Lighting in their production facilities areas has been switched to LED lighting, and they have reduced electricity consumption of lighting by approximately 70%.

*Assuming the lighting fixtures (approximately 250 fixtures) are used under the same conditions.

**Our achievement and future**

The world’s fastest elevator

Hitachi’s elevator, which was delivered to Guangzhou CTF Finance Centre, a skyscraper complex building in Guangzhou, China, started operation with the speed of 1,260 m/min, the world’s fastest among all elevators operating today. The elevators feature technologies that support safe and comfortable operation, in addition to the drive and control technologies needed to attain the Ultra-High-Speeds. Hitachi will utilize this achievement for future product development, and strive to offer elevators with higher running quality as well as safety and comfort.

*According to Hitachi’s research as of September 2019

Drive and control technologies to attain Ultra-High-Speed of 1,260 m/min.

Hitachi has developed a permanent magnet synchronous motor that achieves both a thin profile and the high output needed to attain a speed of 1,260 m/min.

Safety features supporting Ultra-High-Speed elevator operation

Hitachi developed brake equipment using braking materials with outstanding heat resistance to safely stop the elevator car in the unlikely event that a malfunction is detected during Ultra-High-Speed operation.

Elevators can be used comfortably with safety even over long travel.

Active guide rollers that detect minute warping in the guide rails and lateral vibration due to wind pressure are installed in the four corners (top and bottom, left and right) of the elevator car. This gives passengers a comfortable ride even during high-speed operation.

The sensation of ear blockage is reduced by Hitachi’s proprietary air pressure adjustment technology, which reduces the changes in air pressure inside the elevator car that would otherwise be caused by vertical movement through long travel.

![Elevator Traction Mechanism](image1)

Traction mechanism for 1,260 m/min.

![Active Guide Rollers](image2)

Active guide rollers (3D model)
Research and development

Modern manufacturing plants in Thailand and Singapore supply valuable products to customers. Equipment is made to the highest standards of quality and reliability on cutting-edge production lines.

Excellence and flexibility in design at manufacturing plants in Thailand and Singapore

The modern manufacturing plant in Thailand and Singapore boasts a complete team of local and Japanese engineers and is geared towards providing maximum flexibility in design and manufacturing to suit customer requirements.

High accuracy and efficiency in planning of equipment layout is made possible by the most advanced CAD systems.

Equipment is made to the highest standards of quality and reliability with modern CNC machinery.

An integrated engineering system from development to design and production

Head office, research centers, and plants work closely together to develop new technologies.

Staff throughout the company work together as one team to conduct research and develop technologies.

High performance simulator enhances overall elevator system efficiency.

A high-performance simulator is utilized for all stages of elevator development, from planning through system design. Planning, research and development are carried out according to the results of this statistical analysis.

Cutting-edge CAD/CAM systems

The latest in CAD/CAM systems help us carry out elevator layout and various other design and production steps more quickly and efficiently.

Hitachi’s social innovation business

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, is focusing on Social Innovation Business combining its operational technology, information technology and products. Hitachi delivers digital solutions utilizing Lumada in five sectors including Mobility, Smart Life, Industry, Energy and IT, to increase our customer’s social, environmental and economic value.
**Electrical Information**

**Wiring Diagram**

- Shows the works to be done by building.

**Work to be provided by building**

<table>
<thead>
<tr>
<th>Item</th>
<th>Works to be provided by building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main power supply*</td>
<td>To provide AC 3 phase 200 to 480V 50/60Hz main power supply with maintaining to ensure that the power supply does not fluctuate outside the range of ±5% to ±10% of the normal voltage rating and to ensure that the unbalance factor of voltage does not exceed 5%.</td>
</tr>
<tr>
<td>Lighting power supply*</td>
<td>To supply and install AC single-phase (20Amp) lighting power supply for car lighting, EBOPS and maintenance work.</td>
</tr>
<tr>
<td>Interphone</td>
<td>To provide piping and wiring (2 wires of 0.3mm²/solid) for interphones located outside the hoistway.</td>
</tr>
<tr>
<td>Pit, hoistway lightings &amp;</td>
<td>To supply and install AC single-phase power outlet and lighting with switch located at accessible area from the entrance at bottom landing level for maintenance purposes, Arrange necessary to comply to local codes &amp; regulation.</td>
</tr>
</tbody>
</table>

*Note: In the area that building should have been located, the side of main power plates are "main power," or "interphone" which shall not be unnecessary operation.

