# 2nd Edition

## **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.

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# **TOSHIBA**

Toshiba Elevator and Building Systems Corporation

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

\* Revised publication effective Sept. 2019

# **TOSHIBA**

### **TOSHIBA MACHINE-ROOM-LESS ELEVATORS**

STANDARD PASSENGER ELEVATOR

# **SPACEL-**III

# IHE SOLUTIONS

# **COMPANY SOLUTIONS**

Toshiba Elevator and Building Systems Corporation has built a framework which encompasses all aspects from

Utilizing the comprehensive technological infrastructure developed by Toshiba Group in more than 140 years

# **CONCEPT of SPACEL-III**

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

# **■ Product Lineup**

SPACEL-III is well-suited to office buildings and apartments by the compact designed machine-room-less elevator.

Scope of application	Range of application
Passengers (persons)	8–26 persons
Rated load (kg)	630-2000 kg
Rated speed (m/s)	1–2 m/s

	2									
Rated	1.75			U	ÐΛ	CE	T			
speed (m/s)	1.6					GE				
	1									
Rated load (kg)		630	825	1050	1150	1275	1350	1600	1800	2000
Type		P8	P11	P14	P15	P17	P18	P21	P24	P26

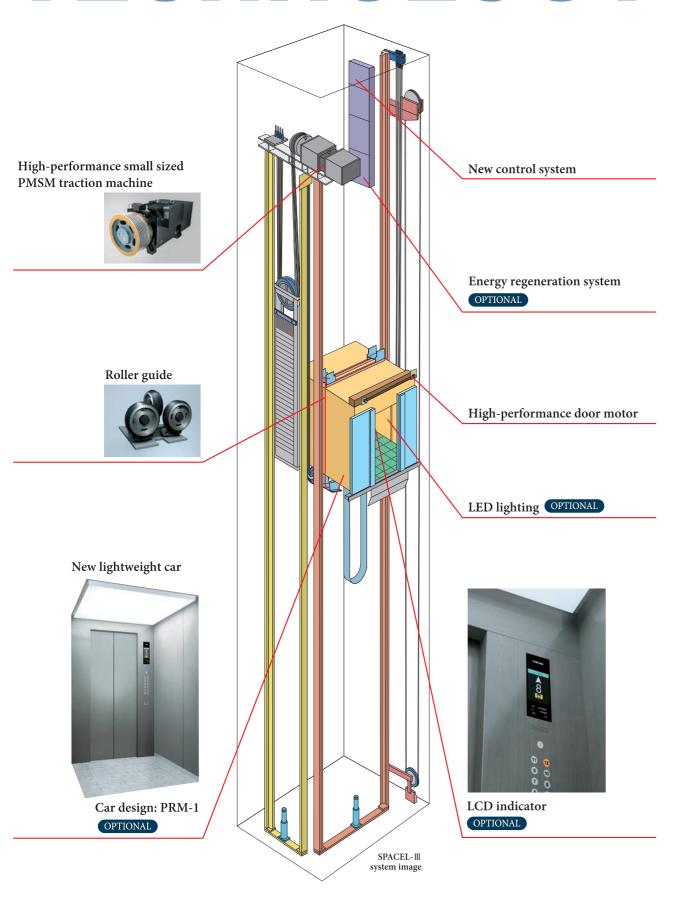
The above scope complies with GB7588:2003 standard



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# TECHNOLOGY



# **New Technology**

# Traction Machine Designed and Manufactured by Toshiba

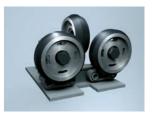
- ◆ Toshiba has manufactured motors for over 100 years since 1895. The motors produced by Toshiba promise better quality assurance and quality control.
- ♦ Compact PMSM (Permanent Magnet Synchronous Motor) for space saving.
- ♦ Over 30% less power consumption (compared to conventional electric motor).
- ♦ Gearless traction without gear oil for low vibration, low noise and better environmental conservation.



### Use of Roller Guide

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.



