



**SPACEL-III**  
TOSHIBA MACHINE-ROOM-LESS ELEVATORS  
STANDARD PASSENGER ELEVATOR



**Safety Cautions**

- Observance of relevant laws / regulations are required.
- Read the entire "Instruction Manual" carefully before use, for important information about safety, handling and operation.

**TOSHIBA**

TOSHIBA ELEVATOR AND BUILDING SYSTEMS CORPORATION

5-27, Kitashinagawa 6-chome, Shinagawa-ku,  
Tokyo 141-0001 Japan  
PHONE: +81-3-5423-3389 FAX: +81-3-5423-3523

• The data given in this catalog are subject to change without notice.

# SPACEL-III

TOSHIBA MACHINE-ROOM-LESS ELEVATORS

Toshiba manufactures elevators by continuously applying the latest technology and improved elevator techniques. SPACEL-III, the most recent high-end machine-room-less elevator which incorporates various of the latest techniques to save both energy and time.

## Technology

Technique Reveals the Strength of Science and Technology

### ✔ Traction Machine Designed and Manufactured by Toshiba

- ◆ Toshiba has manufactured motors for over 100 years since 1895. The motors produced by Toshiba promised better quality assurance and quality control.
- ◆ Compact PMSM (Permanent Magnet Synchronous Motor) for space saving.
- ◆ Over 30% lower in power consumption (compared to conventional electric motor).
- ◆ Gearless traction without gear oil for low vibration, low noise and better environmental conservation.
- ◆ Long-axis motor design for a smaller motor diameter, winding in beam, advanced and compact.



### ✔ Electrical Brake System for Rescue

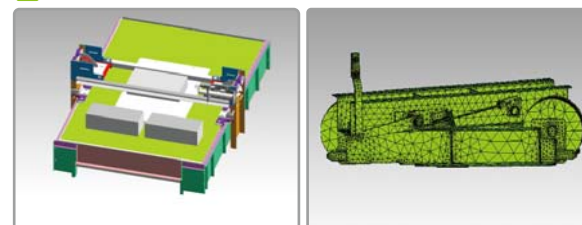
For any elevator without automatic landing during power failure, the brake has to be released manually for leveling before the rescuers open the car door for rescue.

This type of mechanical leveling machine is replaced with an electrical brake system. The standby power can be connected to the brake for automatic landing by pressing the button in the hall emergency operation panel (HEOP).

Compared to the previous mechanical type, this electric brake system has the following advantages:

- ◆ high reliability: more reliable than mechanically driven type;
- ◆ simple installation: only laying of cables and no mechanically driving structure for simpler installation;
- ◆ easy operation: only by pressing buttons, easier than pulling mechanically assembled levers;
- ◆ reduced size: only relevant buttons available in HEOP and no levers or mechanical linkages to reduce the HEOP size.

### ✔ More Scientific Structure



Newly designed car structure in which car sheave has been moved from the top to the bottom of the car.

The maintenance space above the car is more spacious than ever to improve serviceability and safety of inspection and repair on a full scale. Besides, the application of the car sheave mechanism under the car and FEM analysis has minimized the vibration transmitted from the wire rope and guide rail to the inside of the car due to the perfect balance between strength, rigidity and vibration to give passengers the greatest riding comfort as always.

### ✔ Door Motor Designed and Manufactured by Toshiba

The latest door control system designed and manufactured by Toshiba is used, and high-performance rotary transformer is used as a speed detector to achieve high reliability, high performance and excellent safety.

- ◆ High reliability: Toshiba's careful design, strict testing and precise manufacture ensure high reliability of its products.
- ◆ High performance: The current-speed double closed loop control system together with the high-performance rotary transformer provides accurate control of door speed and position to ensure quiet and smooth operation.
- ◆ Excellent safety: Door motor current is fully under monitoring. Even if safety edge and light curtain for door failed, the door control device will detect the current abnormality immediately and stop the operation to protect the passengers from harm.

## Energy Conservation

Development of new technology continuously to achieve lower power consumption

### ✔ Reduction of Standby Power Consumption

Functions such as lighting auto sleep, ventilation auto sleep are introduced as standard specifications. Power consumption during standby mode has been improved, such as reduce power consumption of control panel during standby mode to save electricity.

### ✔ LED Lighting

Under equal brightness, theoretically the LED lighting system only consumes 10% of an incandescent lamp and 50% of an fluorescent lamp. The environment-friendly features of LED lighting include: 1) reduction of carbon dioxide and other wastes; 2) no hazardous heavy metals, such as mercury and lead; 3) no flashing, ultraviolet components and radiation pollution.

### ✔ Use of Roller Guide Shoe

Roller guide shoe is used instead of the conventional sliding guide shoe. It is featured with:

- ◆ Comfort: Using the successful vibration damping solution from the high-end elevator type, riding comfort is further improved after roller guide shoe is mounted on the car.
- ◆ High efficiency: Visible improvement of the mechanical efficiency with lower friction and energy consumption.
- ◆ Compactness: Due to the advanced design of compact spring-type roller guide shoe, the damping spring which used to be laid horizontally is set upright to further reduce the space occupied by the guide shoe and thus available for all existing types of machine by overcoming the space limitation.
- ◆ Environmental conservation: The parts such as lubrication oil and lubrication unit are eliminated and replaced with long-life rubber roller to reduce environmental pollution.