*High Frequency,*

Main power, lighting power, interphone power supply outlet, etc., wiring shall be labeled in the hoistway at the highest lift landing.
### Based on Hitachi standard and EN81-20/50 regulations

<table>
<thead>
<tr>
<th>No.</th>
<th>Load (kg)</th>
<th>Height speed [m/min]</th>
<th>Door B [W] (mm)</th>
<th>Car internal A x B (mm)</th>
<th>Location (mm)</th>
<th>Pit reaction loading [kN]</th>
<th>Car side</th>
<th>Counterweight side</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,000</td>
<td>1.2/0.9</td>
<td></td>
<td></td>
<td>1050</td>
<td>232,2(232,2)</td>
<td>113.5</td>
<td>105,0</td>
</tr>
<tr>
<td>2</td>
<td>1,000</td>
<td>1.2/0.9</td>
<td>2000×1300</td>
<td></td>
<td>1050</td>
<td>232,2(232,2)</td>
<td>113.5</td>
<td>105,0</td>
</tr>
<tr>
<td>3</td>
<td>1,000</td>
<td>1.2/0.9</td>
<td>2000×1300</td>
<td>1050×1050</td>
<td>1050</td>
<td>232,2(232,2)</td>
<td>113.5</td>
<td>105,0</td>
</tr>
</tbody>
</table>

---

### Based on Malaysian regulations

<table>
<thead>
<tr>
<th>No.</th>
<th>Load (kg)</th>
<th>Height speed [m/min]</th>
<th>Door B [W] (mm)</th>
<th>Car internal A x B (mm)</th>
<th>Location (mm)</th>
<th>Pit reaction loading [kN]</th>
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<tr>
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<td>2000×1300</td>
<td>1050×1050</td>
<td>1050</td>
<td>232,2(232,2)</td>
<td>113.5</td>
<td>105,0</td>
</tr>
</tbody>
</table>

---

Note: The table above shows the dimensions for the following conditions:
- Single elevator (DE) or twin elevator (TE)
- Without counterweight relief
- Please consult Hitachi or local agent if other specifications are required.
### Based on Malaysian regulations

<table>
<thead>
<tr>
<th>No.</th>
<th>Length (m)</th>
<th>Pressure (bar)</th>
<th>Empty Width (m)</th>
<th>Net Height (m)</th>
<th>Location (m)</th>
<th>Car side</th>
<th>Reaction Loading *** (kN)</th>
<th>Counterweight side</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.05</td>
<td>1.00</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
<td>83.5 x 250</td>
</tr>
<tr>
<td>1.5</td>
<td>1.00</td>
<td>1.00</td>
<td>2000</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
<td>83.5 x 250</td>
</tr>
<tr>
<td>2</td>
<td>1.52</td>
<td>0.75</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
<td>83.5 x 250</td>
</tr>
<tr>
<td>3</td>
<td>3.05</td>
<td>1.00</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
<td>83.5 x 250</td>
</tr>
<tr>
<td>4</td>
<td>3.05</td>
<td>1.00</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
<td>83.5 x 250</td>
</tr>
<tr>
<td>5</td>
<td>3.05</td>
<td>1.00</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
<td>83.5 x 250</td>
</tr>
</tbody>
</table>

### Based on Hitachi standard for India

<table>
<thead>
<tr>
<th>No.</th>
<th>Length (m)</th>
<th>Pressure (bar)</th>
<th>Empty Width (m)</th>
<th>Net Height (m)</th>
<th>Location (m)</th>
<th>Car side</th>
<th>Reaction Loading *** (kN)</th>
<th>Counterweight side</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>1.00</td>
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<td>83.5 x 250</td>
</tr>
<tr>
<td>1.5</td>
<td>1.00</td>
<td>1.00</td>
<td>2000</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
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</tr>
<tr>
<td>2</td>
<td>1.52</td>
<td>0.75</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
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<td>83.5 x 250</td>
</tr>
<tr>
<td>3</td>
<td>3.05</td>
<td>1.00</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
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</tr>
<tr>
<td>4</td>
<td>3.05</td>
<td>1.00</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
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</tr>
<tr>
<td>5</td>
<td>3.05</td>
<td>1.00</td>
<td>1060</td>
<td>1.00</td>
<td>1.00</td>
<td>0.00</td>
<td>93.0 x 240</td>
<td>83.5 x 250</td>
</tr>
</tbody>
</table>

Note: Above table shows the dimensions on the following conditions:
- 1. Travel distance > 9km.
- 2. With the load door.
- 3. Without counterweight.
- 4. Without top entry.