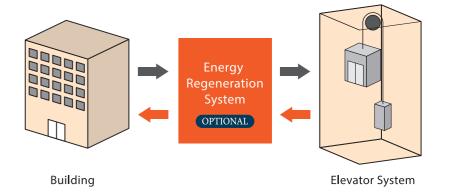
# **New Control Systems**

A high performance CPU is employed for advanced newly developed control system. 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

Note: Applies to specification for models with a capacity of less than 1050kg and fewer 14 persons.

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).



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

<sup>\*</sup>This optional system may not be suitable for certain buildings. Please contact us for more information.

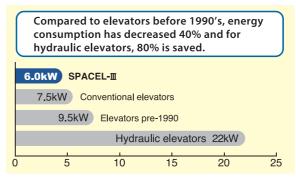


# **Environmental issues**

In order to propose safe and secure elevator, SPACEL-III focus on environmental issue. The advance technologies for energy consumption and resource saving concept offers high concerns for environmental consciousness.

# **Energy Saving**

SPACEL-III employs a newly developed compact gearless PMSM motor which enables high energy efficiency. Furthermore, by using a gearless motor, gear oil is not needed, which contributes to saving natural resources.



\*Comparison with "SPACEL-III" (capacity:1050kg speed:60m/min) and "TOSHIBA STANDARD PASSENGER ELEVATOR", "Cellebellum VFW"(capacity:1000kg speed:60m/min)

# Energy Regeneration System OPTIONAL

Toshiba focuses on environmental conservation. The consumption of energy feedback system is different from that of regenerative resistance. 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 and suppress a temperature increase 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).



Note: Applies to specification for models with a capacity of less than 1050kg and fewer 14 persons.

### LED Lighting

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



Car design: PRM-1 OPTIONAL

# **Resource Saving**

### Machine room less elevator

By eliminating machine room, various constructing procedure and materials will not be necessary.

### Eliminating lubricant oil for guide rail

By employing roller guide for both car and counter weight, lubricant oil will not be necessary which guide shoe required.



# Reducing Hazardous Materials

### Reduction of lead use

By changing method to tie rope, lead is not necessary in order to tie rope resulting to reduce lead use.

# Employing LED lightings

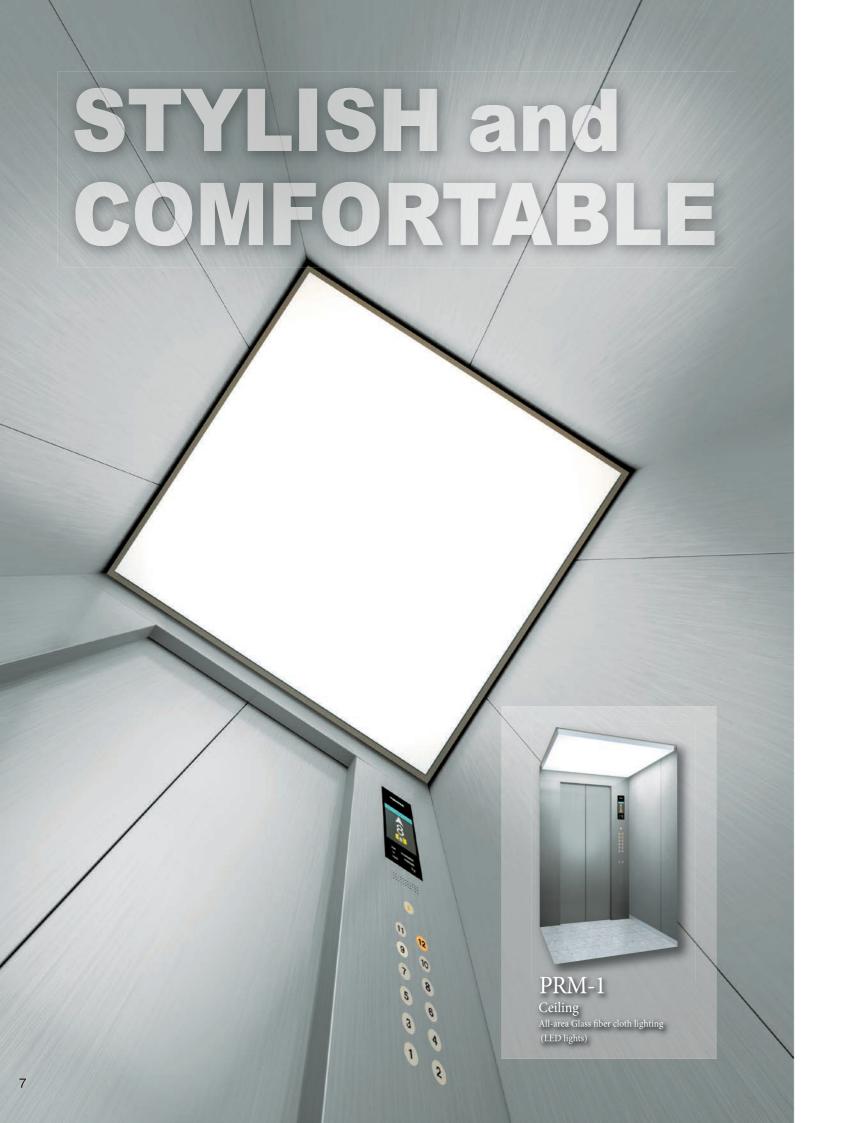
By employing LED light, various materials used for light became mercury free.