### ✔ Energy Regeneration OPTIONAL

Toshiba emphasizes on environmental conservation all the time. The consumption of energy feedback system is different from using regenerative resistance. Energy regenerative device feeds energy back to the power grid while the traction machine is under power generation to achieve high-efficiency energy utilization and suppress the temperature rise in the machine room, which results in over 38% energy conservation (with the assumption of 1050kg, 1.75m/s, 12-hour operation per day, 25 days per month).

## Environment

Toshiba Makes Positive Approaches for Environmental Conservation

### ✔ Supply of Environmental Friendly Products

- ◆ Dry guide rail without rail oil.
- ◆ Maintenance-free designed oil buffer without leakage problem, which provides sustainable and reliable operation.

### ✔ Noise Control

New developed gear engagement has significantly reduces the noise and vibration that would be caused by gear engagement of conventional gear-type traction machine. Lower motor rotor speed leads to noise reduction resulting from high-speed electric motor. Integration of VVVF control system and PMSM gearless system technology, makes riding more comfortable. In such an elevator, you will enjoy the feeling of elegance and grace while be taken to the desired floor.

### ✔ Lead-free Design of Base Plate, RoHS Compliance and Elimination of Specific Chemical Substances (15 Classifications)

Continuous concern on the RoHS compliance, eliminating 15 classifications of specific chemical substances, and using the lead-free technique for main circuit boards.

## Car Ceiling

## Car Ceiling

### Car Ceiling SL-V1 STANDARD



#### Car Design

Four LED lights at the center, even lighting, no flashing

Ventilation	At the front of car ceiling
Car panels	Lacquer finish steel panel
Car door	Lacquer finish steel panel
Car operating panel	COP-G1S-1A-O
Car indicator	Car operating panel with digital car indicator
Flooring	Vinyl tile

#### Car Design

Four LED lights at the center, even lighting, no flashing

Ventilation	At the front of car ceiling
Car panels	Lacquer finish steel panel
Car door	Lacquer finish steel panel
Entrance column	Hairline finish stainless steel <span>OPTIONAL</span>
Kick plate	Hairline finish stainless steel <span>OPTIONAL</span>
Car operating panel	COP-G1S-1A-O
Car indicator	Car operating panel with digital car indicator
Flooring	Vinyl tile

### Car Ceiling TL-1 OPTIONAL



#### Car Design

Flower pattern LED lights at the center, and square LED lights at corners, with elegant appearance

Ventilation	At the front of car ceiling
Car panels	Hairline finish stainless steel
Car door	Mirror finish stainless steel
Car operating panel	COP-G1U-4A-O
Car indicator	Car operating panel with digital car indicator
Flooring	Vinyl tile

### Car Ceiling DX-21 OPTIONAL



#### Car Design

Down-light with propylene panel at the center, frosted acrylic on both sides

Ventilation	At the rear of car ceiling
Car panels	Hairline finish stainless steel
Car door	Mirror finish stainless steel
Car operating panel	COP-G1K-7A-O
Car indicator	Car operating panel with digital car indicator
Flooring	Vinyl tile
Hand rail	Stainless steel round type hand rail

## Car Ceiling

## Car Ceiling

### Car Ceiling DX-22 OPTIONAL



#### Car Design

Acrylic at the center, down-light propylene panel on both sides.

<b>Ventilation</b>	At the rear of car ceiling
<b>Car panels</b>	Hairline finish stainless steel, Mirror etching finish stainless steel
<b>Car door</b>	Mirror finish stainless steel
<b>Car operating panel</b>	COP-G1K-7A-O
<b>Car indicator</b>	Car operating panel with digital car indicator
<b>Flooring</b>	Vinyl tile
<b>Hand rail</b>	Stainless steel round type hand rail

### Car Ceiling DX-23 OPTIONAL



#### Car Design

Large-area lighting, simple and neat, high luminance

<b>Ventilation</b>	At the rear of car ceiling
<b>Car panels</b>	Black titanium hairline finish stainless steel, Mirror finish stainless steel
<b>Car door</b>	Black titanium hairline finish stainless steel
<b>Car operating panel</b>	COP-G1S-1A-O, with black titanium face plate
<b>Car indicator</b>	Car operating panel with digital car indicator
<b>Flooring</b>	Vinyl tile

### Car Ceiling DX-24 OPTIONAL



#### Car Design

Large-area lighting, white square LED, simple and modern

<b>Ventilation</b>	At the rear of car ceiling
<b>Car panels</b>	Hairline finish stainless steel
<b>Car door</b>	Hairline finish stainless steel
<b>Car operating panel</b>	COP-G1S-1A-O
<b>Car indicator</b>	Car operating panel with digital car indicator
<b>Flooring</b>	Vinyl tile

