#### **3rd Edition**

For EN standard

\* Revised publication effective Jun. 2023

**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

72-34, Horikawa-cho, Saiwai-ku, Kawasaki 212-8585, Japan

Please enter the contents from the "Inquiry Input Form" in website. https://www.toshiba-elevator.co.jp/elv/infoeng/

GK-F212(3)-2306-1000-2306(TD)

#### **TOSHIBA**

Toshiba Compact Machine Room Elevators Standard Passenger Elevator

**ELCOSMO-III** 

For EN standard

<sup>-</sup> The data given in this catalog are subject to change without notice.

# THE SOLUTIONS

#### **COMPANY SOLUTIONS**

Toshiba Elevator and Building Systems Corporation has built a framework which encompasses all aspects from system development to production, sales to marketing, installation, adjustment, maintenance and services in order to provide clients with the highest quality products and services.

Utilizing the comprehensive technological infrastructure developed by Toshiba Group in more than 140 years since its foundation, we aim to enhance the leading edge technology and quality that we used to develop the ultra high speed elevator, harnessing Toshiba's technological innovations to their fullest extent. To meet clients' expectations and requirements for safe and pleasant elevators as well as constantly pursuing further innovation and improvement. Furthermore, we are aiming to strengthen system development, production, enhancing sales channel and sales partnership to expand in the global market.

#### **CONCEPT of ELCOSMO-**III

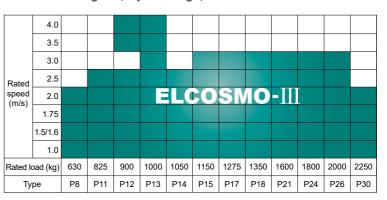
Toshiba manufactures elevators by applying the latest technology and improved elevator development skills. ELCOSMO-III, the most recent high-end compact machine room elevator, which incorporates various technologies to save energy and time, contributes to global environment.

#### **■ Product Line-up**

Expanded the applicable speed of the ELCOSMO-III.
We can comply with various needs such as building use, layout design, etc.

Scope of specification	Range of application
Passenger 8 ~ 30 persons	
Rated load	630 ∼ 2250 kg
Rated speed	1.0 ~ 4.0 m/s

Note1: Applicable range of rated speed 3.5 or 4.0m/s are rated load 900 or 1000kg only Note2: Applicable range of rated load 2250kg are rated speed 2.0m/s or less.

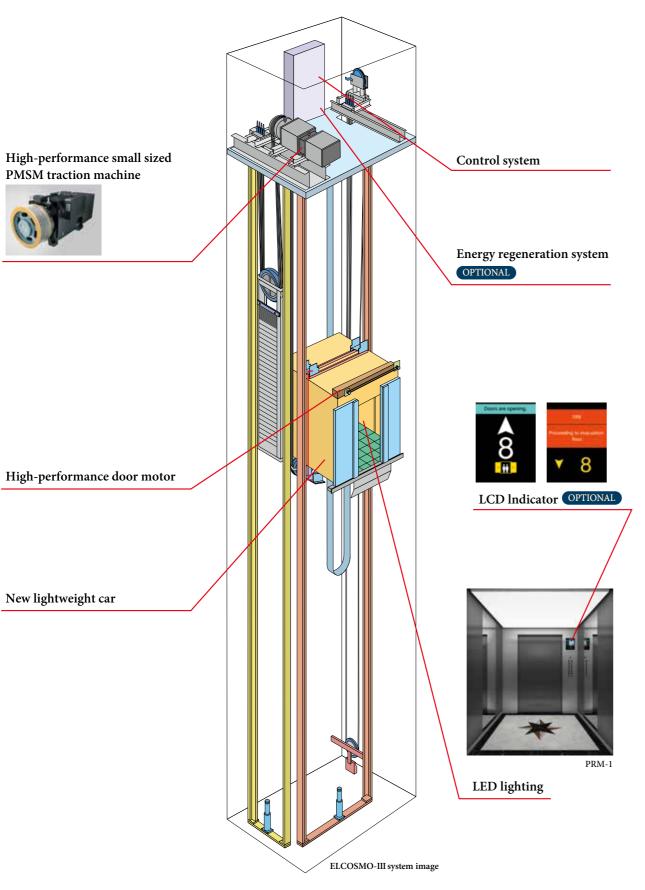


# The Solutions Company of Michael Company of Michael

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## **TECHNOLOGY**



#### **New Technology**

#### High-performance Small Sized PMSM Traction Machine

- ◆ Compact PMSM (Permanent Magnet Synchronous Motor) for space saving.
- ♦ Over 30% less power consumption (compared to conventional electric motor).
- ◆ Gearless traction without gear oil for low vibration, low noise and better environmental conservation.

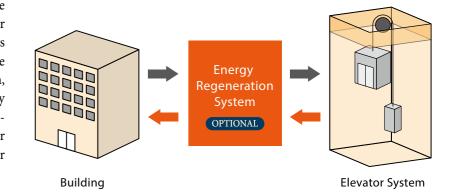


#### High Performance Control Systems

A high performance CPU is adopted for control systems. This control system enables to reduce standby electricity, automatic shutoff system for lightings and ventilation to contribute furthermore reduction of electricity.

#### Energy Regeneration System OPTIONAL

An energy regeneration device feeds energy back to the power grid while the traction machine is under power generation to achieve high-efficiency energy utilization, which results in over 38% energy conservation (with the assumption of 1050kg, 1.75m/s, 12-hour operation per day, 25 days per month).



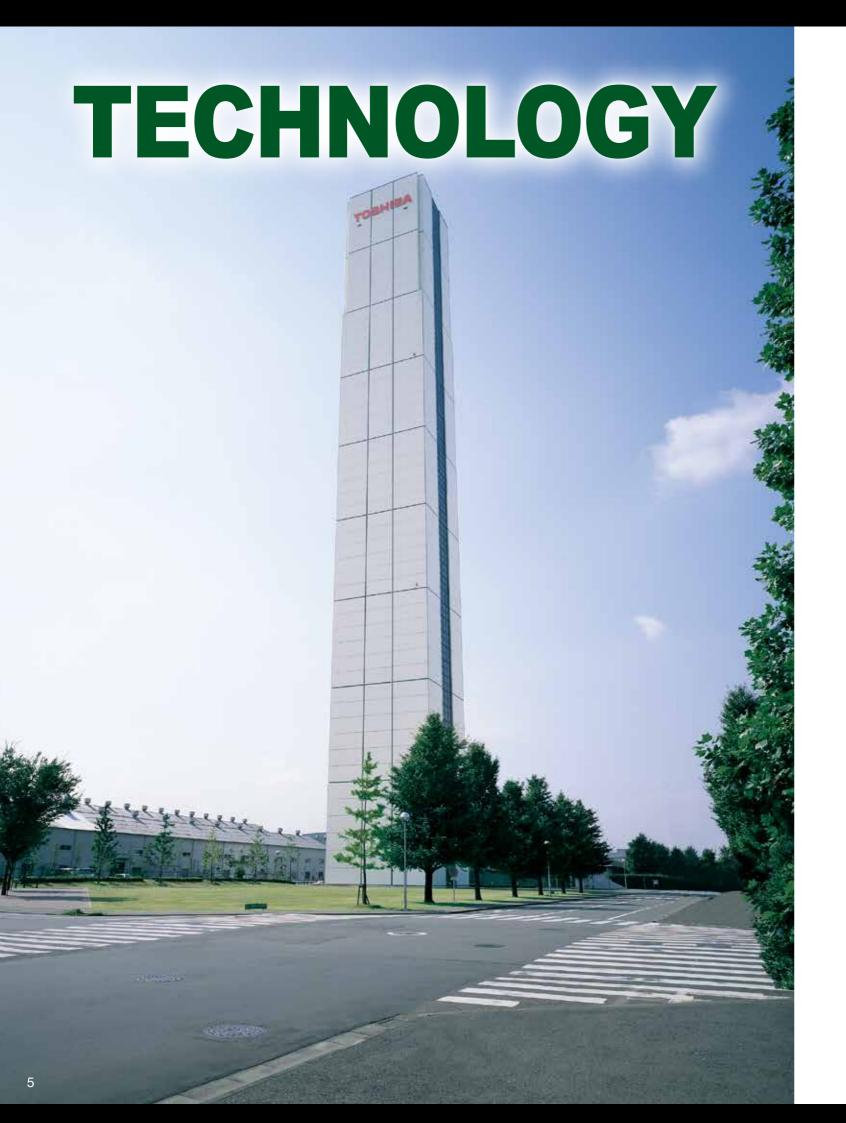
#### Use of Roller Guide OPTIONAL

A roller guide is used instead of a conventional sliding guide shoe. Features include:

- ◆ Comfort: Using the successful vibration damping solution from the high-end elevator type, riding comfort is further improved after roller guide is mounted on the car.
- ♦ High efficiency: Visible improvement of the mechanical efficiency with lower friction and energy consumption.
- ◆ Environmental conservation: Lubrication oil and lubrication unit are eliminated and replaced by a long-life rubber roller to reduce environmental pollution.