# Lead-free Design of Circuit Board, 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.

# SPACEL-III, approved as Toshiba Group's "Excellent ECP" product.

Toshiba Group seeks to create environmentally conscious products and for all the products created, we set a goal to develop No.1 environmentally suitable products. Within Toshiba group, we approve environmentally high potential products as "Excellent ECP" products and SPACEL-III has been approved as an "Excellent ECP".



# **New Ceiling Design**

The publication of this page is an example of design.

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

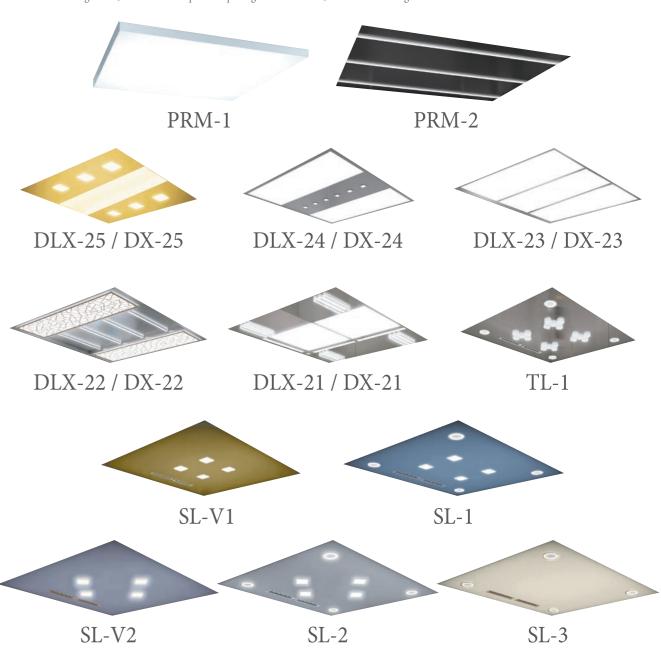
# Wide variety of newly developed LED lighting available.\*\*Note 1

\*Development of environmentally conscious LED lighting.

LED lighting is mercury-free, energy-saving and long life.

The electric consumption fall about 85% and the product life time will be increased 20 times. Therefore LED lighting reduces CO<sub>2</sub> emissions.

Note 1: Applied in car design SL-V1, SL-V2, SL-3, TL-1, DLX-21, DLX-22, DLX-23, DLX-24, DLX-25, PRM-1, PRM-2. Note 2: Car design SL-1, SL-2 has four square shaped lights at the center, and round LED light at corners.



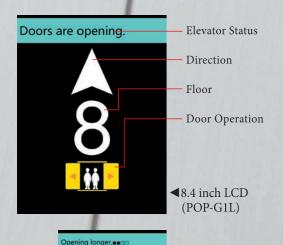
The actual product colors may vary slightly from those printed colors in this catalog.