### Car Ceiling DX-25 OPTIONAL



#### Car Design

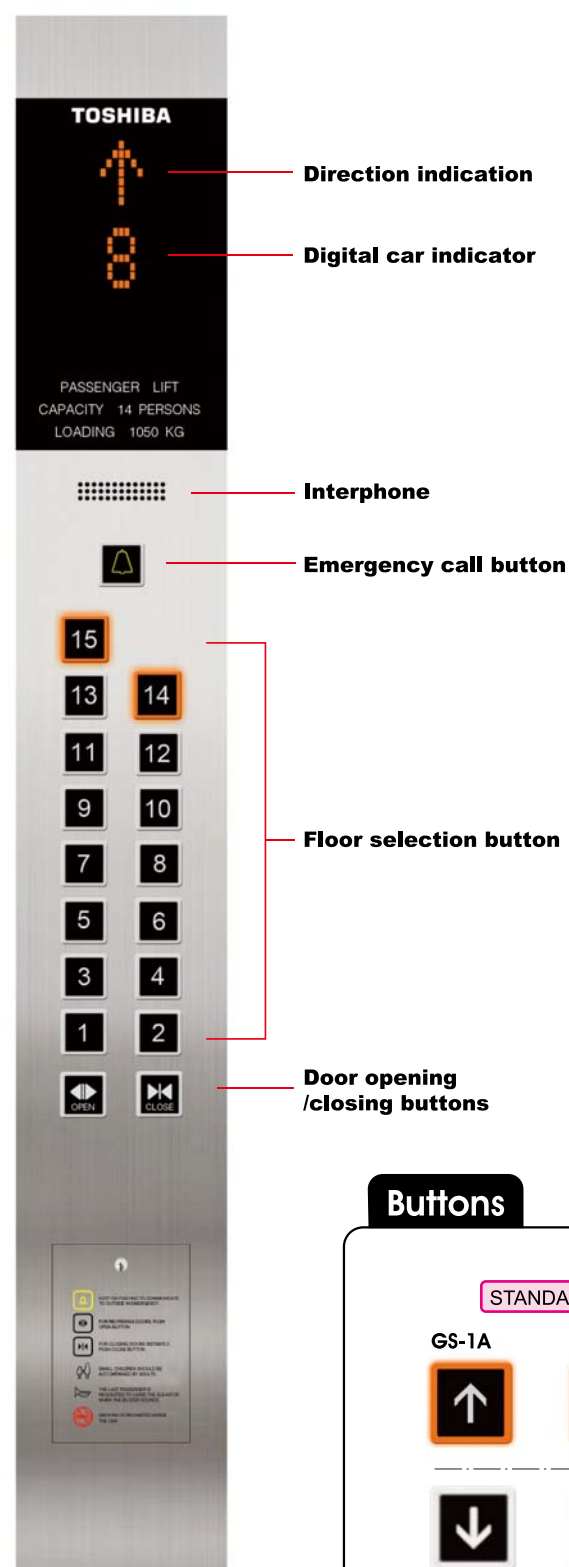
Golden car decoration combined with symmetrical top looks steady and magnificent.

<b>Ventilation</b>	At the rear of car ceiling
<b>Car panels</b>	Yellow titanium mirror finish stainless steel, Yellow titanium hairline finish stainless steel
<b>Car door</b>	Yellow titanium mirror finish stainless steel
<b>Car operating panel</b>	COP-G1S-1A-O, with yellow titanium face plate
<b>Car indicator</b>	Car operating panel with digital car indicator
<b>Flooring</b>	Vinyl tile
<b>Hand rail</b>	Stainless steel flat type hand rail