The actual product colors may vary slightly from those printed colors in this catalog.



#### **Safety Function**

#### **Unintended Car Movement Protection**

A traction drive elevator shall include means to prevent uncontrolled movement of the elevator away from the landing with neither the landing nor the car doors in the locked position. The Elevator shall detect uncontrolled movement of the car away from the landing and stop no more than 1200mm after as measured from the landing floor sill. Before operation, the uncontrolled car movement protection system means for an ascending elevator, the clearance between the landing door floor sill and the apron of the stopped elevator shall not exceed 200mm. In additional, uncontrolled movement protection means the horizontal distance between the sill or entrance frame of the stopped elevator and the wall of the well, from the landing floor sill to 1200mm downward for a descending elevator.

#### Car Door Lock OPTIONAL

Every car door shall be mechanically locked by at least 7mm such that it can only be opened in the unlocking zone of a landing. The lift operation shall automechanically depend on the locking of the car door. This locking shall be proved by an electrical safety device to confirm the horizontal distance between the well wall and the sill or entrance frame of the car is within 150 mm.

#### **Ascending Car Overspeed Protection**

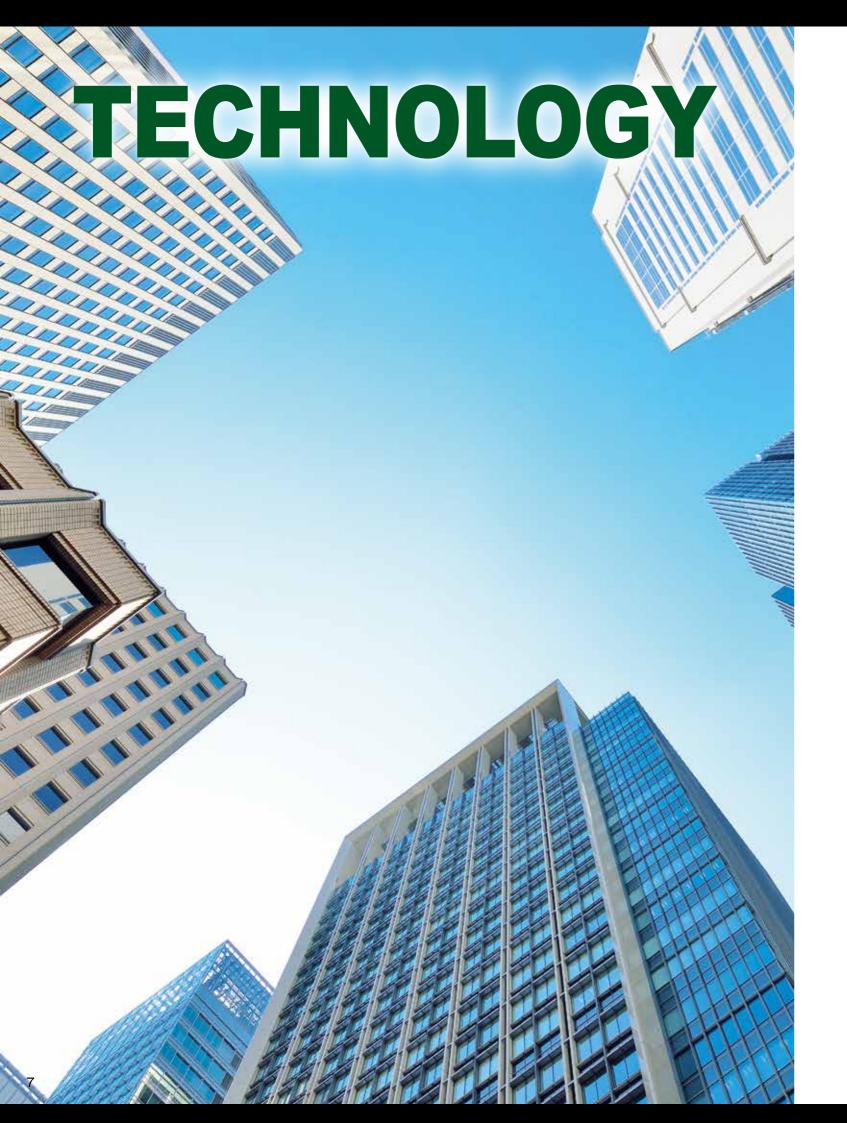
A device to prevent an elevator ascending to the elevator shaft top beyond the rated speed due to a device like an electromagnetic brake or control unit. It monitors the speed of the upper direction mechanically by a governor, then cut off the power supply and safety circuit by an overspeed detecting switch when the speed exceeds the rated speed more than 1.3 times. The elevator shall be stopped by triggering the double brake when overspeed occurred.

#### 2-in-1 door safety

(multi-beam door safety + mechanical door safety) A combination of multi-beam door safety and mechanical door safety.

Full open Full open (Getting off) (Getting on)

\* Image of Multi-beam Door Safety



#### **Safety Function**

#### Automatic Landing in Power Failure

#### OPTIONAL

In case of a power failure, backup lamps are automatically lighted up in the cars, while the system's operation is switched to the elevator system's own battery powered inverter. Cars stranded between floors are taken to the nearest floor; otherwise, doors are opened and passengers are let out. The doors automatically open in case the car stops at any point that is not between floors but where the doors can be opened. (Note: Overridden by any similar backup or safety systems installed in compliance with safety codes.)

#### Earthquake Emergency Operation

#### OPTIONAL

When the system's seismic sensor installed in the elevator shaft detects an S-wave (the secondary seismic wave and the main shock of an earthquake) that exceeds the pre-set threshold, the system takes control with emergency procedures. "Earthquake" emergency signs lighted up in all cars, all cars are taken immediately to the nearest floor, doors are opened and passengers are instructed to alight.

#### Fire Emergency Operation

#### OPTIONAL

This emergency operation is automatically triggered in case of a fire, when a fire alarm button is actuated, or when a Fire/Smoke Detector detects an abnormality. All hall calls and floor selections are cancelled, passengers are informed of the emergency procedure with a "Fire" sign and a voice announcement and all cars are sent directly to the emergency exit floor. Doors open at the emergency floor and passengers are guided to safety.

#### Power failure detected.

0

The elevators sto

0

In each car, the "Power Failure" sign lights up and the in-car PA system instructs passengers with the following message:

"Please get off this elevator as soon as the doors open."

0

The car goes to the nearest floor, and the doors open.

0

After a pre-set period, the doors are closed.

0

Normal operation resumes when power supply is back.

X Above flowchart is representable example

#### Earthquake detected.

A seismic sensor triggers emergency operation.

0

In each car, the "Earthquake" emergency sign lights up and the in-car PA system instructs passengers with the following message: "Please get off this elevator as soon as the doors open."

0

The car goes to the nearest floor and the doors open.

Ω

After a pre-set period, the doors are closed.

 $\ensuremath{\ensuremath{\%}}\xspace Above flow$ chart is representable example

#### FII

0

Fire Alarm is actuated.

In each car, the "Fire" emergency sign lights up and the in-car PA system instructs passengers with the following message:

"Please get off this elevator as soon as the

0

The car goes to the emergency exit floor, the doors open.

0

After a pre-set period, the doors are closed.

\*Above flowchart is representable example

## TECHNOLOGY



#### **Energy Saving & Environment**

#### Toshiba Group and the SDGs

The main plank of the "Toshiba Group Basic Commitment" is "Committed to people, Committed to the Future." This expresses Toshiba Elevator and Building Systems is unwavering determination to contribute to the development of society through its business, and is consistent with the direction of the SDGs, which aim to realize a sustainable society. Acting in good faith in our daily activities, and with a passion to make the world a better place, looking to the future beyond the next generation, and to create that future with our stakeholders-inspired by these ideas, Toshiba Elevator and Building Systems has and will continue to bring together the creativity and technological capabilities it has cultivated to confront social issues that are becoming more complicated and serious, and to turn on the promise of a new day.

Note: Toshiba Elevator and Building Systems is working on business activities by extracting 11 items that can be promoted from all 17 types of SDGs goals.

