### Contact Address:

The information in this catalogue is subject to change without notice. The information and diagram in this catalogue reflect the technical feature and configuration of the elevator model at press time (refer to the version number). In line with the principle of continuous development of products, our company reserves the right to change the selection of product technical parameters and colour at any time. The existing image technology cannot accurately reproduce the elevator component structure and decoration colour. Therefore, this catalogue only provides general information, not as a contract document. The specific configuration parameters are subject to the formal agreement. If you need detailed information, please contact us.



# Machine Room-less Elevator Model LCA



## Self-Supporting Structure and Anti-Quake Design





Single guide rail support

Note: Part (A) is traction machine. Part (B) is guide rail.



The traction machine is equipped with an anti-toppling device which can prevent the traction machine from falling in case of an earthquake. In addition, the anti-dropout design is also adopted for the counterweight and car frame. These designs reduce the impact of an earthquake and protect the passengers.

### Self-Supporting Traction Machine

The traction machine is supported by three guide rails directly at the top of the hoistway. It is not necessary for the building contractor to reserve support beams or installation openings in the hoistway walls.



rail support

Hitachi triple guide rail support

Three points in one plane

### Anti-Quake Design

### **Traction Machine** Safety and Comfort



### High Braking Torque

- The tractive capacity is designed to Hitachi standards which exceeds the industry standards to ensure that the elevator runs more reliably
- The braking torque is designed to Hitachi standards which is significantly higher than industry standards to ensure maximum safety and reliability
- The brake is subject to rigorous testing conducted by Hitachi to ensure safety, reliability and high performance for long-term operation.



The temperature of the motor rises at a slower rate as compared to other permanent magnet synchronous motors available in the market, through Hitachi temperature control technology. Lifespan of the motor can be extended by reducing the common risks of malfunction caused by overheating motors.



### **Riding Comfort**

The effects of the vibration from the motor and guide rail is stabilized through the highly efficient dampers for the traction machine to provide a comfortable riding experience for the passengers.



### **Class-F Insulation of Motor**



The motor is designed with industry leading heat resistant technology which can withstand extremely high temperature of up to 155°C. It is classified as Class-F, the highest rating of insulation in the industry.



The low torque ripple of the motor enhances ride quality.

Note: The "industry standards" mentioned above refers to GB standards

# **Representative Patent Design**

### Separable Traction Sheave Design

The unique separable traction rope sheave design reduces the maintenance labour time and maintenance cost of motor.



### **Higher Rotation Accuracy**

The traction machine of LCA elevator adopts taper roller bearings characterized by increased bearing capacity, longer lifespan and higher rotation accuracy. With the taper roller bearings, the rope-groove vibration is restricted to 1/3 of the value specified by the industry standards, enhancing the riding comfort of the elevator.

# 03

### Magnet Steels Dropout-Proofing Patent of the Motor

As compared with conventional practice to fix magnet steel with adhesion agent, the patented holding-down mechanism designed by Hitachi secures the magnet steels onto the rotor, avoiding dropout of magnet steel caused by failure of the adhesion agent.

Note: The" industry standards" mentioned above refers to GB standards





### Intelligent Door System



### 01 Intelligent Multi-Beam Protection

Auto energy-saving

It can judge whether the elevator is unoccupied. When the elevator is unoccupied, the multi-beam will be powered off so as to reduce the energy consumption and extend the lifespan of multi-beam.



Auto detection

It can judge the specific location of multi-beam malfunction and provide reference for quick rectification.

Automatic shielding

If a single point of the multi-beam is obstructed or damaged, the system will shield the bad point, record the fault and then close the door normally on the premise of safety.



# 02 High-Performance Processor



High-performance processor(32-bit DSP) serves as kernel control in LCA elevator. The four-layer control board is provided with high interference eliminating features and the highly-integrated module technology is adopted in the control system. These features completely improve the response speed and reliability of the control system.



04

### 03 The Latest IPM Module Based on SVPWM



Double closed-loop vector(current and speed) control method which is based on SVPWM tuning control technology and vector control algorithm, is adopted. The latest IPM module serves as the inverter power module. As a result, door opening/closing operations are smooth and with low noise.