Operation Systems

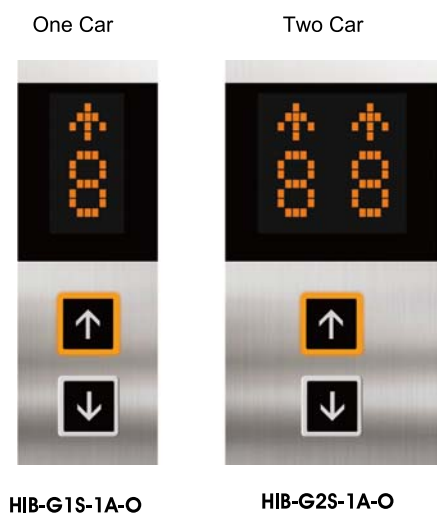
Operation Systems

**COP** STANDARD



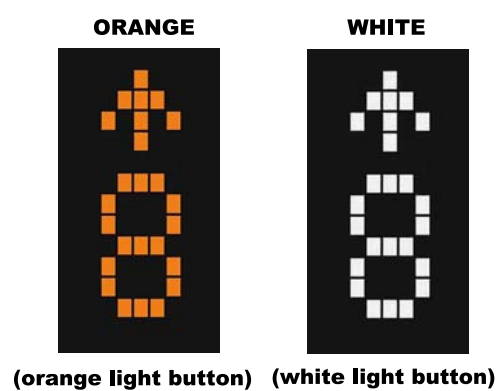
COP-G1S-1A-O

**HIB** STANDARD Thin Type

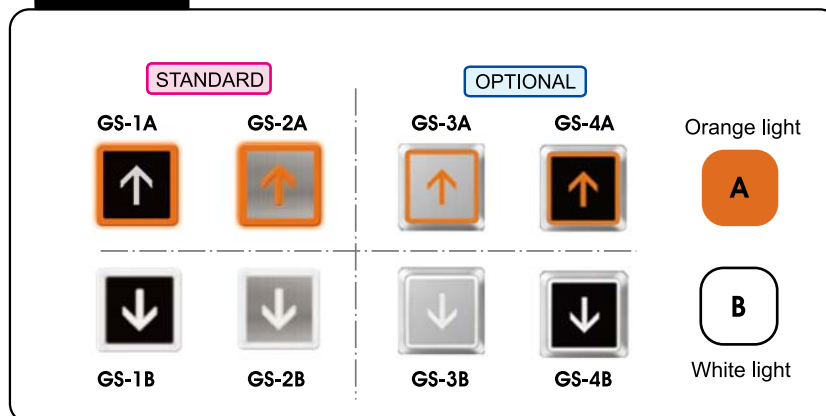


HIB-G1S-1A-O

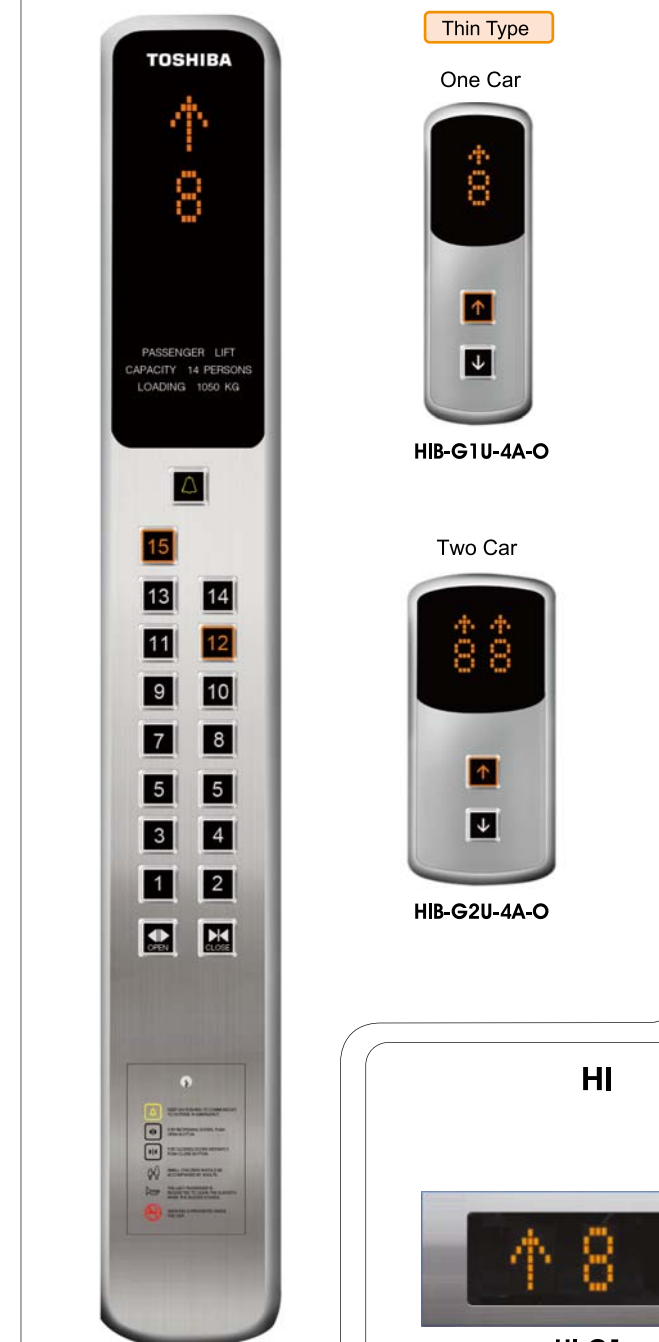
HIB-G2S-1A-O



**Buttons**



**G1U Series** OPTIONAL

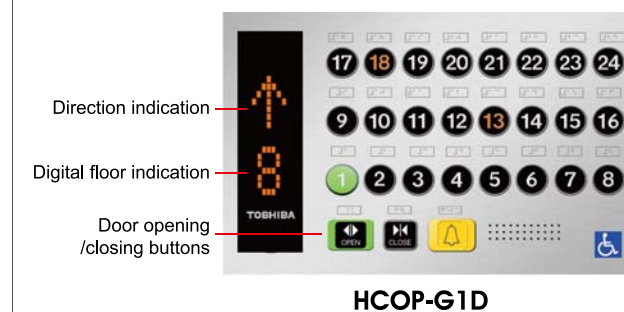


HIB-G1U-4A-O

HIB-G2U-4A-O

COP-G1U-4A-O

**Car operating panel for the handicapped** OPTIONAL



HCOP-G1D



**HI**



HI-G1

**HL** OPTIONAL



HL-G1

HL-G2


Operation Systems

Operation Systems

**G1K Series** OPTIONAL

Thick Type

One Car




HIB-G1K-7A-O

Two Car




HIB-G2K-7A-O



COP-G1K-7A-O


**U1S Series** OPTIONAL

One Car




HIB-U1A-1

Two Car




HIB-U2A-1




COP-U1S-1

UB-1




UB-2




**Buttons** OPTIONAL


KB-1




KB-2




KB-3




KB-4




KB-5




KB-6



KB-7




KB-8



\* This series of buttons are used for conventional thick-type HIB design.


**U1W Series** OPTIONAL

One Car




HIB-U1W-1

Two Car




HIB-U2W-1




COP-U1W-1


KB-1



KB-2




One Car




HIB-U1W-3

Two Car




HIB-U2W-3




COP-U1W-3


KB-3



KB-4




One Car




HIB-U1W-5

Two Car




HIB-U2W-5




COP-U1W-5


KB-5



KB-6




One Car




HIB-U1W-7

Two Car




HIB-U2W-7




COP-U1W-7

KB-7



KB-8



# Hall Design

# Material Variation

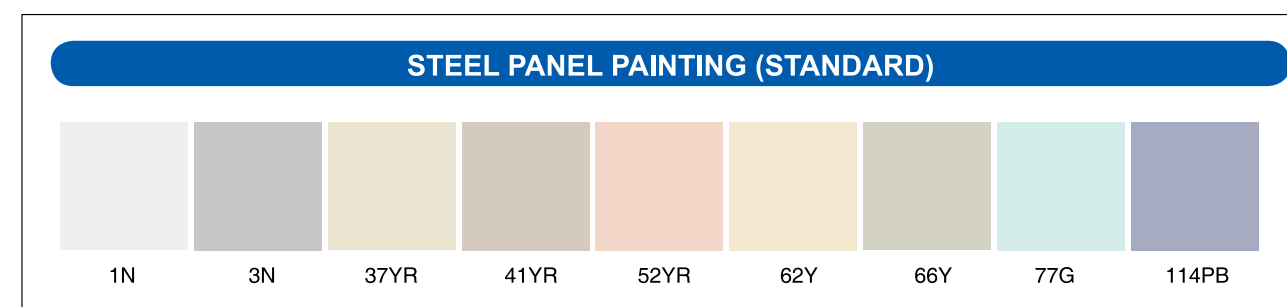


## STANDARD

- Hall jamb**  
Narrow type jamb (lacquer finish steel panel):
- Hall door**  
Lacquer finish steel panel
- Hall position indicator**  
Digital car indication
- Hall sill**  
Hardened aluminium