#### SUSTAINABLE GALS DEVELOPMENT GALS

























#### Products and functions adopted to reduce power consumption

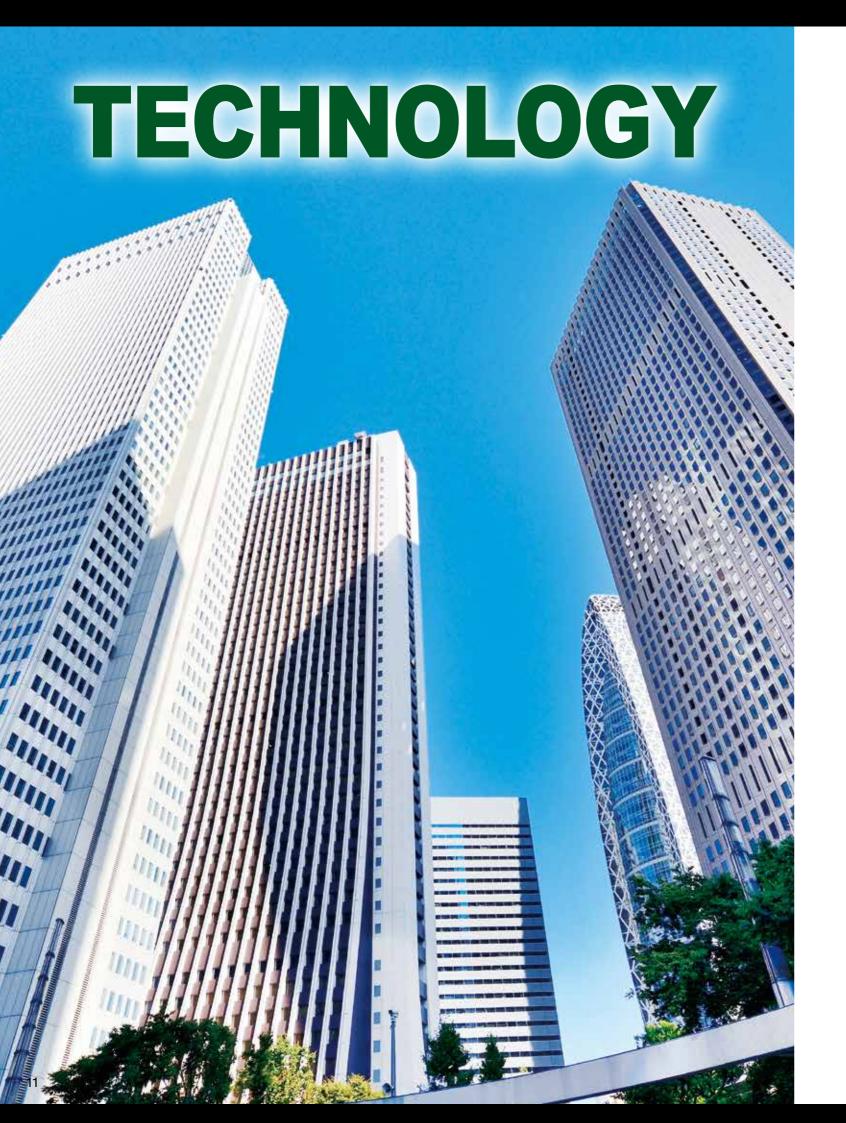
Suppress power consumption by reducing standby power, commercialization of the regenerative power function, adoption of LED lighting.

#### **LED Lightings**

Under equal brightness, an LED lighting system only consumes 10% of electrical with comparison of an incandescent lamp and 50% of an fluorescent lamp. (part of the ceiling)



PRM-1



#### **Energy Saving & Environment**

#### Providing environmentally conscious products

Toshiba elevator group is promoting the development of environmentally conscious products, which involves environmentally conscious product design, assessing the environmental impact of products and disclosing the environmental performance of products. Products are developed in compliance with the updated voluntary environmental performance standards.

#### Product assessment and voluntary environmental standards for products

In developing products, we assess them across their life cycles from manufacturing, logistics and use to disposal and recycling to conduct product development and reduce the environmental impacts on the global environment

Whereas product assessment is used to confirm the minimum necessary environmentally conscious requirements for product development, Voluntary Environmental Standards for Products have been established in the Toshiba elevator group to create highly environmentally friendly products and products complying with the same are released as environmentally conscious products.

#### Reducing hazardous materials

[Reduction of lead use]

By changing the method of tying rope, the use of lead can be eliminated or reduced.

[Employing LED lightings]

By employing LED light, various materials used for light became mercury free.

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

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



## **Expansion of variations in car ceiling design**

Suitable for harmonization of a wide variety for building applications and concepts.

Expanding the lineup of ceiling designs utilizing LED lighting

All ceiling lighting uses LED lighting to take environmental measures such as long life and energy saving.



## OFFICE



#### PRM-1

Front view



Back view



Ceiling design	PRM-1 Light shade (Ceiling entire surface)	
Car side panel (Return panel)	Vibration finish stainless steel	
Car side panel (Side panel)	Black color hairline finish stainless steel and Mirror finish stainless steel	
Car side panel (Rear panel)	Black color hairline finish stainless steel and Mirror finish stainless steel	
Kick plate	Hairline finish stainless steel	
Car door	Black color hairline finish stainless steel	
Car floor	Marble (JQ-1013)	
COP	POP-G1L-104C	
Button	KB-3A	
Indicator	10.4 inch Color LCD	
Remark	Applies to models with a capacity of 1150kg or more.	

#### Design variations

The publication of this page is an example of design.

Please refer to the "DESIGN SELECTION" catalog for each the condition and other designs.

PRM-2



TL-S2



OPTIONAL DLC-1



SL-3X



## RESIDENCE

OPTIONAL

#### **DLX-27**

Front view



Front side view



Ceiling design	DLX-27 Hairline finish stainless steel (Central part: Mirror finish stainless steel)
Car side panel (Return panel)	Hairline finish stainless steel
Car side panel (Side panel)	Hairline finish stainless steel
Car side panel (Rear panel)	Hairline finish stainless steel
Kick plate	Nil
Car door	Hairline finish stainless steel
Car floor	Vinyl tile (MID809)
COP	POP-G1NL
Button	GS-6A-BT
Indicator	LED segment
НСОР	HCOP-G1D (Button: UB-1)

#### Design variations

The publication of this page is an example of design.

Please refer to the "DESIGN SELECTION" catalog for each the condition and other designs.

DLX-25



TL-1



OPTIONAL DLX-21



SL-P1



The actual product colors may vary slightly from those printed colors in this catalog. Please consult our local distributor before adoption about the material and the color.



#### DLX-31

Front view



Back view



Ceiling design	DLX-31 Hairline finish stainless steel	
Car side panel (Return panel)	Black color mirorr finish stainless steel	
Car side panel (Side panel)	Black color mirorr finish stainless steel and Mirror etching finish stainless steel (DZ-008)	
Car side panel (Rear panel)	Black color mirorr finish stainless steel and Mirror etching finish stainless steel (DZ-008)	
Kick plate	Nil	
Car door	Mirror etching finish stainless steel (DZ-008)	
Car floor	Marble (JQ-1012)	
COP	POP-G1L-57B	
Indicator	5.7 inch Color LCD	
Handrail	Nil	

#### Design variations

The publication of this page is an example of design. Please refer to the "DESIGN SELECTION" catalog for each the condition and other designs.

DLX-24





DLC-1







OPTIONAL

DLX-22

Front view



Back view



Ceiling design	DLX-22 Hairline finish stainless steel	
Car side panel (Return panel)	Vibration finish stainless steel and Mirror finish stainless steel	
Car side panel (Side panel)	Vibration finish stainless steel and Mirror finish stainless steel	
Car side panel (Rear panel)	Vibration finish stainless steel	
Kick plate	Nil	
Car door	Mirror finish stainless steel	
Car floor	Marble (JQ-1013)	
COP	POP-G1L-57B	
Button	KB-7B	
Indicator	5.7 inch Color LCD	

#### Design variations

The publication of this page is an example of design.

Please refer to the "DESIGN SELECTION" catalog for each the condition and other designs.

SL-P1



DLX-28



OPTIONAL DLX-23



OPTIONAL TL-S1





#### Hall Decoration Item Variation

The combination of elevator hall equipment and specifications extends design. It can be easily harmonized with the entrance design of the building.











Hall design 6

n 6 Hall design 7

#### Hall design 1 OPTIONAL

Hall jamb Wide inclined type

Vibration finish stainless steel

Hall Transon

Vibration finish stainless steel

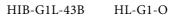
Hall Door

Vibration finish stainless steel

Hall Indicator / HIB-G1L-43B

Button KB-1A
Hall Lantern HL-G1







Note : In the case of jamb with transom, fire-proof specification cannot be applied to the transom.

The actual product colors may vary slightly from those printed colors in this catalog.

#### Hall design 2 OPTIONAL

Hall jamb

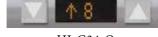
Wide inclined type Mirror finish stainless steel

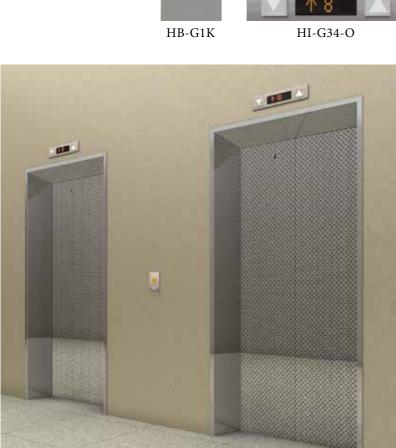
Hall Door Mirror etching finish stainless steel (DZ-018)

HI-G34-O **Hall Indicator** Hall Button HB-G1K KB-1B Button











#### Hall design 3 OPTIONAL

Hall jamb

Wide inclined type Hairline finish stainless steel

Hall Door Hairline finish stainless steel

Hall Indicator HI-G1 Hall Button HB-G1 Button

Other Hall Emergency Operationg Panel











#### Hall design 4 OPTIONAL

Wide inclined type Hairline finish stainless steel Hall Jamb

Hall Door Painted steel panel (77GS)

