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.

**History of Hitachi elevators**

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

Creating a New History
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
  - Compared to fluorescent lighting, LED lighting reduces energy consumption by approximately 1/4, and increases service life three times.

- 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 shortening the time until the lighting turns off.

- Regenerative system
  - The traction mechanism acts as a power generator to transmit power back to the electrical network in the building, reducing energy consumption by approximately 30%.

Comfort

- Improved riding comfort
  - The latest operation control provides quiet and smooth ride.

- Group control systems
  - Group control systems provide passengers with appropriate guidance and help reduce the probability of long waits.

Safety & Emergency

- 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.

- 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 design
  - 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

LED lighting is adopted for all ceiling designs. Compared to fluorescent lighting, energy consumption is reduced and service life is prolonged.

BS-11

- Standard

SL-11

- Option

Power consumption approx. 1/4

that of fluorescent lighting

Employed LED lighting with

approx. 3x longer service life.

Power consumption approx. 1/6

that of fluorescent lighting

Employed LED lighting with

approx. 3x longer service life.

Power consumption

Fluorescent ceiling lighting

BS-11 (LED)

Power consumption

Fluorescent ceiling lighting

SL-11 (LED)

Service life*2

Approx. 12,000 hours

Approx. 40,000 hours

Fluorescent ceiling lighting

BS-11 (LED)

207 W

33 W

Approx. 12,000 hours

Approx. 40,000 hours

By changing the time until the lighting turns off during standby from three to one minute...

Power consumption can be reduced to approx. 1/6

By changing the time until the lighting turns off during standby from three to one minute...

Power consumption can be reduced to approx. 1/12

Annual illumination duration

Fluorescent ceiling lighting

BS-11 (LED)

Approx. 3,000 hours

Approx. 1,500 hours

Annual power consumption

Fluorescent ceiling lighting

BS-11 (LED)

Approx. 207 kWh/year

Approx. 103 kWh/year

Annual illumination duration

Fluorescent ceiling lighting

SL-11 (LED)

Approx. 3,000 hours

Approx. 1,500 hours

Annual power consumption

Fluorescent ceiling lighting

SL-11 (LED)

Approx. 621 kWh/year

Approx. 315 kWh/year

• Reduction of power consumption

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 shortening the time until the lighting turns 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 to transmit power back to the electrical network in the building.

Flow of regenerated power

• Industrial power

Regenerated power

Electricity from power company

Going up with few passengers

Traction mechanism

Light

Counter weight

Heavy

Car

Usable as electric power within the building!

*1 These ceilings are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

*2 Comparison with 10-passenger model with fluorescent ceiling lighting. Results may differ depending on ceiling configuration and dimensions.

*3 Power consumption of fixture including lighting power supply.

*4 Rated service life of fixture including lighting power supply. Actual service life may vary depending on usage conditions.

*5 Varies depending on usage conditions.
**Comfort**

**Fi-600 Group control system**

**Group control systems help reduce waiting time**

Shortening average waiting times and reducing the probability of a long wait* 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.

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

**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 in the hall, they are informed ahead of time of the elevator they should use. This helps 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**

- Touch screen type (wall-mounted)
**Safety & Emergency**

**Door signal with multi-beam door sensor**

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 supply switches 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 shut in the elevator by a power outage in a building with no private generator equipment.

---

**Comfort**

**Ion generator**

**Option**

**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.

**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 odors. Also, the ionized particles come into contact with allergens (pollen and molds), bacteria, and viruses, and the OH radicals denature their protein and suppress them.


---

**Improved riding comfort**

The latest operation control reduces noise and vibration when the elevator is moving, and shocks when starting and stopping. The result is a quiet and smooth ride.
**Design**

### 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-Lattice
- DX-101-Geometric star
- DX-101-Arabesque

*These ceilings are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

### Button designs

A wide range of buttons harmonizes with various building designs.

#### High-contrast plastic buttons

- Standard

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

#### Stainless steel buttons

- Standard

Various stainless steel buttons are available.

#### Interphone button

- Standard

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.