Please consult Hitachi or local agent for local specifications and design.
### Based on Hitachi standard for India

<table>
<thead>
<tr>
<th>No.</th>
<th>Load (kg)</th>
<th>Permit speed [m/s]</th>
<th>Over [mm]</th>
<th>Car a [m]</th>
<th>Counterweight [m]</th>
<th>Location [mm]</th>
<th>Car reaction loading [<strong>kN</strong>]</th>
<th>Counterweight size</th>
</tr>
</thead>
<tbody>
<tr>
<td>107</td>
<td>1,300</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1130</td>
<td>99.9</td>
</tr>
<tr>
<td>108</td>
<td>1,500</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1190</td>
<td>99.9</td>
</tr>
<tr>
<td>109</td>
<td>1,800</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1250</td>
<td>99.9</td>
</tr>
<tr>
<td>110</td>
<td>2,000</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1310</td>
<td>99.9</td>
</tr>
<tr>
<td>111</td>
<td>2,200</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1370</td>
<td>99.9</td>
</tr>
</tbody>
</table>

**Note:** The above table includes the dimensions of the following conditions:
- Single car without headlight
- Without overhang

Please consult Hitachi or local agent if other specifications are required.

### Based on Hitachi standard for India

<table>
<thead>
<tr>
<th>No.</th>
<th>Load (kg)</th>
<th>Permit speed [m/s]</th>
<th>Over [mm]</th>
<th>Car a [m]</th>
<th>Counterweight [m]</th>
<th>Location [mm]</th>
<th>Car reaction loading [<strong>kN</strong>]</th>
<th>Counterweight size</th>
</tr>
</thead>
<tbody>
<tr>
<td>112</td>
<td>1,300</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1130</td>
<td>99.9</td>
</tr>
<tr>
<td>113</td>
<td>1,500</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1190</td>
<td>99.9</td>
</tr>
<tr>
<td>114</td>
<td>1,800</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1250</td>
<td>99.9</td>
</tr>
<tr>
<td>115</td>
<td>2,000</td>
<td>30 (1.00)</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1310</td>
<td>99.9</td>
</tr>
</tbody>
</table>

**Note:** The above table includes the dimensions of the following conditions:
- Single car without headlight
- Without overhang

Please consult Hitachi or local agent if other specifications are required.
### Dimension and Hoistway Loading

**Based on SS550**

<table>
<thead>
<tr>
<th>No.</th>
<th>Load (kg)</th>
<th>Rated load (kN)</th>
<th>Door OP width (mm)</th>
<th>Car internal dia: A x B (mm)</th>
<th>Counterweight size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15,000</td>
<td>15.000</td>
<td>1000</td>
<td>3000</td>
<td>1000</td>
</tr>
</tbody>
</table>

**PIR reaction loading (N)**

<table>
<thead>
<tr>
<th>Car side</th>
<th>Counterweight size</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.00</td>
<td>12.00</td>
</tr>
<tr>
<td>25.00</td>
<td>15.00</td>
</tr>
<tr>
<td>30.00</td>
<td>18.00</td>
</tr>
<tr>
<td>35.00</td>
<td>21.00</td>
</tr>
</tbody>
</table>

Note: Above tables show the dimensions on the following conditions:
1) Engrs. except as noted.
2) Without counterweight safely.
3) Pairs consist of either specified size.

### Dimension and Hoistway Loading of hoistway

**Based on SS550**

<table>
<thead>
<tr>
<th>No.</th>
<th>Load (kg)</th>
<th>Rated load (kN)</th>
<th>Door OP width (mm)</th>
<th>Car internal dia: A x B (mm)</th>
<th>Counterweight size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15,000</td>
<td>15.000</td>
<td>1000</td>
<td>3000</td>
<td>1000</td>
</tr>
</tbody>
</table>

**PIR reaction loading (N)**

<table>
<thead>
<tr>
<th>Car side</th>
<th>Counterweight size</th>
</tr>
</thead>
<tbody>
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<td>18.00</td>
</tr>
<tr>
<td>35.00</td>
<td>21.00</td>
</tr>
</tbody>
</table>

Note: Above tables show the dimensions on the following conditions:
1) Engrs. except as noted.
2) Without counterweight safely.
3) Pairs consist of either specified size.

---

1. **Load** (kg): Weight supported by the hoistway system.
2. **Rated load** (kN): Maximum load capacity of the hoistway system.
3. **Door OP width** (mm): Width of the opening in the hoistway door.
4. **Car internal dia: A x B (mm)**: Internal diameter of the hoistway car.
5. **Counterweight size**: Size of the counterweight required for balance.
6. **PIR reaction loading (N)**: Reaction force at different heights.
7. **Notes**:
   - Table dimensions may vary depending on specific conditions.
   - Always consult the hoistway's specifications and regulations for accurate data.
### Dimensions for overhead height, pit depth and other specifications