Hall Indicator / Hall Button

HIB-G1NL-O

Button GS-7B-B









#### Hall design 5 OPTIONAL

Hall Jamb

Narow type Hairline finish stainless steel

Hairline etching finish stainless steel (DZ-007) Hall Door

Hall Indicator/ Hall Button HIB-G1N-O

Button NB-1B



HIB-G1N-O





#### Hall design 6 STANDARD

Hall Jamb Narow ty

Narow type Painted steel panel (62YS)

Hall Door Painted steel panel (62YS)

Hall Indicator / Hall Button

HIB-G1NL-L-O

**Button** GS-7A-BT







#### Hall design 7 OPTIONAL

Hall jamb

Wide inclined type Hairline finish stainless steel

Hall Door

Hairline finish stainless steel

Hall IndicatorHI-G1L-57BHall ButtonHB-G1K











## OPERATION SYSTEMS





#### Car Operation Panel: G1NL series

※Note: Applicable to Wide Car type models

POP type



SL-P1



FCOP type





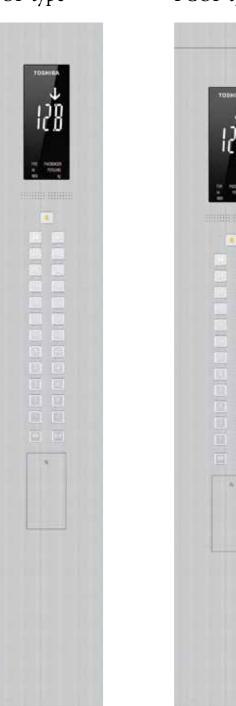
#### Button Line-up

GS-5-B	GS-5A-B	GS-5B-B
СО-2-В	GS-5A-D	G3-3D-D
$\uparrow$		$\bigcirc$
GS-5-BT	GS-5A-BT	GS-5B-BT
1		
GS-5-W	GS-5A-W	GS-5B-W
GS-5-WT	GS-5A-WT	GS-5B-WT
GS-6-B	GS-6A-B	GS-6B-B
1	1	1
GS-6-BT	GS-6A-BT	GS-6B-BT
1	$\uparrow$	1
GS-6-W	GS-6A-W	GS-6B-W
		*
GS-6-WT	GS-6A-WT	GS-6B-WT
	lacktriangle	7
GS-7-B	GS-7A-B	GS-7B-B
4		*
GS-7-BT	GS-7A-BT	GS-7B-BT
4		4
GS-7-W	GS-7A-W	GS-7B-W
GS-7-WT	GS-7A-WT	GS-7B-WT
UB-3	UB-3A	UB-3B
$\uparrow$	1	$\uparrow$

#### Car Operation Panel: G1NS series & Hall Indicator Button: G1NL series

\*Note: Applicable to Wide Car type models

#### POP type



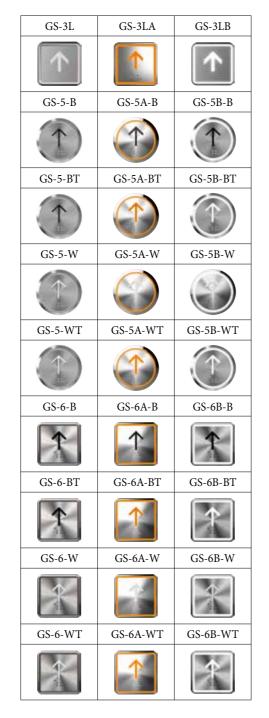
POP-G1NS

OPTIONAL

#### FCOP type

FCOP-G1NS

OPTIONAL



#### Button Line-up

#### LED Segment

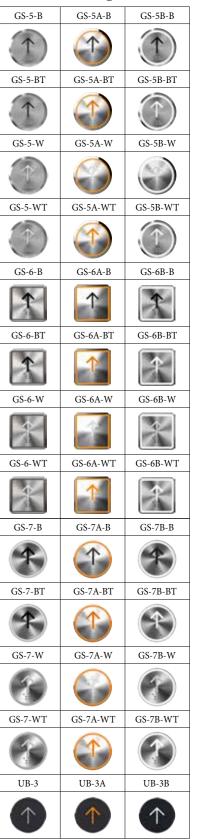


#### LED Dot Matrix

 $\mbox{\ensuremath{\%}}$  Note: A white color or orange color can also be selected for the LED light.



#### Button Line-up



#### Car Operation Panel: G1L series

\*Note: Applicable to Wide Car type models

#### POP type



POP-G1L-104C OPTIONAL



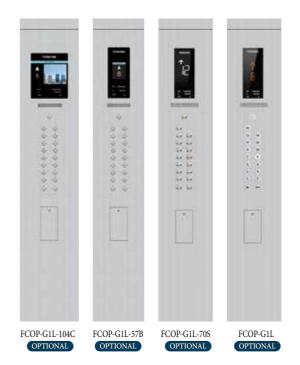
PRM-1



FCOP type









#### **Button Line-up**



KB-8B

KB-8

KB-8A

#### Car Operation Panel & Hall Indicator Button: G1N series

 $\ensuremath{\ensuremath{\mathsf{W}}}$  Note: Applicable to Wide Car type models



COP-G1N OPTIONAL COP-G1N-70S

#### Button Line-up

NB-1	NB-1A	NB-1B
*	*	1
NB-2	NB-2A	NB-2B
X		#



#### HIB type

#### LCD Segment

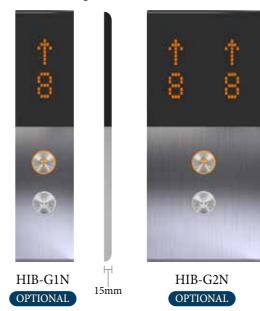


#### Button Line-up

NB-1	NB-1A	NB-1B
*		个
NB-2	NB-2A	NB-2B
X		4

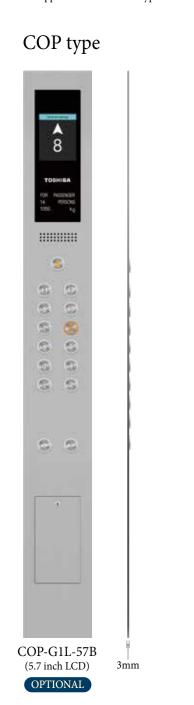
#### LED Dot Matrix

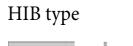
 $\mbox{\ensuremath{\%}}$  Note: A white color or orange color can also be selected for the LED light.



#### Car Operation Panel & Hall Indicator Button : G1L · G1K series

\*Note: Applicable to Wide Car type models







#### Button Line-up



#### COP type



COP-G1K-O

#### HIB type



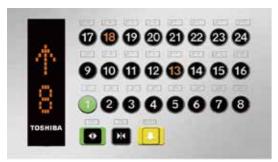
#### Button Line-up

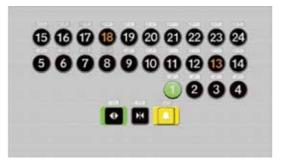


#### Car Operation Panel: HCOP series

 $\ensuremath{\ensuremath{\mathsf{W}}}$  Note: Applicable to Wide Car type models

#### HCOP type





HCOP-G1D OPTIONAL

HCOP-G1D-N OPTIONAL



#### Button Line-up

UB-1	UB-1A	UB-1B
2	2	2
UB-2	UB-2A	UB-2B
2	2	2



HCOP-G1NS-N OPTIONAL

#### Button Line-up

GS-3L	GS-3LA	GS-3LB
<b></b>	<b></b>	<b>*</b>
GS-5-B	GS-5A-B	GS-5B-B
1		
GS-5-BT	GS-5A-BT	GS-5B-BT
1		
GS-5-W	GS-5A-W	GS-5B-W
GS-5-WT	GS-5A-WT	GS-5B-WT
GS-6-B	GS-6A-B	GS-6B-B
1	1	7
GS-6-BT	GS-6A-BT	GS-6B-BT
1	1	
GS-6-W	GS-6A-W	GS-6B-W
*		*
GS-6-WT	GS-6A-WT	GS-6B-WT
7	1	#



HCOP-G1K-N OPTIONAL

#### Button Line-up

	•	
KB-1	KB-1A	KB-1B
2	2	2
KB-2	KB-2A	KB-2B
2	2	2
KB-3	KB-3A	KB-3B
2	2	2
KB-4	KB-4A	KB-4B
2	2	2
KB-7	KB-7A	KB-7B
8	3	2
KB-8	KB-8A	KB-8B
	2	2

#### Hall Button OPTIONAL





#### Button Line-up

NB-1	NB-1A	NB-1B
X		*
NB-2	NB-2A	NB-2B
		(+)
GS-3L	GS-3LA	GS-3LB
$ \boxed{ \uparrow } $	<b>+</b>	+

#### Button Line-up

KB-1	KB-1A	KB-1B
2	2	2
KB-2	KB-2A	KB-2B
2	2	2
KB-3	KB-3A	KB-3B
2	2	2
KB-4	KB-4A	KB-4B
2	2	2
KB-7	KB-7A	KB-7B
	3	2
KB-8	KB-8A	KB-8B
<b>E</b>	2	2

#### Hall Lantern

#### Hall Lantern OPTIONAL

 $\ensuremath{\mathrm{\%}}$  Note: A white light or orange light can also be selected for the lantern light.