#### Normal

- Next floor
- Door closing
- Door open
- Fire emergency
- Power failure
- Overload

#### Emergency

- Earthquake
- Fire emergency
- Safety stop

### 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.

#### Earthquake

- Compass
- Door closing
- Door open
- Power failure
- Overload

*Display indications regarding operation during earthquakes, etc., require that the corresponding functions be installed.
**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><em>Office</em></td>
<td><em>Residence</em></td>
<td><em>Commercial building</em></td>
</tr>
<tr>
<td><em>Commercial building</em></td>
<td><em>Hotel</em></td>
<td></td>
</tr>
</tbody>
</table>

**Stylish design (for office)**

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

**Chic design**

- **Ceiling:** DX-series (DX-12)
- **3 side walls:** Decorated steel (Mocha wood)
- **Car door:** Decorated steel (Mocha wood)

**Luxurious Design**

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

---

*1 These ceilings and LPS are not compliant with the EN81-20/50 regulations, but they can be used if the customer agrees.

---

* Actual illumination brightness and colors may differ.
**Specifications**

Ceiling

DX-series (DX-11)

- 3 side walls: Decorated steel (Mocha wood)
- Car door: Decorated steel (Mocha wood)
- Front return panel/Transom: Stainless steel hairline
- Floor: Vinyl tile (GA205)
- Indicator: LCD (8.4 inches)
- Car operating panel: Stainless steel hairline

* These ceilings and tiles are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

**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 (SA614)
- Indicator: LCD (8.4 inches)

* These tiles and LPS are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

**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 (SA614)
- Indicator: LCD (8.4 inches)
- Car operating panel: Stainless steel hairline

**Stylish design (for commercial building)**

- Ceiling: DX-series (DX-11)
- 3 side walls: Colored stainless steel hairline
- Car door: Colored stainless steel hairline
- Front return panel/Transom: Stainless steel mirror
- Floor: Vinyl tile (SA614)
- Indicator: LCD (8.4 inches)
- Car operating panel: Stainless steel mirror

* These ceilings and tiles are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

**Chic design (for hotel)**

- Ceiling: DX-series (DX-11)
- 3 side walls: Laminated plastic sheet (5261NT)
- Car door: Colored stainless steel hairline
- Front return panel/Transom: Colored stainless steel hairline
- Floor: Vinyl tile (SA613)
- Indicator: LCD (8.4 inches)
- Car operating panel: Colored stainless steel hairline

* These tiles and LPS are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

Note: Illustrations show simulated views of elevator interiors. Actual illumination brightness and colors may differ.
**Luxurious design (for commercial building)**

<table>
<thead>
<tr>
<th>Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling</td>
<td>EX-series (EX-11) *1</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>Front return panel/Transom</td>
<td>Stainless steel non-directional hairline</td>
</tr>
<tr>
<td>Floor</td>
<td>Vinyl tile (SA614) *1</td>
</tr>
<tr>
<td>Indicator</td>
<td>LED (9.4 inches)</td>
</tr>
<tr>
<td>Car operating panel</td>
<td>Stainless steel non-directional hairline</td>
</tr>
</tbody>
</table>

*1 These ceilings and tiles are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

**Luxurious design (for hotel)**

<table>
<thead>
<tr>
<th>Specifications</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling</td>
<td>DX-series (DX-104)</td>
</tr>
<tr>
<td>3 side walls</td>
<td>Decorated steel (Mocha wood)</td>
</tr>
<tr>
<td>Car door</td>
<td>Colored stainless steel hairline</td>
</tr>
<tr>
<td>Front return panel/Transom</td>
<td>Colored stainless steel hairline</td>
</tr>
<tr>
<td>Floor</td>
<td>Vinyl tile (GA204)</td>
</tr>
<tr>
<td>Indicator</td>
<td>LED (8.4 inches)</td>
</tr>
<tr>
<td>Car operating panel</td>
<td>Colored stainless steel hairline</td>
</tr>
</tbody>
</table>

**Hall designs**

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

**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:** LCD

- **TS-1X (2PCO):**
  - **Jamb:** Stainless steel hairline
  - **Hall door:** Stainless steel hairline
  - **Indicator:** LCD

- **SL-2X (2PCO):**
  - **Jamb:** Stainless steel hairline
  - **Car 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

Variation of SL-11

**Silkscreen print**

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

**Variation of DX-101**

**Silkscreen print**

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

**Premium**

**EX-11**
- **Entire surface**: Glass fiber cloth

**Handrails**

- **Round pipe type** (stainless steel hairline)
  - **Diameter**: 32mm
- **Flat type** (Aluminum)
  - **Width**: 90mm
- **Flat type** (stainless steel hairline)
  - **Width**: 90mm
- **Flat type** (stainless steel hairline)
  - **Width**: 50mm

*1 These ceilings are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

*2 For some car sizes there can be two milky white acrylic options.