### Intelligent Features



Door-width self-learning

The system can learn the specification and adjust the door opening and closing curve according to the door width data collected automatically. The data is saved in the EEPROM and the data is still saved after power off.

Door-weight self-adaption

The system can adjust different door-weight at each floor within standard.

Malfunction self-detection and self-protection The system can judge when there is a breakdown and stops the elevator as needed.



### Innovative and Eco-Friendly Technology



# 01 Non-welded Car Frame and Double-layer Car Platform

### Non-welded car frame

Non-welded car frame requires no manual welding on site and helps reduce the environmental pollution, improve the strength of car frame and achieve a higher safety and reliability rating.

Double-layer car platform

Double-layer car platform is characterized by vibration-proof materials are set between the car platform and the car platform frame. The elevator with double-layer car platform will travel much more smoothly and comfortably than other elevator with single-layer car platform through isolating the vibration of the car platform frame from the car platform.





### Laser Cutting Technology

Laser cutting technology is applied in Hitachi elevator. In comparison with other standard methods, laser cutting technology significantly enhances the product cutting quality and accuracy. Laser cutting also benefits with lower carbon footprints.





### High Efficiency and Energy Saving



### **Stepless Speed Control**

Hitachi elevator has been adopting step-less speed control for many years. With Hitachi's highly efficient control system, the precise optimum travelling speed curve can be directly calculated by the output according to the distance from the car location to the destination.



### **Energy Efficiency**

Hitachi LCA machine room-less elevator achieved the highest rating of Class A for ISO 25745-1:2012 & ISO 25745-2:2015 energy efficiency certification.

Energy Efficiency Class A



Model: LCA-1600-CO180 Test location: China Nominal load: 1600kg Nominal speed: 3m/s Operating days per year: 365 Estimated annual energy consumption: 4591.9 kWh Note: The measured class differs depending on the usage conditions.

# Industrial-Leading Technology



### Reliable High-frequency Impulse Voltage **Transformer Communication**

Hitachi elevator adopts high-frequency impulse voltage transformer serial communication technology exclusively. It's mainly applied in some special industries such as telecommunication and military communication due to its stronger resistance to interference and higher velocity.

Content	Hitachi sta
Communication mode	High-frequ
Reliability	High
Resistance to interference	Strong
Max.Speed	125kb(incre



### Advanced Control System

Multi-processor, Smaller size, Higher integration level Higher running speed and outstanding processing capacity improve the efficiency and energy conservation effect.



The high precision load transducer can accurately calculate the load of the car so that the traction machine is able to compensate the startup torque precisely and achieve a more comfortable start .

### dard

ency impulse voltage transformer

ase by 25%)



Note:32 bit processo





# Humanised Design



The use of LED helps to create a cozy atmosphere for the passengers, with its DC powered, flicker-free, energy efficiency features.





# 02 Horizontal Car Operating Panel [Option]

Horizontal car operating panel is available to provide the passengers with an easy elevator-taking environment.



### Car Design (Normal Car)

Ceiling height: 2300mm Car ceiling: LM-220 Stainless Steel Mirror + Painted steel\_WP71 (White) / Stainless steel hairline + LED lighting Car front return panel: Stainless steel hairline Car transom: Stainless steel hairline Side walls: Painted steel\_YM47 (Champagne) + Stainless steel hairline / Stainless steel Rear walls: Painted steel\_YM47 (Champagne) / Stainless steel hairline Car door: Stainless steel hairline Car operating panel: GOPR-820 Car position indicator: Colour LCD





## Car Design (Deep Car)

Ceiling height: 2300mm Car ceiling: LM-220 Stainless Steel Mirror + Painted steel\_WP71 (White) / Stainless steel hairline + LED lighting Car front return panel: Stainless steel hairline Car transom: Stainless steel hairline Side walls: Painted steel\_YM47 (Champagne) + Stainless steel hairline / Stainless steel hairline Rear walls: Painted steel\_YM47 (Champagne) / Stainless steel hairline Rear walls: Painted steel\_YM47 (Champagne) / Stainless steel hairline Car door: Stainless steel hairline Car operating panel: GOP-199 Car position indicator: Colour LCD Car floor: S-693









### **Car Operating Panel**

(With faceplate: Stainless steel hairline)



### **Option** Horizontal Car Operating Panel

(With faceplate: Stainless steel hairline)



### **Button**



### Hall Operating Panel

(With faceplate: Stainless steel hairline)





GHL-636 Without chime (Surface-mount type)

GHL-668 With chime Without chime (Surface-mount type) (Surface-mount type)

GL-BS

Note: Braille buttons are of maximum 2 digits.