# STYLISH and COMFORTABLE

# Large LCD indicator for car operation panel

These 10.4, 8.4 and 5.7 inch LCD indicators are capable of displaying the elevator's various conditions (emergency operations, maintenance status) in large icons and letters in highly visible colors.









### OPTIONAL

Coordination with car operation panel indicator display and car security camera.

Large LCD indicator is capable of displaying visuals linked from car security camera.

There is no necessity to provide an extra monitor to display security camera's image.



Display examples for car indicator display

◆Fire emergency operation

During emergency operation, the display will announce the message

\* Capable of displaying optional operations such as fire emergency operation.

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



◀5.7 inch LCD

(COP-G1L)

# STYLISH and COMFORTABLE

# **Hall Design**

The publication of this page is an example of design.

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



Hall design 1



Hall design 2



Hall design 3
OPTIONAL



Hall design 4
OPTIONAL



Hall design 5



Hall design 6
STANDARD

<sup>\*</sup> Note: Provided hall design specifications with the wide type jamb and transoms, when there is a need to adapt to fireproof specifications.

# **Functions**

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

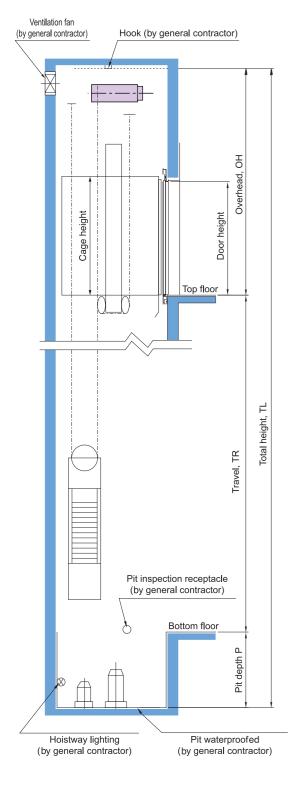
Functions	Notes	Descriptions				
	Simplex selective-collective fully automatic operation	Fully automatic operation by hall and car calls for single car	0			
	Duplex selective collective fully automatic operation (Note 1)	Fully automatic operation for 2 cars in the same group	Δ			
Operations	3 or 4-car group supervisory control system	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			
	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			
	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	0			
	Door open when the lift car is overloaded	The doors will re-open when over load is detected, even during the closing of doors.				
	Fireman's operation	In the event of fire, when the Fireman's switch is activated, the designated lift will be ready for firemen to use				
	Fire emergency operation	In the event of fire, all lifts will return to the designated floor and stop operation to allow passengers to exit				
	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				
Safety	Automatic landing during power failure (TOSLANDER)	In the event of power failure, the lift will land at the nearest floor by emergency battery				
Functions	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			
	Emergency operation indication at COP	In the event of an emergency, the emergency operation status will be displayed at COP	0			
	Mechanical door safety	When the mechanical door safety device is touched by a passenger, the door will open	0			
	Multi-beam door safety sensor (or light curtain door safety sensor)	When the multi-beam door safety device senses a passenger, the door will open	Δ			
	2-in-1 door safety (multi-beam door safety + mechanical door safety)	A combination of multi-beam door safety and mechanical door safety	Δ			
Service	Home landing	To reduce passenger waiting time, the lift will return to the designated floor and stand by	Δ			
Functions	Service floor cut-off selection	Disables the designated floor service	Δ			

Notes
1: Not applicable to lift car with through door.
2: > 5 floors and car weight < 150kg.