Note: It is also possible to use ceiling materials supplied by the customer.

Note: Depending on applicable regulations, an emergency exit in the ceiling may be required.

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

**Car operating panels**

- **Stainless steel cover plate**
  - Indicator type (dot-matrix)
  - Indicator type (LCD)
- **Car position indicators (LCD)**
  - Standard
  - Option

**Horizontal operating panels**

- **Stainless steel cover plate**
- **Horizontal indicators**
  - Stainless steel cover plate
  - Dot-matrix
  - LCD

**Hall operating panels**

- **Stainless steel cover plate**
  - Incorporated type (dot-matrix)
  - Incorporated type (LCD)
- **Car position indicators (LCD)**
  - Standard
  - Option

**Hall button types**

- **Car button types**
  - Plastic
  - Stainless steel hairline
  - Option
- **HBC**
- **Illusion colors**

**Hall lanterns**

- **Square lanterns**
  - Stainless steel cover plate
- **Round lanterns**
- **Triangle lanterns**
  - (horizontal type)
  - Stainless steel hairline
- **Triangle lanterns with dot-matrix indicator**

---

* Depending on size of car, may be mounted on side wall.
*2 Illustrated colors are only applicable for stainless steel hairline buttons.
*3 Illustration colors are only applicable for stainless steel hairline buttons.
**Materials**

### Hall and Car

#### Materials

<table>
<thead>
<tr>
<th>Hall</th>
<th>Car</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stainless steel</strong></td>
<td><strong>Colored stainless steel</strong></td>
</tr>
<tr>
<td>Standard</td>
<td>Non-directional hairline</td>
</tr>
<tr>
<td>Option</td>
<td>Hairline</td>
</tr>
<tr>
<td>Option</td>
<td>Mirror</td>
</tr>
</tbody>
</table>

#### Stainless steel hairline etching and mirror etching

<table>
<thead>
<tr>
<th>SD-1006</th>
<th>SD-1010</th>
<th>SD-1026</th>
<th>SD-1031</th>
<th>SD-1036</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hairline</td>
<td>Mirror</td>
<td>Hairline</td>
<td>Mirror</td>
<td>Hairline</td>
</tr>
</tbody>
</table>

#### Decorated steel

- Minamo white
- Craft wood
- Mocha wood

#### Laminated plastic sheet (LPS)

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>7170UN Metal Pearl Rosewood</td>
</tr>
<tr>
<td>561NT Sandy Sakura</td>
</tr>
<tr>
<td>5262UN White Sakura</td>
</tr>
<tr>
<td>6006UN Powdered Oak</td>
</tr>
<tr>
<td>6065UN Canadian Pine (Straight)</td>
</tr>
</tbody>
</table>

### Floor

#### Standard

<table>
<thead>
<tr>
<th>GA 201</th>
<th>GA 202</th>
<th>GA 204</th>
<th>GA 205</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vinyl tile**</td>
<td>Vinyl tile**</td>
<td>Vinyl tile**</td>
<td>Vinyl tile**</td>
</tr>
</tbody>
</table>

#### Option

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA 205</td>
</tr>
<tr>
<td>GA 204</td>
</tr>
<tr>
<td>GA 202</td>
</tr>
<tr>
<td>GA 201</td>
</tr>
</tbody>
</table>

* These tiles are not compliant with the EN81-20/50 regulation, but they can be used if the customer agrees.

Note: It is also possible to use floor materials supplied by the customer.
### Car design variations

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Standard/Types</th>
<th>Service</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Button type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Ceiling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Car door/side walls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Floor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Wall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Car operating panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Car operating panel cover plate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Button type</td>
<td></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>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jamb type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Jamb finish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Transom finish</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Hall door</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Hall button cover plate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Button type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Lantern</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 Ceiling after Sale GL-11, DX-11, and DX-104 are not compliant with EMI-2020 regulations, but they can be used if the customer agrees.

*2 It is also possible to use materials supplied by the customer.

*3 Laminated plastic sheets contain trim.

*4 LPS is not compliant with the EMI-2020 regulations, but it can be used if the customer agrees.

*5 It is also possible to use materials supplied by the customer.