Indicator: Monochrome LCD, Button: WL-MWB (Surface-mount type)

\*For Top Floor Only VIB-715 With inspection function Indicator: Monochrome LCD, Button: WL-MWB (Embedded type)



VIB-221W Indicator: Monochrome LCD, Button: WL-MWB (Surface-mount type)



VIB-68 Indicator: Monochrome LCD, Button: HL-PWA (Surface-mount type)



VIB-68W Indicator: Monochrome LCD, Button: HL-PWA (Surface-mount type)



HB-68 Button: HL-PWA (Surface-mount type)



HBC-20A Button: WL-MWB (Embedded type)



HBC-820 Button: WL-MWB (Surface-mount type)







GHI-675 With faceplate: stainless steel hairline

### Ceiling (Without Car Top Emergency Exit)

LM-220 (Standard) ① Stainless Steel Mirror + Painted Steel\_WP71 (White)



LM-220 (Standard) ① Stainless Steel Mirror + Stainless Steel Hairline



CE-011 ① Painted Steel\_YM47 (Champagne)

### Ceiling (With Car Top Emergency Exit)



Painted Steel\_WN01 (Ivory White)



DP-016A



**CE-015** ① Painted Steel\_HM03 (Matt Silver)



DP-016 Painted Steel\_YM47 (Champagne)



DP-047 Stainless Steel Hairline + Painted Steel\_HP57 (Matt Light Brown)



Painted Steel\_WN01 (Ivory White)

(Select when false ceiling is by Client)

RF-081A



DX-410 ① Acrylic Panel + Aluminium Frame



**DX-420** ① Acrylic Panel + Aluminium Frame + Stainless Steel Mirror



RF-013 ① Painted Steel\_BN18 (Gray)



RF-018 ① Stainless Steel Hairline + Painted Steel\_HP65 (Matt Black)

① Applicable with deep car option.



RF-056 ① Painted Steel\_BN18 (Gray) (Select when false ceiling is by Client)



RF-081 ① Painted Steel\_HP57 (Matt Light Brown)



① Applicable with deep car option. <sup>(2)</sup> The above illustrated ceilings are based on 1600 x 1500mm car size. ③ The ceiling profile may varies with different car size. For details, please contact us.

<sup>2</sup> The above illustrated ceilings are based on 1600 x 1500mm car size. ③ The ceiling profile may varies with different car size. For details, please contact us.

Note:

Note:

Painted Steel\_YM47 (Champagne)



RF-013A Painted Steel\_WN01 (Ivory White)



Painted Steel\_HP57 (Matt Light Brown)

### Entrance



Jamb frame:AS-1X narrow type Stainless steel hairline Door panel:Stainless steel hairline Door sill:Aluminium



Jamb frame:SS-1X wide type Stainless steel hairline Door panel:Stainless steel hairline Door sill:Aluminium



Jamb frame: TS-1X wide type Stainless steel hairline Door panel:Stainless steel hairline Door sill:Aluminium



Jamb frame:SL-2X wide type with transom Stainless steel hairline Door panel:Stainless steel hairline Door sill:Aluminium



Jamb frame: TL-2X wide type with transom Stainless steel hairline Door panel:Stainless steel hairline Door sill:Aluminium

### **Etching Pattern**



Champagne Gold Titanium Black

**Colour Stainless Steel Hairline** 

### Option Decorated Steel



### Standard Car Floor (Vinyl Tile)









### S-048

### Option Handrail



AA-Y138 Stainless steel hairline or mirror



HR-M037 Stainless steel hairline



FL-P008 \*The image above represents the whole floor area in the elevator car.





FL-P009 \*The image above represents the whole floor area in the elevator car.