HL-G1-O (Orange light)

HL-G2-W (White light)

HL-G3-O (Orange light)

HL-G4-O (Orange light)

#### Hall Indicator

#### Hall Indicator OPTIONAL

LED Dot matrix

\*Note: A white color or orange color can also be selected for the LED light.





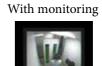
HI-G1-O

HI-G34-O

#### LCD Hall Indicator OPTIONAL

5.7 inch Color LCD





Controlled status

HI-G1L-57B

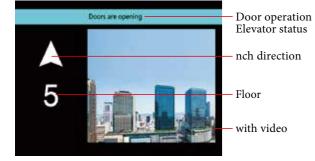
#### Car Position Indicator

#### Large LCD Indicator for Car Operation Panel OPTIONAL

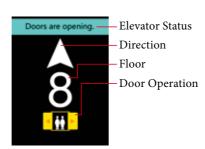
These 10.4 inch and 8.4 inch LCD indicators are capable of displaying in the elevator's various conditions (emergency operations, maintenance status) in large icons and letter in highly visible colors.

#### 10.4 inch Color LCD

#### General car display (Without monitoring)



#### 8.4 inch Color LCD



General car display (With monitoring)



A 8

Doors are opening.

A With monitoring



Display under controlled status





#### 5.7 inch Color LCD

General car display



With monitoring



With video



Controlled status



#### LCD Segment



LED Segment



#### LED Dot matrix



#### **Functions**

 $\bigcirc$ : STANDARD  $\triangle$ : OPTIONAL

Functions	Notes	Descriptions						
	Simplex selective-collective fully automatic operation	Fully automatic operation by hall and car calls for single car	0					
	Duplex selective collective fully automatic operation (Note 1)	Fully automatic operation for 2 cars in the same group	Δ					
	3 or 4-car group supervisory control system (Note 1)	Fully automatic operation for 3 or 4 cars in the same group	Δ					
Operations	Group supervisory control system	For supervisory operation of groups of more than 4 cars, please contact us	Δ					
	FLOORNAVI	Destination Control System	Δ					
	Independent operation	Lift car separated from group control operation and responde to car call only	Δ					
	Attendant operation	Operation by attendant by switch & button provided at service cabinet in COP	Δ					
	Automatic landing function when system fails	When system failure occurs, the lift will automatically land at the nearest floor and the door will open for passengers to exit	0					
	Automatic withdrawn from group control	If an elevator under a group supervisory operation fails to run for some reason, the elevator is cut out of the group and the other elevators automatically back up the faulty one to continue the group supervisory operation.	0					
	Car inspection operation [INS]	During car inspection operation, the lift car will run at slowly speed without responding to hall call	0					
	Overload protection	The car overload buzzer will sound to prevent overloading and the doors will remain open						
	Fireman's operation (Note 2)	In the event of fire, when the Fireman's switch is activated, the designated lift will be ready for firemen to use	Δ					
	Fire emergency operation	In the event of fire, all lifts will return to the designated floor and stop operation to allow passengers to exit	Δ					
Safety	Emergency operation indication at COP	In the event of an emergency, the emergency operation status will be displayed at COP						
Functions	Power failure emergency operation	In the event of power failure, all lifts will return to the designated floor by emergency power supply from the building to allow passengers to exit						
	Automatic landing during power failure [TOSLANDER]	In the event of power failure, the lift will land at the nearest floor by emergency battery	Δ					
	Earthquake emergency operation	In the event of an earthquake, the elevator will detect the seismic signal and land at the nearest floor	Δ					
	In-car emergency lamp [Self-charging]	In the event of power failure, the in-car emergency lamp will be activated	0					
	Emergency call button	A button for passenger to make an emergency call when they are trapped inside the lift	0					
	Door open when lift car is overloaded	The doors will re-open when over load is detected, even during the closing of doors.	0					
	2 in 1 door safety [Multi-beam door safety + Mechanical door safety]	A combination of multi-beam door safety and mechanical door safety	0					
	Home landing	To reduce passenger waiting time, the lift will return to the designated floor and stand by	Δ					
Service Functions	Service floor cut-off selection [Software interface]	This is of the free setting type, where the elevator superintendent for every building is free to set and modify service cutt-off floors even after in use. This is the most appropriate type for such office buildings as their tenants are not yet fixed before complection.						

- Notes

  1: Not applicable to lift car with through door.

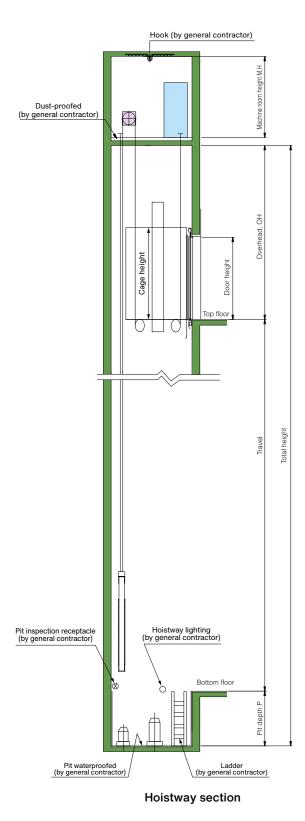
  2: Fire emergency operation and fireman service cannnot be applied simultaneously.

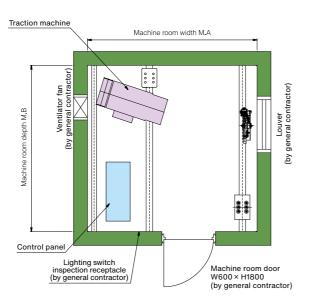
  3: Standard function for 2-car operation or 3-car operation.

  4: Car load is less than 150kg and there are five or more registered car calls.

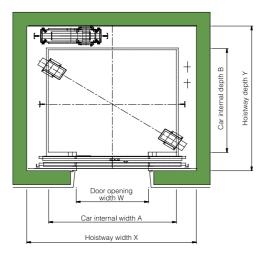
 $\bigcirc$ : STANDARD  $\triangle$ : OPTIONAL

Functions	Notes	Descriptions	
	Service floor cut-off selection [Manual]	linstalling a switch or a timer on the supervisory panel, disables registration of car calls or hall calls for a basement floor's or an intermediate floors or intermediate floors thus engaging in non-stop (bypass) without servicing there.	Δ
	Full car bypass (Note 3)	When the lift car is full, the lift will bypass all hall calls and go straight to the designated floor	0
	Car call cancellation	The floor call can be cancelled from the COP by pressing the floor button twice within 3 second	0
	Nuisance call cancellation (Note 4)	Incorrect or nuisance floor calls can be cancelled to eliminate unnecessary operation	0
	Door repeated opening	When an obstacle is detected, the door will repeatedly open and close until the obstacle is removed	0
	Car indicator	Car indicator with the car operating panel	0
	Adjustable door opening time	Adjusts the door opening time to reflect building usage	0
	Door open extension button	Extends the door opening time	Δ
	Car chime	A chime installed in the car ceiling will sound when the lift arrives	Δ
	Hall chime	A chime installed in the lift lobby will sound when the lift arrives	
	Car full load indicator	"Full Load" will display on the hall indicator when the lift car is full	0
	Hall lantern	The hall lantern will light up when the lift arrived	$\triangle$
Service Functions	Sub car operating panel	Additional car operating panel	Δ
	Out of service indicator	"Out of Service" will display on the hall indicator when the lift car is faulty	0
	Parking operation [Manual]	Parks the lift at designated floor by key-switch	0
	Parking operation [Automatic]	Parks the lift at designated floor auotmatically	$\triangle$
	Car lighting automatic cut-off	When the lift is not in operation after a pre-determined period of time, the car light will turn off automatically	0
	Ventilation fan automatic cut-off	When the lift is not in operation after a pre-determined period of time, the ventilation fan will turn off automatically	0
	Door Open button lamp [For automatically cut-off car lighting]	The "Door Open" button will remain lit when the lift car light is turned off automatically	0
	Nuisance call cancellation at reversal	Cancel intentionally registered nuisance calls automatically in the reversal travel direction	0
	Multi-channel intercom	The intercom system can communicate with multi-stations simultaneously	0
	Designated floor stop operation	Automatically stops the lift at the designated floor for crime prevention purposes	Δ
	Card access system	Allows activation of the disnated floor call by IC card X Card Access System by others	Δ
	Speech synthesizer	Announces car operations	Δ
	Supervisory panel	Located in the building control room, etc. to monitor the status and control of each lift	Δ





Machine room plan



Hoistway plan (W)