*6 Depending on size of car, may be mounted on standard wall.
## Functions

### Operating systems

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Simplex collective control</td>
<td>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 served, 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>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 by at the stand by floor while the other elevator will stop at the last floor served.</td>
<td>○</td>
</tr>
<tr>
<td>3</td>
<td>FI-BEE</td>
<td>Allows the passenger to preselect the destination floor on the destination floor panel installed at the elevator 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>Fi-100</td>
<td>This is a group 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-600</td>
<td>This is a group control system used to operate three to eight elevators in a large-sized building with a floor calling system. This 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 &quot;up&quot; call button only. The other operations are the same as in selective collective and duplex collective operations.</td>
<td>○</td>
</tr>
</tbody>
</table>

### Service functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Automatic return function</td>
<td>After 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 strip 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 service special passengers. Under this operation, all hall calls are disabled 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 designated floor with a key switch.</td>
<td>○</td>
</tr>
<tr>
<td>5</td>
<td>Rush-hour schedule operation</td>
<td>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>Homing operation*</td>
<td>When a dedicated button is pressed, the other registered destinations are cancelled and the elevator goes directly to the specified floor. This is useful in hospitals, etc., when it is necessary to send the elevator in an emergency.</td>
<td>○</td>
</tr>
<tr>
<td>7</td>
<td>Separated simples operation</td>
<td>When simplex collective control 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>8</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>9</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>10</td>
<td>Temporary call registration of certain restricted floor</td>
<td>If a registered passenger presses 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>11</td>
<td>Door nudging operation</td>
<td>When the doors have been left open for a certain period of time, a buzzer sounds and the door forcibly closes.</td>
<td>○</td>
</tr>
</tbody>
</table>

*1 Included in the standard configuration when simplex collective control or group control are selected.
*2 Included in the standard configuration for Thailand, Laos, Myanmar, and Cambodia.
*3 Available for Hong Kong only.

### Safety functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Abnormal speed protection function</td>
<td>In the event that the elevator is moving downwards at an abnormally high speed, the brakes will be automatically enganged and the elevator will cease operation.</td>
<td>●</td>
</tr>
<tr>
<td>2</td>
<td>Out of door-open zone alarm</td>
<td>In the event that the elevator stops out of the door-open zone of a selected floor, doors will not open, and an alarm will be sounded in the elevator.</td>
<td>○</td>
</tr>
<tr>
<td>3</td>
<td>Rescue operation</td>
<td>When the elevator stops out of the door-open zone, it will move to the nearest floor at slow speed to release passengers.</td>
<td>○</td>
</tr>
<tr>
<td>4</td>
<td>Door safety return system</td>
<td>In the event of door overload, such as when passengers get their fingers, hands or personal belongings caught in the door, this system automatically senses this, and either re-closes or re-opens the doors to prevent injury.</td>
<td>○</td>
</tr>
<tr>
<td>5</td>
<td>Door safety edge</td>
<td>In the event that the beam paths are obstructed, this sensor, installed at the edges of the doors, will keep the doors open.</td>
<td>○</td>
</tr>
<tr>
<td>6</td>
<td>Door signal with multi-door sensor</td>
<td>In addition to the multi-door sensor, the safety shoe is equipped with a signal indicator when the doors are starting to close.</td>
<td>○</td>
</tr>
<tr>
<td>7</td>
<td>Multi-beam door sensor</td>
<td>In the event that the beam paths are obstructed, this sensor, installed at the edges of the doors, will keep the doors open.</td>
<td>○</td>
</tr>
<tr>
<td>8</td>
<td>Rescue operation</td>
<td>When there are no more calls, the elevator will automatically return.</td>
<td>○</td>
</tr>
<tr>
<td>9</td>
<td>Micro-leveling</td>
<td>Automatic correction of elevator landing level when subjected to varying load.</td>
<td>●</td>
</tr>
<tr>
<td>10</td>
<td>Multi-beam door sensor</td>
<td>In the event of a power failure, an emergency light inside the elevator will be automatically activated.</td>
<td>○</td>
</tr>
<tr>
<td>11</td>
<td>Door lock</td>
<td>Mechanical safety units are installed on both sides (2PCU) or one side (2S2P) of the elevator doors in the event of passengers coming into contact with the safety edges of closing doors, the doors will immediately reopen.</td>
<td>○</td>
</tr>
</tbody>
</table>

### Accessibility

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Car floor button flashing</td>
<td>The registered car destination floor button flashes when the car approaches the destination floor.</td>
<td>○</td>
</tr>
<tr>
<td>2</td>
<td>Braille plate</td>
<td>Braille plates are mounted next to the operation buttons in the car and hall.</td>
<td>○</td>
</tr>
<tr>
<td>3</td>
<td>Sound button</td>
<td>An electronic tone sounds when the buttons are pressed to confirm call register.</td>
<td>○</td>
</tr>
</tbody>
</table>