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

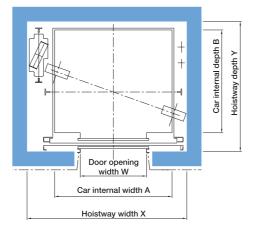
Functions	Notes	Descriptions	
	Full car bypass (Note 2)	When the lift car is full, the lift will bypass all hall calls and go straight to the designated floor	0
	Car call cancellation	The floor call can be cancelled from the COP by pressing the floor button twice within 3 second	0
	Nuisance call cancellation	Incorrect or nuisance floor calls can be cancelled to eliminate unnecessary operation	0
	Repeated door opening	When an obstacle is detected, the door will repeatedly open and close until the obstacle is removed	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	Δ
	Hall lantern	The hall lantern will light up when the lift arrived	Δ
Service	Sub-car operating panel	Additional car operating panel	Δ
Functions	Car full load indicator	"Full Load" will display on the hall indicator when the lift car is full	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	Δ
	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 * 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

# **Hoistway Layout**

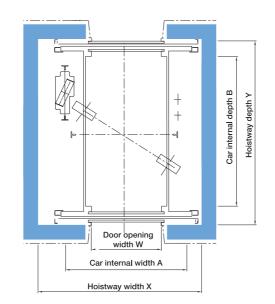


**Hoistway section** 

Traction machine Control panel/ Top floor hoistway plan



Typical floor hoistway plan (W, D)



Typical floor hoistway plan (D2)

# **Specifications**

		Nos.of Person	Capacity	Speed	Cage size Internal(A×B) (mm)	Door with W	Hoistway			Motor Capacity	Max.Service Stops(s)	Max.Travel			
		Person	(kg)	(m/s)	(mm)	(mm) 800	1985×1610	OH	Р	(kW)	Stops(s)	(m)			
	W				1400×1100	900	2145×1610	-							
P8-CO60 -	-			1		800	1835×1725	3700	1300	3.6	40	80			
	D				1100×1400	900	2020×1725	1							
	10/				4400::4400	800	1985×1610								
B0 0000	W			4.0	1400×1100	900	2145×1610	2000	4400	5.0					
P8-CO96	D			1.6	1100×1400	800	1835×1725	3900	1400	5.8					
	U	8	630		1100~1400	900	2020×1725								
	w	Ů			1400×1100	800	1985×1610								
P8-CO105				1.75		900	2145×1610	3950	1450	6.3	40	100			
	D				1100×1400	800 900	1835×1725								
						800	2020×1725 1985×1610								
	W				1400×1100	900	2145×1610	-							
P8-CO120	-			2		800	1835×1725	4050	1650	7.2					
	D				1100×1400	900	2020×1725	1							
	14/				44004050	800	2000×1720								
	W				1400×1350	900	2100×1720	1			40				
D11 COCO	D			1	1100×1700	800	1850×2000	3700	1300	3.6	40	80			
P11-C060				'	1100×1700	900	2020×2000	0,00	1000	0.0		00			
	D2				1100×1700	800	1850×2150				*				
						900	2020×2150								
	W				1400×1350	800	2000×1720								
						900 800	2100×1720	-			40				
P11-CO96	D			1.6	1100×1700	900	1850×2000 2020×2000	3900	1400	5.8					
<u> </u>						800	1850×2150	1							
	D2				1100×1700	900	2020×2150	1				*			
		11	11 750		4400 4050	800	2000×1720								
	W			1.75	1400×1350	900	2100×1720	i	1450	6.3	40	100			
P11-C0105					1100×1700	800	1850×2000	3950			40				
	D				1100~1700	900	2020×2000		1430	0.0		100			
Γ	D2				1100×1700	800	1850×2150				*				
	D2				1100-1100	900	2020×2150				^				
	w			2	1400×1350 1100×1700	800	2000×1720		1650	7.2					
-						900	2100×1720	4050			40				
P11-C0120	D					900	1850×2000								
	-					800	2020×2000 1850×2150	-				-			
	D2				1100×1700	900	2020×2150	1			*				
						900	2200×1770								
	w				1600×1400	1000	2300×1770	i		1300 3.6	40				
						1100	2400×1770	1							
P14-CO60	D			1	1100×2100	900	1850×2400	3700	1300		3.6		80		
L					1100~2100	1000	2020×2400				*				
	D2				1100×2100	900	1850×2550								
	_					1000	2020×2550								
	w				1600×1400	900 1000	2200×1770 2300×1770								
	**				1600×1400	1100	2400×1770	-			40				
P14-CO96				1.6		900	1850×2400	3900	1400	5.8	40				
	D				1100×2100	1000	2020×2400								
	- D0				1100 0100	900	1850×2550					1			
	D2	14	950		1100×2100	1000	2020×2550				*				
			550			900	2200×1770								
	W				1600×1400	1000	2300×1770								
B14 CO40E						1100	2400×1770				40				
P14-CO105	D			1.75	1100×2100	900	1850×2400	3950	1450	6.3		100			
,						1000	2020×2400								
	D2			1100×2100	900	1850×2550				*					
	-					1000 900	2020×2550 2200×1770					-			
	w				1600×1400	1000	2300×1770								
					1000×1400	1100	2400×1770			7.2	40				
		-		_				4050	1650		40				
P14-CO120					2	1100×2100	900	1000^2400	4050	1650	7.2				
P14-CO120	D			2	1100×2100	900 1000	1850×2400 2020×2400	4000							
P14-CO120	D D2			2	1100×2100 1100×2100			4000			*				