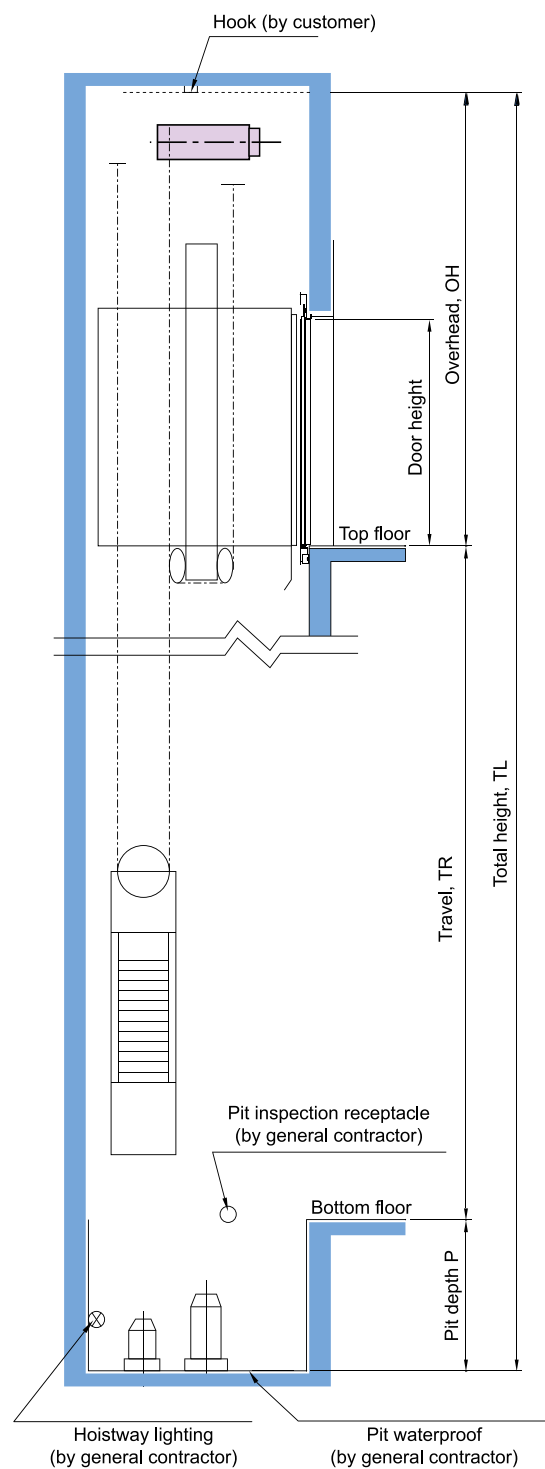
## OPTIONAL

- Hall jamb**  
Wide type jamb (Hairline finish stainless steel panel)
- Hall door**  
Hairline finish stainless steel panel
- Hall position indicator**  
Digital car indication
- Hall lantern**  
Translucent acrylic, Hairline finish stainless steel panel
- Hall sill**  
Hardened aluminium