### Security functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intelligent operation security system by card reader (by others)</td>
<td>The function allows controlled access to certain floors by means of a password or IC cards. Keypad or ID card reader system is to be provided and installed by others. Interfacing shall be by means of dry (voltage-free) contacts.</td>
<td>○</td>
</tr>
<tr>
<td>2</td>
<td>CCTV/Passenger by others, coxial cable by Hitachi</td>
<td>This system enables the security personnel to monitor the movement inside the elevator. This will be effective in preventing criminal and mischievous acts inside the elevator. (CCTV system, including wiring, is to be supplied by others.)</td>
<td>○</td>
</tr>
</tbody>
</table>

### Information functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Electronic announcement (English / Thai / Malay)</td>
<td>This function allows the announcement to be made in English, Thai and Malay. Note: Keypad or ID card reader system is to be provided and installed by others. Interfacing shall be by means of dry (voltage-free) contacts.</td>
<td>○</td>
</tr>
<tr>
<td>2</td>
<td>Public address speaker</td>
<td>A speaker for background music and public announcements for the building can be installed in the elevator. (Music and announcement systems, including wiring, is to be provided by others.)</td>
<td>○</td>
</tr>
<tr>
<td>3</td>
<td>Alarm audio signal</td>
<td>An electrical chime (located at the top and bottom of the elevator) will sound out before the arrival of the elevator.</td>
<td>○</td>
</tr>
</tbody>
</table>

### Energy-saving functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Energy-saving function</td>
<td>When traveling downwards with a heavy car load or upwards with a light car load, the traction machine acts as a power generator to transmit power back to the electrical networks in the building.</td>
<td>●</td>
</tr>
<tr>
<td>2</td>
<td>Regenerative system</td>
<td>When traveling downwards with a heavy car load or upwards with a light car load, the traction machine acts as a power generator to transmit power back to the electrical networks in the building.</td>
<td>●</td>
</tr>
</tbody>
</table>

*1 Included in the standard configuration when simplex collective control or group control are selected.
### Functions

<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>Standard</td>
</tr>
<tr>
<td>2</td>
<td>Door open time adjustment</td>
<td>The duration of the open time is set to usage conditions, substantially improving operational efficiency.</td>
<td>Option</td>
</tr>
<tr>
<td>3</td>
<td>Door open closing button</td>
<td>In the event that the button on the car operation panel is pressed, the elevator doors remain open for a set period of time.</td>
<td>Standard</td>
</tr>
<tr>
<td>4</td>
<td>Automatic bypass operation</td>
<td>In the event that the elevator is fully loaded, this operation will not respond to any hall calls and will only respond to the car calls.</td>
<td>Option</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>Standard</td>
</tr>
<tr>
<td>6</td>
<td>Floor &quot;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>Standard</td>
</tr>
<tr>
<td>7</td>
<td>Supervisory panel</td>
<td>The panel provides various supervisory operations, including communication and status monitoring.</td>
<td>Option</td>
</tr>
<tr>
<td>8</td>
<td>Elevator monitoring system (EMS)</td>
<td>This 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>Option</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>Standard</td>
</tr>
<tr>
<td>10</td>
<td>Air conditioner</td>
<td>An evaporative-type cooling unit is installed to ensure pleasant air quality inside the elevator.</td>
<td>Option</td>
</tr>
</tbody>
</table>

### Emergency operations

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Earthquake emergency operation</td>
<td>In the event that an earthquake is detected, the elevator will stop at the nearest floor.</td>
<td>Option</td>
</tr>
<tr>
<td>2</td>
<td>Earthquake emergency operation with primary wave sensor</td>
<td>In the event of an earthquake, the elevator moves to the nearest floor and stops.</td>
<td>Option</td>
</tr>
<tr>
<td>3</td>
<td>Fire emergency operation</td>
<td>In the event of fire, the fireman switch is turned on, the elevator returns to the designated floor and will be ready for fireman’s use.</td>
<td>Option</td>
</tr>
<tr>
<td>4</td>
<td>Automatic rescue device for power failure</td>
<td>In the event of power failure, this system automatically switches to battery power to bring the elevator to the nearest floor.</td>
<td>Option</td>
</tr>
<tr>
<td>5</td>
<td>Emergency operation for power failure</td>
<td>In the event of building power failure, the elevator can be operated by the building standby generator to move the elevator to the designated floor. (Automatic and manual)</td>
<td>Option</td>
</tr>
<tr>
<td>6</td>
<td>Pit flood operation</td>
<td>Elevator operation is paused when pit flooding is detected.</td>
<td>Option</td>
</tr>
<tr>
<td>7</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>
<td>Option</td>
</tr>
</tbody>
</table>