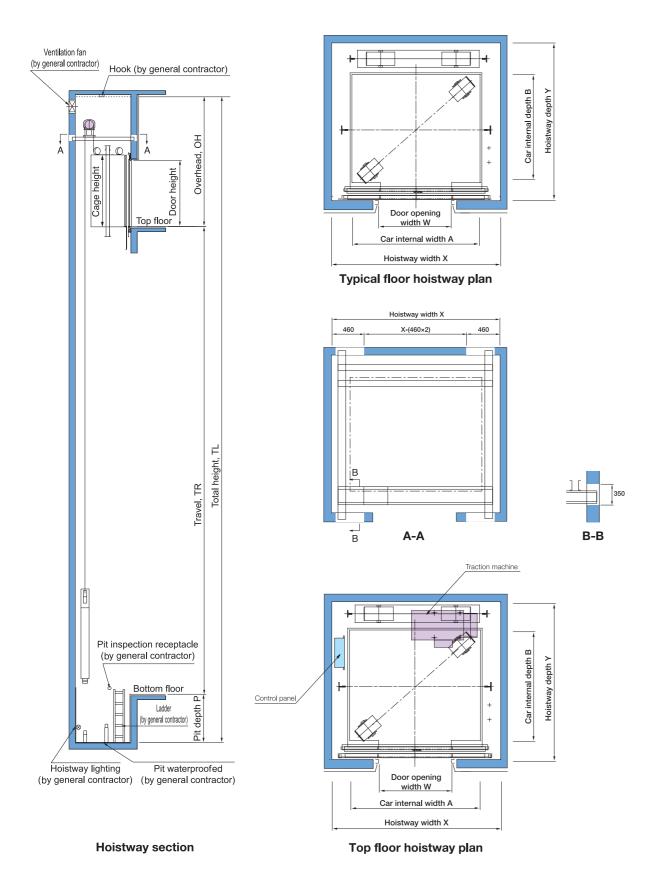
<sup>\*</sup> Please consult our local distributor.

- The above table complies with GB7588:2003 standards.
- In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.
   Please contact to our local distributor 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.
- The above data table of "OH" dimensions is based cage height: 2300mm. Please contact our local distributor to check for other conditions.

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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.
  W: Wide car D: Deep car D2: Front and rear opening door