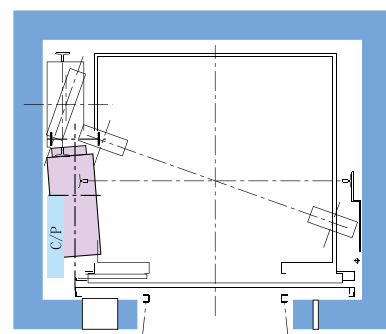


# Hoistway Layout

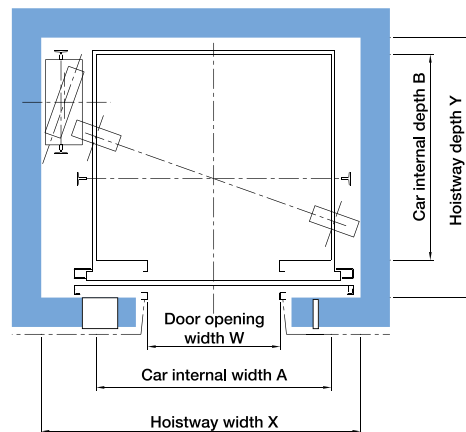
# Specifications



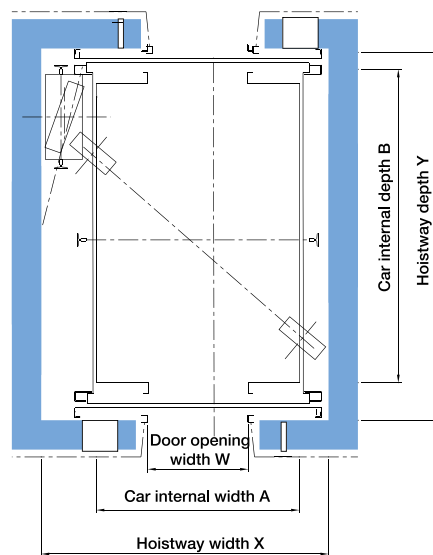
**Hoistway section**



**Top floor hoistway plan**



**Typical floor hoistway plan (W, D)**



**Typical floor hoistway plan (W, D)**

Type	Nos. of Person	Capacity (Kg)	Speed (m/s)	Cage size Internal(AxB) (mm)	Hoistway size(mm)			Motor Capacity (kw)	Max. Service Stops(s)	Max. Travel (m)			
					X*Y	OH	P						
P8-CO60	W	8	630	1	1400x1100	800	2085x1660	3900	1300	3.6	40	80	
	D				900	2245x1660							
W					1100x1400	800	1935x1775						
	D				900	2120x1775							
P8-CO96				W	1.6	1400x1100	800	2085x1660	4100	1400	5.8	40	100
	D			900		2245x1660							
W				1100x1400		800	1935x1775						
	D			900		2120x1775							
P8-CO105		W	1.75	1400x1100	800	2085x1660	4150	1450	6.3	40	100		
	D	900		2245x1660									
W		1100x1400		800	1935x1775								
	D	900		2120x1775									
P8-CO120		W	2	1400x1100	800	2085x1660	4250	1650	7.2	40	100		
	D	900		2245x1660									
W		1100x1400		800	1935x1775								
	D	900		2120x1775									
P11-CO60		W	11	825	1	1400x1350	800	2100x1770	3900	1300	4.7	40	80
	D	900				2200x1770							
		D2				800	1950x2050						
	D2					900	2120x2050						
P11-CO96		W			1.6	1400x1350	800	2100x1770	4100	1400	7.5	40	100
	D	900					2200x1770						
		D2					800	1950x2050					
	D2						900	2120x2050					
P11-CO105		W	1.75	1400x1350		800	2100x1770	4150	1450	8.3	40	100	
	D	900				2200x1770							
		D2				800	1950x2050						
	D2					900	2120x2050						
P11-CO120		W		2	1400x1350	800	2100x1770	4250	1650	9.5	40	100	
	D	900				2200x1770							
		D2				800	1950x2050						
	D2					900	2120x2050						
P14-CO60		W	14		1050	1	1600x1400	900	2300x1820	3900	1300	6.0	40
	D	1000					2400x1820						
		D2					800	1950x2450					
	D2						900	2120x2450					
P14-CO96		W		1.6		1600x1400	900	2300x1820	4100	1400	9.7	40	100
	D	1000					2400x1820						
		D2					800	1950x2450					
	D2						900	2120x2450					
P14-CO105		W	1.75		1600x1400	900	2300x1820	4150	1450	10.5	40	100	
	D	1000				2400x1820							
		D2				800	1950x2450						
	D2					900	2120x2450						
P14-CO120		W		2	1600x1400	900	2300x1820	4250	1650	12.0	40	100	
	D	1000				2400x1820							
		D2				800	1950x2450						
	D2					900	2120x2450						

※ Please contact us.

**Note:**

- The above table comply with GB7588:2003 standards.
- Please contact to our local agency to check for other standards.
- Hoistway dimensions are the minimum dimension after the construction work.
- The hoistway dimensions in chart are the minimum requirement.
- The hoistway structure wall must be 150mm thick or more.
- Piping, wiring and cables which is not relevant to elevator are prohibited inside the hoistway.
- OH value in the chart is for standard ceiling. As for the non-standard cars, please contact us.
- If the size of the hoistway is greater than above sizes, OH will be larger, please contact us.
- If the location of power source panel, control panel and electric power supply are changed, please contact us.

W: wide car D: deep car D2: front and rear opening door



## List of Functions

## Related Work of Construction Party

● STANDARD ○ OPTIONAL

	NOTES			NOTES	
Operations	Selective-collective full automatic operation	●	Service functions	Nuisance call cancellation (manual)	●
	2-car group selective collective full automatic operation Note 1	○		In-car prank cancellation Note 4	●
	3 and 4-car group supervisory operation system Note 1	○		Running times record	●
	Group supervisory full automatic operation	○		Data automatic recording function at the time of failure	●
	Independent operation	○		Repetitive door opening safety	●
	Attendant operation	○		Car indicator	●
Safety functions	Automatic landing function in system failure	●		Adjustable door open timing	●
	Automatic withdrawn from group operation	●		Door open extension button	○
	Inspection operation (INS)	●		Car chime	○
	Overload protection	●		Hall chime	○
	Overspeed protection	●		Hall full load indicator	○
	Fireman's operation Note 2	○		Hall lantern	○
	Fire emergency operation	●		Starting torque compensate	●
	Force landing feedback signal in emergency	●		Sub car operating panel	○
	In-car emergency operation displays	●		Hall out of service indicator	●
	Power failure emergency operation	○		Direction changing reopen	●
	Automatic landing in power failure	○		Parking operation (manual)	●
	Earthquake emergency operation	○		Automatic parking operation	○
	In-car emergency lamp (self-charging)	●		Lighting auto sleep	●
	Emergency electromotion succor (HRQ)	●		Ventilation auto sleep	●
	Braking security detection	●		Door open button lamp (as the car lighting has been cut off automatically)	●
	Emergency call button	●		Automatic selection clear upon direction reversal	●
	Motor racing protection	●		Five-way interphone	●
	Overload door reversal device	●		Group control in support running (only for group control)	○
	Mechanical door safety	●	Specific floor stop operation	○	
	Photoelectric cell door safety	○	Interface contact	IC card system	○
	Infrared light curtain door safety	○		Announce feature	○
	2 in 1 door closing protection (light-beam curtain + mechanical shoe)	○		Supervisory panel	○
	Automatic leveling	●		Remote monitoring Note 5	○
	Pulse position abnormality automatic correction	●	Interface for building automation system Note 6	○	
Car door zone position indicator	●	Expandable functions	Cable for camera	○	
Power resupply automatic running	●		In-car BGM	○	
Main floor homing	○		Cable for CCTV monitoring	○	
Service cut-off selection (software interface)	○		Wheel-chair aid specification Note 7	○	
Service floor cutoff switch (manual)	○	Air conditioning exclusive for elevator Note 8	○		
Full car bypass Note 3	●				