#### **Specifications**

Туре		Nos.of Person	Capacity	Speed	Cage s Internal(		Door er (m		C/W	Hoistway	size(mr	n)	Machine r dimensions		Max. Service	Max. Travel
		Person	(kg)	(m/s)	A×B	Height	Width	Height		X×Y	ОН	Р	MA×MB	MH	Stops(s)	
D0 0000	,,,						800			2000×1720	2700	4450	2000×1720			00
P8-CO60	W			1			900	]		2200×1720	3700	1450	2200×1720	]		90
P8-CO96	w			1.6			800	]		2000×1720	3900	1500	2000×1720			
P8-CO96	VV	8	630	1.0	1400×1100	2300	900	2100	Rear	2200×1720	3900	1500	2200×1720	2100	40	100
P8-CO105	w	0	030	1.75	1400~1100	2300	800	2100	Iteai	2000×1720	3950	1550	2000×1720	2100	40	100
P6-C0105	VV			1.75			900			2200×1720	3930	1550	2200×1720			
P8-CO120	w			2			800			2000×1720	4050	1650	2000×1720			125
P6-C0120	VV						900			2200×1720	4030	1030	2200×1720			120
P11-CO60	w			1			800			2000×1970	3700	1450	2000×1970			90
F11-C000	VV			'			900			2200×1970	3700	1450	2200×1970			50
P11-CO96	w			1.6			800			2000×1970	3900	1500	2000×1970			
P11-C090	VV			1.0			900			2200×1970	3900	1300	2200×1970			100
P11-CO105	١,,,	11	825	1.75	1400×1350	2300	800	2100	Rear	2000×1970	2050	1550	2000×1970	2100	40	100
P11-C0105	VV	''	020	1.75	1400*1330	2300	900	2100	Real	2200×1970	3950 15	1550	2200×1970	2100	40	
P11-CO120	۱۸/			2			800			2000×1970	4050	1650	2000×1970			
F11-C0120	VV						900			2200×1970	4030	1030	2200×1970			125
P11-CO150	۱۸/			2.5			800			2000×1970	4250	2100	2000×1970			125
F11-00150	VV			2.5			900			2200×1970	4230	2100	2200×1970			
							900	]		2200×2020	]		2200×2020			
P13-CO60	W			1			1000			2400×2020	3700	1450	2400×2020			90
							1100	]		2600×2020			2600×2020			
							900			2200×2020			2200×2020			
P13-CO96	W			1.6			1000			2400×2020	3900	1500	2400×2020			
							1100	]		2600×2020			2600×2020	]		400
							900			2200×2020	]		2200×2020			100
P13-CO105	W	13	1000	1.75	1600×1400	2300	1000	2100	Rear	2400×2020	3950	1550	2400×2020	2100	40	
							1100	]		2600×2020			2600×2020	]		
							900			2200×2020	]		2200×2020			
P13-CO120	W			2			1000	]		2400×2020	4050	1650	2400×2020			
							1100			2600×2020			2600×2020			125
	0150 W						900			2200×2020	]		2200×2020			120
P13-CO150				2.5			1000			2400×2020	4250	2100	2400×2020			
							1100			2600×2020			2600×2020			

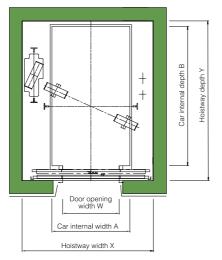
W: Wide car

- The above table complies with EN81-20/50 standards.
- Please contact to our local distributor to check for other standards.
- In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.
- Hoistway dimensions take into account the error of up to 50 mm 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 consult our local distributor.
  If the size of the hoistway is greater than the above sizes, OH will be larger. Please consult our local distributor.
- If the location of Power source panel, Control panel and Electric power supply are changed. Please consult our local distributor.

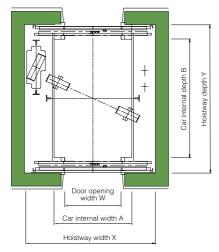
# Hook (by general contractor) Dust-proofed (by general contractor) Pit inspection receptacle (by general contractor) Pit waterproofed (by general contractor)

Hoistway section

Control panel Machine room door W600 × H1800 (by general contractor) Machine room plan



Hoistway plan (D)



Hoistway plan (D2)

#### **Specifications**

Туре		Nos.of	Capacity	Speed	Cage s Internal(			ntrance nm)	C/W	Hoistway	/ size(m	m)	Machine re		Max. Service	Max. Travel								
.,,,,,		Person	(kg)	(m/s)	A×B	Height	Width	Height		X×Y	ОН	Р	MA×MB	МН	Stops(s)	(m)								
D0 0000				4			800			1970×1760	2700	4000	1970×1760			00								
P8-CO60	D			1			900	]		2140×1760	3700	1600	2140×1760			90								
P8-CO96	D			1.6			800	]		1970×1760	3900	1700	1970×1760											
Po-CO90	٦	8	630	1.0	1100×1400	2300	900	2100	Side	2140×1760	3900	1700	2140×1760	2100	40	100								
P8-CO105	D	"	000	1.75	1100~1400	2000	800	2100	Oluc	1970×1760	3950	1750	1970×1760	2100	40	100								
1 0-00103				1.75			900			2140×1760	0000	1750	2140×1760											
P8-CO120	D			2			800			1970×1760	4050	1800	1970×1760			125								
. 0 00 .20	Ľ						900			2140×1760			2140×1760											
P11-CO60	D						800	1		1970×2060			1970×2060		40									
		ļ		1			900	-		2140×2060	3700	1600	2140×2060			90								
P11-CO60	D2						800	-		1970×2170	ŀ		1970×2170		*									
							900	1		2140×2170			2140×2170											
P11-C096	D						800	1		1970×2060	-		1970×2060		40									
				1.6	1.6	1.6	1.6			900 800	-		2140×2060	3900	1700	2140×2060								
P11-CO96	D2								900	-		1970×2170			1970×2170		*							
		-					800	1		2140×2170 1970×2060			2140×2170 1970×2060			100								
P11-CO105	D						900	1		2140×2060			2140×2060		40									
		11	825	1.75	1100×1700	2300	800	2100	Side	1970×2170	3950	1750	1970×2170	2100										
P11-CO105	D2						900	1		2140×2170			2140×2170		*									
							800	1		1970×2060	4050	1800	1970×2060											
P11-C0120	D						900	1		2140×2060			2140×2060		40									
		1		2			800	1		1970×2170			1970×2170		*									
P11-CO120	D2						900	-		2140×2170			2140×2170		40	125								
		i					800			1970×2060		0400	1970×2060											
P11-CO150	D						900			2140×2060	4050		2140×2060											
544 00450		ĺ		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			800	1		1970×2170	4250	2100	1970×2170			
P11-CO150	D2						900	1		2140×2170	1		2140×2170		*									
D44 COCO	_						800			1970×2460			1970×2460		40									
P14-CO60	D			1			900	]		2140×2460	3700	1600	2140×2460		40	90								
P14-C060	D2			'			800			1970×2570	3700	1000	1970×2570		*	30								
F 14-CO00	DZ						900			2140×2570			2140×2570		*									
P14-CO96	D						800			1970×2460			1970×2460		40									
1 14 0000	Ľ			1.6			900			2140×2460	3900	1700	2140×2460		-10									
P14-CO96	D2			1.0			800			1970×2570	0000		1970×2570		*									
							900	1		2140×2570			2140×2570			100								
P14-CO105	D						800	-		1970×2460			1970×2460		40	.50								
		14	1050	1.75	1100×2100	2300	900	2100	Side	2140×2460	3950	1750	2140×2460	2100										
P14-CO105	D2						800 900	-		1970×2570	-		1970×2570		*									
							800	1		2140×2570			2140×2570 1970×2460											
P14-CO120	D						900	-		1970×2460 2140×2460	-		2140×2460		40									
		-		2			800	1		1970×2570	4050	1800	1970×2570											
P14-CO120	D2						900	1		2140×2570	-		2140×2570		*									
							800	1		1970×2460			1970×2460			125								
P14-CO150	D			2.5			900	1		2140×2460	1		2140×2460		40									
		1	2.5				800	1		1970×2570	4250	2100	1970×2570											
P14-CO150	D2						900	1		2140×2570			2140×2570		*									
	_	I	L			I	_ 550		l .	_1-10-2010		1												

D: Deep car D2: Front and rear opening door \*\*Consult our local distributor

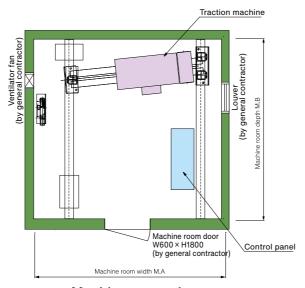
- The above table complies with EN81-20/50 standards.
- Please contact to our local distributor to check for other standards.
- In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.

  Hoistway dimensions take into account the error of up to 50 mm 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 consult our local distributor. • If the size of the hoistway is greater than the above sizes, OH will be larger. Please consult our local distributor.
- If the location of Power source panel, Control panel and Electric power supply are changed. Please consult our local distributor.