# **Hoistway Layout**

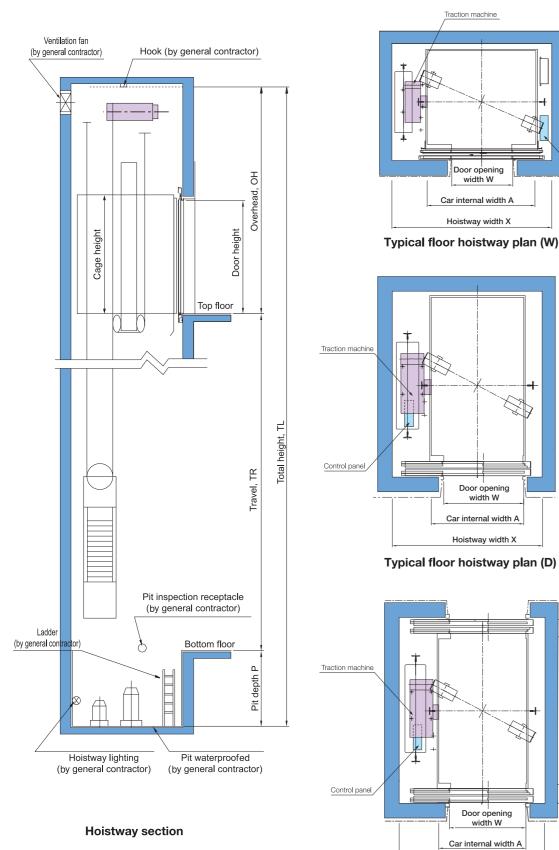


# **Specifications**

Туре		Nos.of	Capacity	Speed	Cage size Internal(A×B)	Door with W	Hoistway	size(m		Motor Capacity	Max.Service	Max.Travel													
		Person	(kg)	(m/s)	(mm̀) ′	(mm)	X×Y	OH	Р	(kW)	Stops(s)	(m)													
P15-C060	l w l			1		1000		4300	1300	7.0		80													
						1100																			
P15-C096	l w			1.6		1000		4500	1400	12.0															
1 10 0000		15	1150	1.0	1800×1500	1100	2400×2150	1000	1400	12.0	48														
P15-CO105	l w l	15	1150	1.75	100011000	1000	2400.2100	4550	1450	12.0	40	100													
15-00103	**			1.75		1100		4550	1450	12.0															
D45 00400	147			_		1000		4000	4000	44.0															
P15-CO120	W			2		1100		4800	1600	14.0															
P18-CO60	W			1				4300	1300	8.0		80													
P18-CO96	W	18	4050	1.6	00004500	4400		4500	1400	14.0	48														
P18-CO105	W	18	1350	1350	1350	1.75	2000×1500	1100	2600×2150	4550	1450	14.0	46	100											
P18-CO120	W			2	1			4800	1600	16.0	1														
	W					1100																			
P21-CO60	W			1		1200	1	4300	1300	10.0		80													
	W		1600																1100						
P21-C096	W					1.6	0000 4700	1200	20502250	4500	1400	16.0													
	w	21			2000×1700	1100	2650×2350			50 18.0	48	100													
P21-C0105	w			1.75		1200	1	4550	1450			100													
	W					1100					20.0														
P21-C0120	w			2		1200	1	4800	1600	20.0															
P24-CO60	w			1				4300	1300	12.0		80													
P24-C096	w			1.6				4500	1400	18.0															
P24-CO105	W	24	24   1800	1.75	2100×1750	1200	2750×2400	4550	1450	20.0	48	100													
P24-C0120	W			2	1			4800	1600	22.0															
P26-C060	W			1				4300	1300	12.0		80													
P26-C096	w			1,6	•			4500	1400	20.0	1														
P26-CO105	W	26	2000	1.75	2100×1950	1200	2750×2600	4550	1450	22.0	48	100													
P26-CO120	W			2	1			4800	1600	24.0															
1 20-00 120	VV							4000	1000	24.0															

- The above table complies with GB7588:2003 standards.
  In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.
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- If the location of Power source panel, Control panel and Electric power supply are changed. Please consult our local distributor.