#### Standard overhead height (OH) **1** * + **2** * + **3** [mm]

<table>
<thead>
<tr>
<th>No.</th>
<th>Rated speed [m/s] (maximum)</th>
<th>Hitachi standard for India</th>
<th>Hitachi standard for Japan</th>
<th>EN81-20/50</th>
<th>Malaysia regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Load ≤ 1,000kg</td>
<td>Load &gt; 1,150kg</td>
<td>Load ≤ 1,600kg</td>
<td>Load &gt; 1,150kg</td>
<td>Load ≤ 1,600kg</td>
</tr>
<tr>
<td>1</td>
<td>1.0/1.6/0.3</td>
<td>2750-4500</td>
<td>4500-4700</td>
<td>6200-6400</td>
<td>4500-4700</td>
</tr>
<tr>
<td>2</td>
<td>1.5/2.0/0.3</td>
<td>2750-4500</td>
<td>4500-4700</td>
<td>6200-6400</td>
<td>4500-4700</td>
</tr>
<tr>
<td>3</td>
<td>2.0/3.0/0.3</td>
<td>2750-4500</td>
<td>4500-4700</td>
<td>6200-6400</td>
<td>4500-4700</td>
</tr>
<tr>
<td>4</td>
<td>2.5/4.0/0.3</td>
<td>2750-4500</td>
<td>4500-4700</td>
<td>6200-6400</td>
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<td>6200-6400</td>
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#### Minimum pit depth : P **4** [mm]

<table>
<thead>
<tr>
<th>No.</th>
<th>Rated speed [m/s] (maximum)</th>
<th>Hitachi standard for India</th>
<th>Hitachi standard for Japan</th>
<th>EN81-20/50</th>
<th>Malaysia regulations</th>
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<tbody>
<tr>
<td></td>
<td>Load ≤ 1,000kg</td>
<td>Load &gt; 1,150kg</td>
<td>Load ≤ 1,600kg</td>
<td>Load &gt; 1,150kg</td>
<td>Load &gt; 1,600kg</td>
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<tr>
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<tr>
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<td>1500</td>
<td>1500</td>
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</tr>
<tr>
<td>3</td>
<td>2.0/3.0/0.3</td>
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#### Others

<table>
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<tr>
<th>No.</th>
<th>Rated speed [m/s] (maximum)</th>
<th>Maximum number of stops</th>
<th>Maximum travel distance [m]</th>
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</table>

**Note:** Above tables show the dimensions based on standard specifications. Please consult Hitachi or local agent if other specifications are required.

- **Rated Speed 1.75m/s or less**
  - 1. **SLO/STIN** series elevators
  - 2. **Travel distance ≤ 30m**
    - 3. **Travel distance ≤ 60m**; Above overhead height ≤ 100m
    - 4. **Travel distance > 60m**; Above overhead height > 100m
  - 5. **Travel distance ≤ 60m**; Above pit depth ≤ 60m
  - 6. **Travel distance > 60m**; Above pit depth > 60m
  - 7. **Travel distance ≤ 100m**; Above overhead height ≤ 150m
  - 8. **Travel distance > 100m**; Above overhead height > 150m
  - 9. **Travel distance ≤ 120m**; Above overhead height > 150m
  - 10. **Travel distance > 120m**; Above overhead height > 150m
  - 11. **For S5550:** Travel distance ≤ 60m

- **Rated Speed 2.0m/s or 2.5m/s**
  1. **SLO/STIN** series elevators
  2. **Travel distance ≤ 45m**
  3. **Travel distance ≤ 60m**; Above overhead height > 100m
  4. **Travel distance > 60m**; Above overhead height > 100m
  5. **Travel distance ≤ 120m**; Above overhead height > 100m
  6. **Travel distance > 120m**; Above overhead height > 100m
  7. **Travel distance > 120m**; Above overhead height > 100m
  8. **Travel distance > 120m**; Above overhead height > 100m
  9. **For S5550:** Travel distance ≤ 60m
Location of hoisting hook and hoisting beam

If the hoistway is made of reinforced concrete, hoisting hooks (installed by other contractors) are required at the top of the hoistway. If the hoistway is a steel structure, hoisting beams (installed by other contractors) are required at the top of the hoistway. The details of the hoisting hook and hoisting beam mounting position are as follows:

1. **Hoisting hooks**
   1. Rated Load ≤ 1050kg
   2. Rated Load > 1050kg

2. **Hoisting beams**
   1. Hoisting beams layout (Standard)
   2. Hoisting beams layout (Alternative)
   3. Height of Hoisting beams

3. Orientation and size of Hoisting Hooks

Note: The hoisting hooks should be orientated such that the interface is facing the hoistway landing entrance. This hoisting hook size is required to ensure that the hoisting equipment can fit.
## Electrical information

### Required capacity of circuit breaker, transformer & starting power at building side

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## Electrical Data

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</table>

Note: Maximum length of earth wire is 150m, maximum length of earth wire is 150m.

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**Table notes:**
- Maximum length of earth wire is 150m, maximum length of earth wire is 150m.
- Maximum length of earth wire is 150m.
- Please consult local agent about maximum size and maximum length of earth wire.
- 1: Maximum length of earth wire is 150m.
- 2: Maximum length of earth wire is 150m.