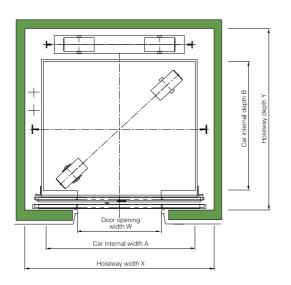
Hook (by general contractor)

# Dust-proofed (by general contractor) Hoistway lighting (by general contractor) Pit inspection receptacle (by general contractor) Ladder (by general contractor) Pit waterproofed (by general contractor)

Hoistway section



Machine room plan



Hoistway plan

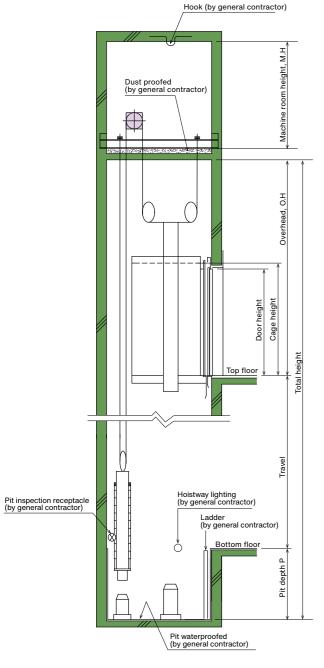
#### **Specifications**

Туре		Nos.of	Capacity	Speed	Cage s Internal(			ntrance nm)	C/W	Hoistway	/ size(m	m)	Machine redimensions		Max. Service	Max. Trave
1,700		Person	(kg)	(m/s)	A×B	Height	Width	Height	0,,,,	X×Y	ОН	Р	MA×MB	MH	Stops(s)	(m)
							900			2150×2070			2150×2070			
P13-CO180	w	13	1000	3	1600×1400	2300	1000	2100	Rear	2350×2070	4950	2500	2350×2070	2200	48	150
							1100	1		2550×2070	1		2550×2070			
							800			2350×2170			2350×2170			
P15-CO60	W			1			900	1		2550×2170	3900	1380	2550×2170			90
	Н						1000	1		2350×2170			2350×2170			
P15-CO96	W			1.6			1100	1		2550×2170	4100	1450	2550×2170			
	Н						1000	1		2350×2170			2350×2170			100
P15-CO105	W	15	1150	1.75	1800×1500	2300	1100	2100	Rear	2550×2170	4150	1480	2550×2170	2100	48	
	Н				1000 1000	2000	1000	2.00	1 100	2350×2170			2350×2170	2.00		
P15-CO120	W			2			1100	1		2550×2170	4250	1900	2550×2170			
	Н						1000			2350×2170			2350×2170			
P15-CO150	w			2.5			1100	-		2550×2170	4500	2050	2550×2170 2550×2170			150
	Н							-								
P15-CO180	w			3			1000			2350×2170	4950	2500	2500×2170			
				4			1100			2550×2170	0000	4000	2700×2170			90
P17-C060	W			1							3900	1380				90
P17-CO96	W			1.6							4100	1450				100
	W	17	1275	1.75	2000×1400	2300	1100	2100	Rear	2550×2070	4150	1480	2550×2070	2100	48	
P17-CO120	W			2							4250	1900				
P17-CO150	W			2.5							4500	2050				150
P17-CO180	W			3							4950	2500				
P18-CO60	W			1							3900	1380				90
P18-CO96	W			1.6							4100	1450				100
P18-CO105	W	18	1350	1.75	2000×1500	2300	1100	2100	Rear	2550×2170	4150	1480	2550×2170	2100	48	100
P18-CO120	W	10	1330	2	2000 ~ 1300	2300	1100	2100	Real	2550^2170	4250	1900	2550^2170	2100	40	
P18-CO150	W			2.5							4500	2050				150
P18-CO180	W			3							4950	2500				
P21-CO60	w			1			1100			2550×2370	3900	1380	2550×2370			90
121-0000	**						1200			2750×2370	3900	1300	2750×2370			00
P21-CO96	۱۸/			1.6			1100			2550×2370	4400	4450	2550×2370			
P21-C096	W			1.0			1200	]		2750×2370	4100	1450	2750×2370			
D04 0040E	١.,,			1.75			1100	1		2550×2370		4400	2550×2370			100
P21-CO105	W		4000	1.75			1200			2750×2370	4150	1480	2750×2370	0400	48	
201 20122		21	1600	2	2000×1700	2300	1100	2100	Rear	2550×2370			2550×2370	2100	40	
P21-CO120	W			2			1200	1		2750×2370	4250	1900	2750×2370			
				0.5			1100	1		2550×2370			2550×2370			
P21-CO150	W			2.5			1200	1		2750×2370	4500	2050	2750×2370			150
							1100	1		2550×2370			2550×2370			
P21-CO180	W			3			1200	1		2750×2370	4950	2500	2750×2370			
P24-C060	w			1							3900	1380				90
P24-C096	w			1.6							4100	1450	1			
	w			1.75							4150	1480	1			100
P24-CO120	w	24	1800	2	2100×1750	2300	1200	2100	Rear	2750×2420	4250	1900	2750×2420	2100	48	
P24-CO150	w			2.5							4500	2050	-			150
P24-CO180	W			3							4950	2500	-			130
				-							3900	1380			-	90
P26-C060	W			1							4100	_	1			90
P26-C096	W			1.6							4150	1450 1480	-			100
	W	26	2000	1.75	2100×1950	2300	1200	2100	Rear	2750×2620			2750×2620	2100	48	
	W			2							4250	1900	-			4
	W			2.5							4500	2050	-			150
	W			3							4950	2500				
P30-CO60	W			1							3900	1380				80
P30-CO96	W	30	2250	1.6	2300×1950	2300	1200	2100	Rear	2850×2620	4100	1450	2850×2620	2100	48	
P30-CO105	W			1.75							4150	1480	]		-	100
				2		1	I	I	I	1	4250	1600	1	1	1	l

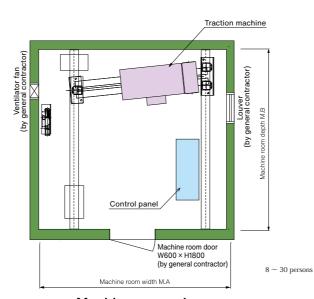
W: Wide car

#### Note:

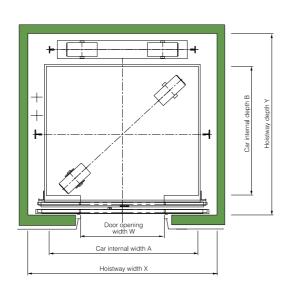
- The above table complies with EN81-20/50 standards.
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- $\bullet$  In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.
- Hoistway dimensions take into account the error of up to 50 mm after the construction work.
- The hoistway dimensions in chart are the minimum requirement.
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- If the size of the hoistway is greater than the above sizes, OH will be larger. Please consult our local distributor.
   If the location of Power source panel, Control panel and Electric power supply are changed. Please consult our local distributor.



Hoistway section



Machine room plan



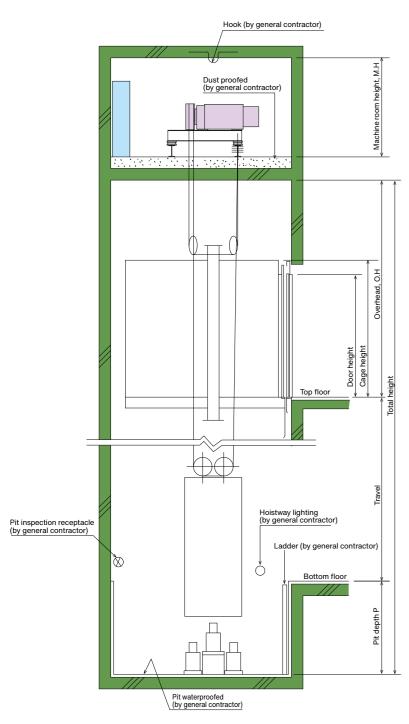
Hoistway plan

#### **Specifications**

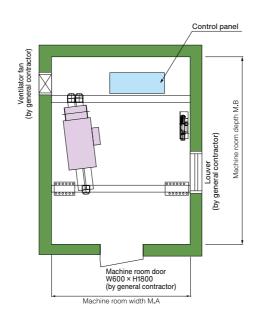
Туре		Nos.of Person		Speed	Cage size Internal(mm)		Door entrance (mm)		C/W	Hoistway size(mm)			Machine room dimensions (mm)		Max. Service	Max. Travel
		reison	(kg)	(m/s)	A×B	Height	Width	Height		X×Y	OH F		MA×MB	MH	Stops(s)	(m)
							900			2150×2100			2150×2150			
P12-CO210	)   w		3.5			1000			2350×2100	6350	3250	2350×2150				
		12	900		1550×1350	2300	1100	2100	Rear	2550×2100			2550×2150	2250	64	200
		12	300	4	1000*1000	2300	900	2100	Real	2150×2100		3850	2150×2150	2250	04	200
P12-CO240	P12-CO240 W						1000			2350×2100	6750		2350×2150			
							1100			2550×2100			2550×2150			
							900	]		2150×2200			2150×2200			
P13-CO210	W			3.5			1000			2350×2200	6350	3250	2350×2200			
		13	1000		1600×1400	2300	1100	2100	Rear	2550×2200			2550×2200	2250	64	200
					1000^1400	2000	900	] 2.00	1 100.	2150×2200			2150×2200	2230	04	200
P13-C0240	P13-CO240 W			4			1000	]		2350×2200	6750	3850	2350×2200			
							1100			2550×2200			2550×2200			

W: Wide car

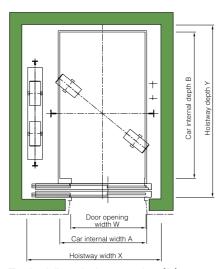
- The above table complies with EN81-20/50 standards.
- Please contact to our local distributor to check for other standards.
- In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.
- Hoistway dimensions take into account the error of up to 50 mm after the construction work.
- The hoistway dimentions in chart are the minimum requiment.
- 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 type of ceiling models. As for the non-standard car designs, and ceiling models, please consult our local distributor.
  If the size of the hoistway is greater than the above sizes, OH will be larger. Please consult our distributor.
  If the location of power source panel, control panel and electric power supply are changed. Please consult our distributor.