# **Hoistway Layout**



# **Specifications**

		Nos.of Person	Capacity (kg)	Speed (m/s)	Cage size Internal(A×B) (mm)	Door with W (mm)	Hoistway X×Y	size(m	m)	Motor Capacity (kW)	Max.Service Stops(s)	Max.Trave (m)								
	W		( )		(11111)	1000	2600×1840													
P15-CO60	W			1		1100	2650×1840	4100	1300	7.0		80								
	W					1000	2600×1840				2.0									
P15-CO96	W	45	4450	1.6	40004500	1100	2650×1840	4300	1400	12.0	40									
	W	15	1150		1800×1500	1000	2600×1840				48									
P15-CO105	W			1.75		1100	2650×1840	4350	1450	12.0		100								
D	W				1	1000	2600×1840													
P15-CO120	W			2		1100	2650×1840	4600	1600	14.0										
P17-CO60	W			1				4100	1300	8.0		80								
P17-CO96	W	47	4075	1.6				4300	1400	12.0										
P17-CO105	W	17	1275	1.75	2000×1400	1100	2800×1800	4350	1450	14.0	48	100								
P17-CO120	W			2	1			4600	1600	16.0										
P17-2S60	D			1				4100	1300	8.0		80								
P17-2S96	D			1.6				4300	1400	12.0										
P17-2S105	D	17	1275	1.75	1200×2300	1100	2050×2710	4350	1450	14.0	48	100								
P17-2S120	D			2				4600	1600	16.0										
P17-2S60	D2			1				4100	1300	8.0										
P17-2S96	D2			1.6				4300	1400	12.0										
P17-2S105	D2	17	1275	1.75	1200×2200	1100	2050×2870	4350	1450	14.0	*	*								
P17-2S120	D2			2				4600	1600	16.0										
P18-C060	W			1				4100	1300	8.0		80								
P18-CO96	W			1.6				4300	1400	14.0	1									
P18-CO105	W	18	1350	1.75	1800×1500	1100	2800×1840	4350	1450	14.0	48	100								
P18-CO120	W		2			4600 1600		16.0		100										
1 10 00 120	W					1100	2825×2050													
P21-CO60	w			1		1200	2875×2050	4100	1300	10.0		80								
	W												1	1100	2825×2050					
P21-CO96	W			1.6		1200	2875×2050	4300	1400	16.0										
	W	21	1600		2000×1700	1100	2825×2050				48	100								
P21-CO105	W			1.75		1200	2875×2050	4350	1450	18.0										
	W					1100	2825×2050													
P21-CO120	W			2		1200	2875×2050	4600	1600	20.0										
P21-2S60	D			1		1200	2010 2000	4100	1300	10.0		80								
P21-2S96	D			1.6	1			4300	1400	16.0		100								
P21-2S105	D	21	1600	1.75	1400×2400	1200	2275×2810	4350	1450	18.0	48									
P21-2S120	D			2	-			4600	1600	20.0	-									
P21-2S60	D2			1				4100	1300	10.0										
P21-2S96	D2			1.6				4300	1400	16.0										
P21-2S105	D2	21	1600	1.75	1400×2300	1200	2275×2970	4350	1450	18.0	,	<b>*</b>								
P21-2S120	D2			2				4600	1600	20.0										
P24-C060	W			1				4100	1300	12.0		80								
P24-C096		24		1.6				4300	1400	18.0		- 55								
P24-CO90	W		1800	1.75	2100×1750	1200	2925×2100	4350	1450	20.0	48	100								
P24-CO103				2	1			4600	1600	22.0		100								
P26-C060	W			1				4100	1300	12.0		00								
P26-CO60 P26-CO96	W				-			4300	1400	20.0		80								
	W	26	2000	1.6	2100×1950	1200	2925×2300				48	100								
P26-CO105	W			1.75				4350	1450	22.0		100								
P26-CO120	W			2				4600	1600	24.0										

<sup>\*</sup> Please consult our local distributor.

- The above table complies with GB7588:2003 standards.
- In case of travel is 40m or more, add 150mm to OH dimension and TC dimension at the above-stated dimension.
- Please contact to our local distributor 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. • The above data table of "OH" dimensions is based cage height: 2300mm. Please contact our local distributor to check for other conditions.
- 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.
- W: Wide car D: Deep car D2: Front and rear opening door

Hoistway width X

Typical floor hoistway plan (D2)

# **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 or over.
- 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.

### **►** 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  $\pm 2\%$  for the lighting equipments.
- 2. In the hoistways, please prevert the temperature from exceeding 40 °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