**Note**

- 1: Not applicable to a through type car;
- 2: Fire emergency operation and Fireman service cannot be applied simultaneously.
- 3: Standard function for 2-car operation or 3-car operation.
- 4: >5 floors and in-car weight<150kg;

- 5: This function shall be otherwise contracted;
- 6: For the details of the interface for building automation system, please contact us.
- 7: Handrail and car operating panel are included;
- 8: Overhead (OH) has to be increased, please contact us for details.

Classification	NO.	Scope of Work
Construction Work	1	Hoistway construction and fire-proofing work, and opening work around entrances of each floor
	2	Installation work of intermediate beam, back beam and lateral beams
	3	Installation work of fasteners for each floor and guide rail support columns for top floor for hoistways with steel frame structure and RC structure. Installation work of embedded parts and basic installation materials for the equipments.
	4	Backfill work around door jamb of each floor
	5	Finishing works of the walls and floors around entrances after furnishing the equipments related to landing entrances
	6	Water-proofing work of the pit, and construction of pit drainage facilities for emergency elevator
	7	Installation work of a guard rail or wall to prevent falling into the pit
	8	Manufacturing and backfill work of the ladders for pit.
	9	Installation work of emergency exits for rescue purposes and entrances.
	10	Installation work of bearing hooks on hoistway ceiling
	11	Temporary setup and removal of the entrances for equipment delivery.
	12	Setup and construction of supporting beams which are made of RC or formed steel and are used to fix supporting parts of the traction machine on the top of the hoistway
	13	Installation work of the entrance for pit inspection, lighting in the hoistway and vent opening at the top of the hoistway. (If necessary)
	14	Re-arrangement of the building plan if the space under the pit is to be used.
	15	Shelter the equipments from direct rain contact.
Equipment Work	1	Wiring work of power source panels (power supply and lighting supply) and grounding of elevator control panel
	2	Necessary piping and wiring works of the interphone from supervisory room to control panel and the other elevators
	3	Piping and wiring works for remote elevator monitoring system (piping and wiring works from telephone repeater panel to elevator receiving panel)
	4	Furnishing work of receptacles for inspection in the pits
	5	Installation work of the smoke detector, fire sensors and lighting system in hoistway
	6	Supply and installation of the switching devices for emergency power supply during power failure and two pairs of relay contacts for normal/emergency power identification and the relevant piping /wiring. (If necessary)

**Note:**

- Space for Indoor installation and material storage shall be provided free of charge.
- Guard fence shall be set up around the construction site.
- Electricity for installation work and trial run shall be provided free of charge.
- There shall be no exposed pipes such as piping for other purposes and ventilation pipes in the hoistway.
- Fluctuation of supply voltage: power supply for elevator within ±10%, power supply for lighting ±2%.
- Please keep the temperature in hoistway within 5°C-40°C, monthly average relative humidity of the most humid month below 90%, and average temperature per month is not higher than 25°C.
- For a special-structure hoistway, if the temperature in the hoistway exceeds 40°C, ventilation equipment shall be provided according to the installation environment.
- There shall be no wastes or toxic and harmful gas in hoistway.
- Neither hoistway nor entrance shall be exposed to weather to prevent embedded parts from corrosion.

**Quotation and Consultation**

At inquiry of the estimate, please inform us of the following:

1. Building name and address.
2. Desired type and number of set.
3. Number of stops.
4. Floor height.
5. Voltage and frequency of main power supply.
6. Desired completion date.

## Global network

Together with our global partners, we will connect with Asia and then the world, through our technology and our spirit.  
The planet is our shared heritage. We must live together, grow together and delight in one another.



**CHEVALIER (HK) LIMITED**  
Head Office : 22nd Floor, Chevalier Commercial Centre 8  
Wang Hoi Road, Kowloon Bay Hong Kong



**TOSHIBA ELEVATOR (SHENYANG) CO.,LTD.**  
Head Office : No.5 Feiyun Road Hunnan New District Shenyang, The People's Republic of China



**TOSHIBA ELEVATOR (CHINA) CO.,LTD.**  
Head Office : No. 685 Wen Chuan Road, Baoshan District, Shanghai 201901, The People's Republic of China.