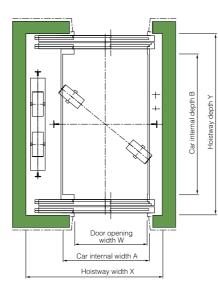
Hoistway section



Machine room plan



Typical floor hoistway plan (D)



Typical floor hoistway plan (D2)

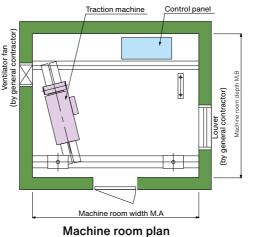
#### **Specifications**

Type		Nos.of	Capacity	Speed	Cage s Internal(			ntrance nm)	C/W	Hoistway	/ size(m		Machine r dimensions		Max. Service	Max. Trave
		Person	(kg)	(m/s)	A×B	Height	Width	Height		X×Y	OH	Р	MA×MB	MH	Stops(s)	
P13-CO180	w	13	1000	3	1600×1400	2300	800 900	2100	Side	2450×1850	4950	2500	2450×1850	2200	48	150
D45 0000							1000			2650×1890		4000	2650×1890			
P15-C060	W			1			1100	1		2750×1890	3900	1380	2750×1890			90
D45 0000	١.,,			4.0			1000	]		2650×1890	4400	4450	2650×1890			
P15-CO96	W			1.6			1100			2750×1890	4100	1450	2750×1890			400
D4F 0040F	۱۸/			4.75			1000			2650×1890	4450	4400	2650×1890			100
P15-CO105	W	15	1150	1.75	1800×1500	2300	1100	2100	Side	2750×1890	4150	1480	2750×1890	2200	48	
P15-CO120	١٨/			0			1000			2650×1890	1250	1900	2650×1890			
P15-CU120	W			2			1100			2750×1890	4250	1900	2750×1890			
P15-CO150	w			2.5			1000			2650×1890	4500	2050	2650×1890			150
P15-C0150	VV			2.5			1100			2750×1890	4500	2000	2750×1890			130
P15-CO180	۱۸/			3			1000			2650×1890	4950	2500	2650×1890			
P15-CU100	W			3			1100			2750×1890	4950	2500	2750×1890			
P17-2S60	D			1							3900	1380				90
P17-2S96	D			1.6							4100	1450				10
P17-2S105	D			1.75						2110×2760	4150	1480	2110×2760		48	100
P17-2S120	D			2						2110^2700	4250	1900	2110^2700		40	
P17-2S150	D			2.5							4500	2050				150
P17-2S180	D	17	1275	3	1200×2300	2300	1100	2100	Side		4950	2500		2200		
P17-2S60	D2	17	12/3	1	1200^2300	2300	1100	2100	Side		3900	1380		2200		90
P17-2S96	D2			1.6							4100	1450				100
P17-2S105	D2			1.75						2110×2970	4150	1480	2110×2760		*	10
P17-2S120	D2			2						2110.2370	4250	1900	21102700			
P17-2S150	D2			2.5							4500	2050				15
P17-2S180	D2			3							4950	2500				
P21-2S60	D			1							3900	1380				90
P21-2S96	D			1.6							4100	1450				100
P21-2S105	D			1.75						2280×2860	4150	1480	2280×2860		48	
P21-2S120	D			2						220012000	4250	1900	2200112000		10	
P21-2S150	D			2.5							4500	2050				15
P21-2S180	D	21	1600	3	1400×2400	2300	1200	2100	Side		4950	2500		2200		
P21-2S60	D2	-	1000	1				55	0.00		3900	1380				90
P21-2S96	D2			1.6							4100	1450				10
P21-2S105	D2			1.75							4150	1480	2280×3070		*	.0
P21-2S120	D2			2							4250	1900				
P21-2S150	D2			2.5							4500	2050				15
P21-2S180	D2			3							4950	2500				

W: Wide car D: Deep car D2: Front and rear opening door X: Consult our local distributor

#### Note:

- The above table complies with EN81-20/50 standards.
- Please contact to our local distributor to check for other standards.
- In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.
- Hoistway dimensions take into account the error of up to 50 mm 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 consult our local distributor.
- If the size of the hoistway is greater than the above sizes, OH will be larger. Please consult our local distributor.
- If the location of Power source panel, Control panel and Electric power supply are changed. Please consult our local distributor.



room plan Typical

Door opening width W

Car internal width A

Hoistway width X

Typical floor hoistway plan (W)

#### **Works by Others**

Works below are not included in elevator installation works:

#### **►** Hoistways

- 1. Hoistway construction and fire-proofing, and opening for jambs, indicators and push-buttons, etc. Please note that chipping or padding work is required according to the necessity, in case the error of the structure is 30 mm
- 2. Installation of separating beams, intermediate beam, back beam and lateral beams (if necessary).
- 3. Installation of the base plate for each floor and of bed steel for furnishing the equipment related to landing entrance, in case of hoistways of steel structure of PC structure.
- 4. Fire-proofing of steel frame material in steel structured hoistways, and fire-proofing around landing entrances (if necessary).
- 5. Finishing of walls and floors, etc., around entrances, after furnishing equipment related to landing entrances.

  6. Furnishing of base steel or others for furnishing rail brackets, especially where the floor height is high (if necessary).
- 7. Installation of the entrance or the gangway for pit inspection (if necessary).
- 8. Water-proofing of the pit (including drainage if necessary).
- 9. Rearrangement of the building body in case that there are some spaces to be used under the pit.
- 10. Installation of emergency exits for rescue purposes in the event there are floors at which the elevator does not stop and installation of a fascia plate.
- 11. Shelter equipment from rain at landing entrances directly contacting to the air in the place like roof.
- 12. Installation of hooks or beams on top of the elevator shaft.
- 13. Installation of lighting in hoistway (if necessary).
- 14. Installation of vent opening at the top of shaft (if necessary).

  15. Installation of a net or wall to prevent falling into the pit (in cases where the pit level is different.)
- 16. All related to the building structure other than works above.

#### ► Machine rooms

- 1. Construction of machine rooms and installation works of their entrances (including soundproofing work if necessary)
- 2. Fire-proofing for machine rooms and opening work for machine room floors.
- 3. Installation of machine beam supports and spacers.
- 4. Cinder concreting and finishing after floor piping in machine rooms.
- 5. Installation of hooks or beams on ceilings in machine rooms.
- 6. Installation of stairs leading to machine rooms and stairs in machine rooms (if necessary).
- 7. Installation of lighting and windows.
- 8. Dustproofing of floors.

#### ► Works for Equipment

- 1. Wiring of the power supply for motors and that for lighting equipment, and of grounding to power source panels of elevators in the Elevator shaft.
- 2. Wiring of the power supply to the supervisory panels.
- 3. Piping and wiring of intercoms outside hoistway and of others necessary for elevators.
- 4. Supply and installation of switching devices for emergency power supply in case of power failure and two pairs of relay contacts for normal / emergency power identification, and their piping and wiring (if necessary).
- 5. Piping and wiring of supervisory panels, alarm panels and inter-communication systems, etc., outside hoistways.
- 6. Furnishing of receptacles for inspection in pits.

#### ► Temporary Works

It is required to arrange the following matters:

- 1. To secure the site office for installation work and the stock yard for materials without charge.
- 2. Enclosure to be used during the installation work.
- 3. Supply of electric power for installation work and the trial operation for adjustment.
- 4. Security of enough passage for carrying heavy goods.
- 5. On use of elevator for the construction work of the building, It is required to make contract with a separate written estimate.

#### Note

During equipment planning of elevators, please take the following items into consideration:

- 1. Provide power facility so that voltage regulation of the power supply at the receiving terminals in the hoistway is kept within  $\pm 10\%$  for the motor, and ±2% for the lighting equipments.
- 2. In the hoistways, please prevert the temperature from exceeding 40  $^{\circ}\text{C}$  and humidity from exceeding 90% (monthly mean) and 95% (daily mean).
- 3. Please do not allow any chemically toxic gas or an excessive amount of dust to enter into the hoistways, as these can corrode the metal or electrical contacts.

When asking for an 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.

#### Memo

#### **Global Network**

Head office / Manufacturing baseHead office

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Together with our global partners, we connect with Asia and then the world, through our technology and our spirit.

This planet is our shared heritage. We must live together, grow together and delight in one another.

[For more information]

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