S-693



Stainless steel hairline



HR-M050 Stainless steel hairline or mirror

### Car Decoration

Item	Specification	<ul> <li>Standard</li> </ul>	<ul> <li>Option</li> </ul>
Ceiling Type	Without car top emergency exit: LM-220	•	
	Without car top emergency exit: CE-011 / CE-015 / DP-016 / DP-047 / DX-410 / DX-420 / RF-013 / RF-018 / RF-056 / RF-081	0	
	With car top emergency exit: CE-015A / DP-016A / RF-013A / RF-056A / RF-081A	0	
Car Door / Transom	Stainless steel hairline	٠	
	Stainless steel mirror	0	
	Stainless steel hairline etching / Stainless steel mirror etching	0	
/ Front Return Wall	Colour stainless steel hairline (Rose Gold / Titanium Gold / Champagne Gold / Titanium Black)	0	
	Decorated steel (GSDV5 / GSD92508 / GSDV7)	0	
	Painted steel (IPP)	0	
	Painted steel_YM47 (Champagne) + Stainless steel hairline / Stainless steel hairline	•	
	Stainless steel mirror	0	
0.0:1-1//-!!-	Stainless steel hairline etching / Stainless steel mirror etching	0	
3 Side Walls	Colour stainless steel hairline (Rose Gold / Titanium Gold / Champagne Gold / Titanium Black)	0	
	Decorated steel (GSDV5 / GSD92508 / GSDV7)	0	
	Painted steel (IPP)	0	
Kickplate	Stainless steel hairline	•	
Car Sill	Aluminium	•	
	Stainless steel hairline	0	
Car Floor	Vinyl tile (A-26 / FL-P008 / FL-P009 / S-033 / S-048 / S-693)	•	
	Floor recess (20mm / 25mm / 30mm), Finishes by Others	0	
Handrail	AA-138 / AA-BS / HR-M037 / HR-M050	0	
Car Operating Panel (At Front Return Wall)	GOPR-820	•	
	OPM-322 / OPM-221 / GOP-677 / GOP-678 / GOP-68	0	
Car Operating Panel	GOP-199	•	
(At Side Wall)	GOP-198	0	
Horizontal Car Operating	GOP-610	0	
Panel (At Side Wall)	GOPC-520	0	

### Entrance

Item	Specification	<ul> <li>Standard</li> </ul>	<ul> <li>Option</li> </ul>
Jamb Type	AS-1X, Jamb width=50mm	٠	
	SS-1X, Jamb width≤300mm	0	
	SL-2X, Jamb width≤300mm	0	
	TS-1X, Jamb width≤300mm	0	
	TL-2X, Jamb width≤300mm	0	
	Stainless steel hairline	•	
	Stainless steel mirror	0	
Jamb Finish	Stainless steel hairline etching / Stainless steel mirror etching	0	
	Colour stainless steel hairline (Rose Gold / Titanium Gold / Champagne Gold / Titanium Black)	0	
	Painted steel (IPP)	0	
Landing Door	Stainless steel hairline	•	
	Stainless steel mirror	0	
	Stainless steel hairline etching / Stainless steel mirror etching	0	
	Colour stainless steel hairline (Rose Gold / Titanium Gold / Champagne Gold / Titanium Black)	0	
	Painted steel (IPP)	0	
Landing Sill	Aluminium	۲	
	Stainless steel hairline	0	
Hall Operating Panel	Surface-mount type: VIB-820 / VIB-820W	•	
	Surface-mount type: VIB-322 / VIB-322W / VIB-221 / VIB-221W / VIB-68 / VIB-68W / HB-68 / HBC-820	0	
	Embedded type: VIB-187A / VIB-187WA / HB-187A / HBC-20A	0	
Llell Indicator	GHI-675 (With stainless steel hairline faceplate)	0	
	GHI-575 (Without faceplate, incorporate into transom panel)	0	
Hall Lantern	GHL-636 / GHL-668 / GL-BS	0	

### Buttons

Item	Specification	● Standard ● Option
	WL-MWB	•
Button	GL-MW / GL-MOA / WL-MO / WL-MB / GL-MB / HL-PWA / XL-MW / XL-MB / XL-MOA	0

### Note

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