### Other functions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Description</th>
<th>Passenger Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Counterweight safety</td>
<td>A safety device is installed on the counterweight to maintain the rail and prevent falling.</td>
<td>Standard</td>
</tr>
<tr>
<td>2</td>
<td>Through door</td>
<td>Doors are installed on both sides of the elevator.</td>
<td>Option</td>
</tr>
<tr>
<td>3</td>
<td>Freight condition of service lift</td>
<td>The freight lift is reinforced to enable it to accommodate a larger volume of freight at once.</td>
<td>Standard</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>
<td>Standard</td>
</tr>
<tr>
<td>5</td>
<td>Maintenance operation</td>
<td>Elevator operation at lower speed during maintenance.</td>
<td>Option</td>
</tr>
<tr>
<td>6</td>
<td>Overload detection system</td>
<td>In the event of overloading, this system will activate an audiovisual signal to prevent the elevator from moving.</td>
<td>Standard</td>
</tr>
<tr>
<td>7</td>
<td>Nearest landing door operation</td>
<td>In the unlikely event of temporary trouble during operation, the elevator automatically goes to the nearest floor at a slow speed and doors will open to prevent passengers from being trapped inside.</td>
<td>Option</td>
</tr>
<tr>
<td>8</td>
<td>Hook for protection sheet</td>
<td>The side walls are equipped with hooks to facilitate mounting of protective mats.</td>
<td>Option</td>
</tr>
<tr>
<td>9</td>
<td>Checker plate</td>
<td>Safety plates are affixed to the floor of the elevator.</td>
<td>Standard</td>
</tr>
<tr>
<td>10</td>
<td>Protection plate (stainless steel hairline) (6×3000mm)</td>
<td>Protective stainless steel plates are installed to protect the area extending upward 300 mm from the bottom edge of three-side walls in car.</td>
<td>Option</td>
</tr>
<tr>
<td>11</td>
<td>Protection plate (stainless steel hairline) (6×1200mm)</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>
<td>Option</td>
</tr>
<tr>
<td>12</td>
<td>Sub-operating panel</td>
<td>Additional floor selection and door open/close buttons are located on the side opposite the main operating panel.</td>
<td>Option</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>
<td>Standard</td>
</tr>
<tr>
<td>14</td>
<td>Inspection Panel</td>
<td>An inspection panel is installed on the top floor.</td>
<td>Option</td>
</tr>
<tr>
<td>15</td>
<td>Fire rated door</td>
<td>The fire rated landing door is available where required</td>
<td>Option</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>
<td>Option</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>
<td>Option</td>
</tr>
<tr>
<td>18</td>
<td>Switch for door-machine inspection opening</td>
<td>A switch stops the elevator when the door of the door-machine inspection opening is opened.</td>
<td>Option</td>
</tr>
<tr>
<td>19</td>
<td>Painted equipment inside hoistway</td>
<td>Equipment in the hoistway is painted black.</td>
<td>Option</td>
</tr>
<tr>
<td>20</td>
<td>Electromagnetic compatibility function due to EN81-1, 2000 regulation, etc.</td>
<td>Electromagnetic compatibility function is determined by EN81-1, 2000 regulation, etc.</td>
<td>Option</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 to the building management system for their monitoring.</td>
<td>Option</td>
</tr>
</tbody>
</table>
Dimensions

- SS-1X(2PC0) Option
- SS-1X(2S2P) Option
- TS-1X(2PC0) Option
- TS-1X(2S2P) Option

Note: [ ] : With fire rated door
Dimensions

Note: [ ] : With fire rated door

SL-2X(2PC0)

TL-2X(2PC0)

SL-2X(2S2P)

TL-2X(2S2P)
Drive and control technologies to attain world’s fastest speed of 1,200 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 1,200 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 and safely 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.

Work to be done by building contractors

The preparatory work for elevator installation outlined in the below table 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, properly lit 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 slabs, 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>
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 the 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.