**TOSHIBA ELEVATOR PRODUCTS CORPORATION**  
Head Office: 1000, Hamada, Amiboshi Ward, Himeji City, Hyogo Prefecture



**Uenohara Operations**  
Head Office: 8154-10 Uenohara Uenohara City, Yamanashi 409-0112 Japan



**Fuchu Factory**  
Head Office: 1 Toshiba-cho Fuchu City, Tokyo 183-8511 Japan



**CHEVALIER SINGAPORE HOLDINGS PTE.LTD.**  
Head Office : 23 Genting Road #07-01/02 Chevalier House, Singapore 349481



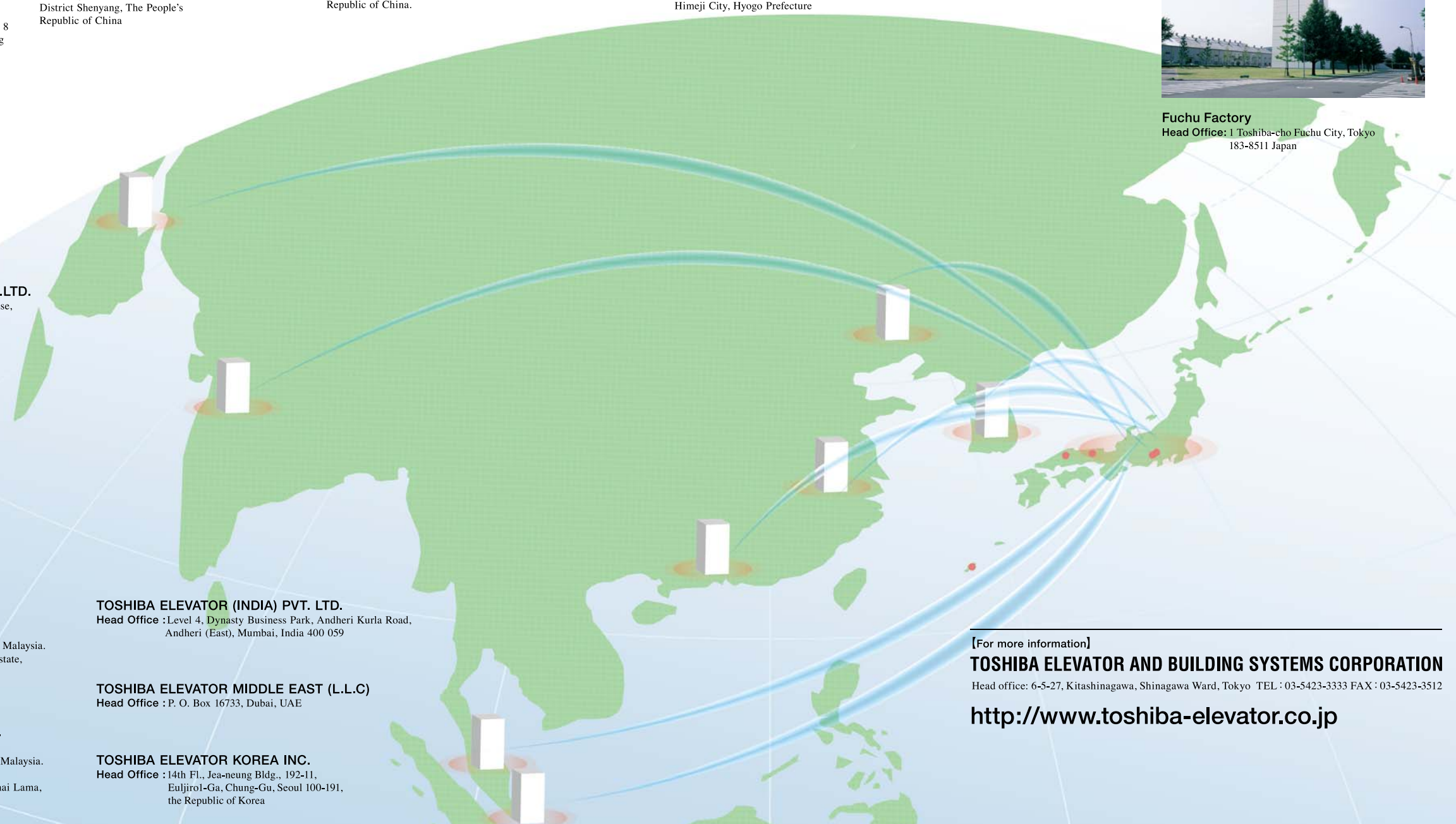
**MS ELEVATORS Sdn. Bhd.**  
Head Office : 8th Floor Wisma Penang Garden, 42 Jalan Sultan Ahmad Shah, 10050 Penang, Malaysia.  
Factory : 2530, Lorong Perusahaan 10, Prai Industrial Estate, 13600 Prai, Province, Wellesley, Malaysia.

**MS ELEVATORS ENGINEERING Sdn. Bhd.**  
Head Office : 8th Floor Wisma Penang Garden, 42 Jalan Sultan Ahmad Shah, 10050 Penang Malaysia.  
KL Office : Wisma MS, No.15, Jalan 2/116 D, Kuchai Entrepreneurs' Park, Off Jalan Kuchai Lama, 58200 Kuala Lumpur, Malaysia.

**TOSHIBA ELEVATOR (INDIA) PVT. LTD.**  
Head Office : Level 4, Dynasty Business Park, Andheri Kurla Road, Andheri (East), Mumbai, India 400 059

**TOSHIBA ELEVATOR MIDDLE EAST (L.L.C)**  
Head Office : P. O. Box 16733, Dubai, UAE

**TOSHIBA ELEVATOR KOREA INC.**  
Head Office : 14th Fl., Jea-neung Bldg., 192-11, Euljiro1-Ga, Chung-Gu, Seoul 100-191, the Republic of Korea



[For more information]  
**TOSHIBA ELEVATOR AND BUILDING SYSTEMS CORPORATION**  
Head office: 6-5-27, Kitashinagawa, Shinagawa Ward, Tokyo TEL : 03-5423-3333 FAX : 03-5423-3512

<http://www.toshiba-elevator.co.jp>