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POWER SUPPLY PLAN

ENTRANCE LAYOUTS LAYOUT OF FUNCTIONS

CONSTRUCTION AND INSPECTION REQUIREMENTS

— GLOBAL SALES & SERVICE NETWORK

Optimal Value

R9, YZER-R

OPTIMAL VALUE FOR OWNERS, MANAGERS, AND USERS.

EFFICIENT

ECONOMIC

SAFE

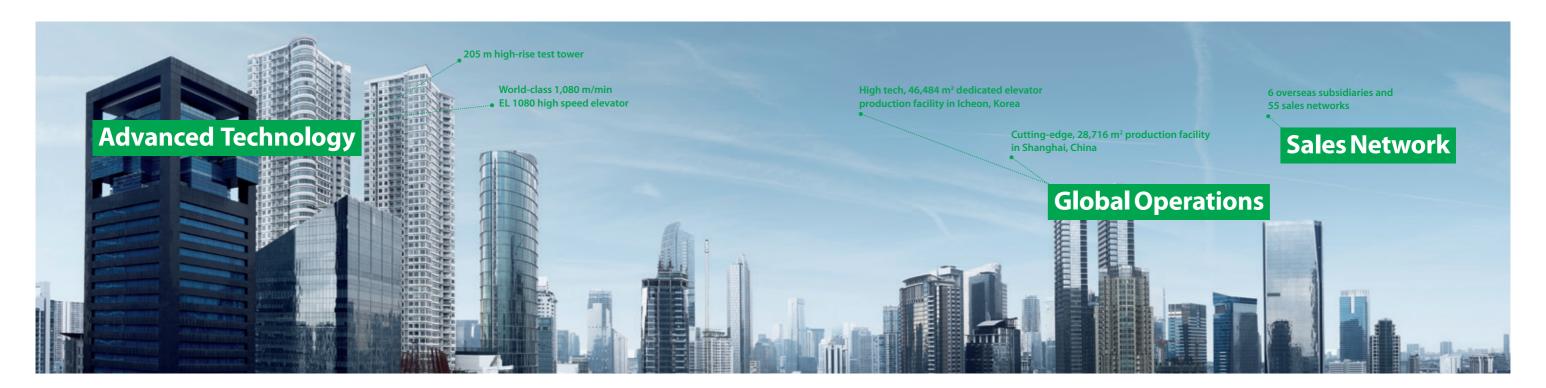
COMPACT

TIME SAVING

SMOOTH

WHY **HYUNDAI ELEVATOR?**

Factors that contribute to Hyundai Elevator's credibility and reliability.





WORLD-CLASS ELEVATOR TECHNOLOGY

Hyundai Elevator has the world's most advanced high-speed elevator technology. It built Hyundai Asan Tower, a world-class elevator test tower, in April 2009 to thoroughly evaluate and validate the safety and reliability of its products under conditions that closely replicate those of a high-rise building.

THE EL 1080 high-speed elevator

World-class elevator (1,080 m/min.)

THE EL DUO double-deck elevator

1.8 times more loading capacity through 2 vertically integrated elevators

CERTIFICATION









Class "A" from TÜV Germany



ISO 25745-2:2015 Class "A" from TÜV, Germany



PRODUCTION SYSTEM AND SALES NETWORK THAT SPAN **ACROSS BORDERS**

In addition to state-of-the-art production facilities in Korea, Hyundai Elevator built manufacturing facilities in China to supply its unparelleled products worldwide. The company strives to better meet the needs of global customers through localization and by maximizing synergy among its 6 overseas subsidiaries and 55 sales networks.

MANUFACTURING PLANTS

- [Factories 1, 2, 3] 46,484 m² state-of-the-art facilities

(Icheon Korea) - Production of elevators, parking systems

- Hyundai Asan Tower

- Hyundai Customer Care Center (CCC)

China Factory - 28,716 m² state-of-the-art facilities

(Shanghai, China) - Production of elevators and escalators

- Elevator test tower (72 m high)

OVERSEAS SUBSIDIARIES

CHINA

SHANGHAI HYUNDAI ELEVATOR CO., LTD. PT. HYUNDAI ELEVATOR INDONESIA INDONESIA HYUNDAI ELEVATOR (MALAYSIA) SDN. BHD MALAYSIA BRAZIL HYUNDAI ELEVADORES DO BRASIL LTDA. VIETNAM HYUNDAITHANH CONG ELEVATOR VIETNAM CO., LIMITED

HYUNDAI ELEVATOR ASANSÖR VE SERVIS SANAYI VE TICARET ANONIM ŞIRKETI TURKEY



04 HYUNDAI ELEVATOR WHY HYUNDAI ELEVATOR? 05

From performance to safety, R9, YZER-R has been optimized using technology.

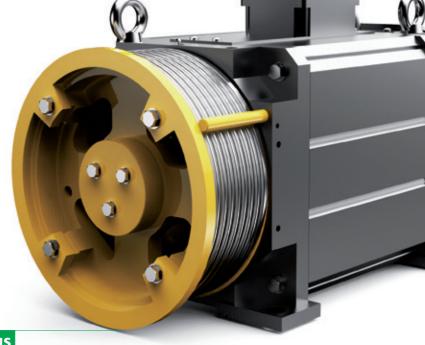
R9, YZER-R's optimum design and technology furnish dependable performance and efficiency. Its economy, durability, and safety becomes clearly noticeable with greater use.



EFFICIENT

Integrated CPU design and optimized data network system

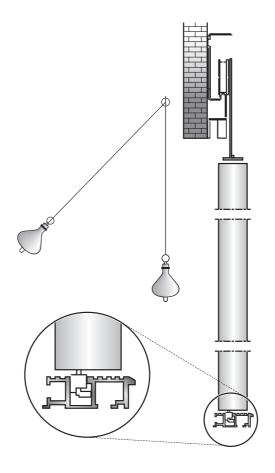
- The integrated design of the CPU reduces interference between the control panel and converter.
- Integrated controls and efficient management of each elevator's data network system ensure quick and accurate response to calls.
- Sine/cosine encoders ensure that cages stop precisely at each level and potentiometers allow level adjustment without weight detection sensors.



ECONOMIC

Energy and maintenance cost savings

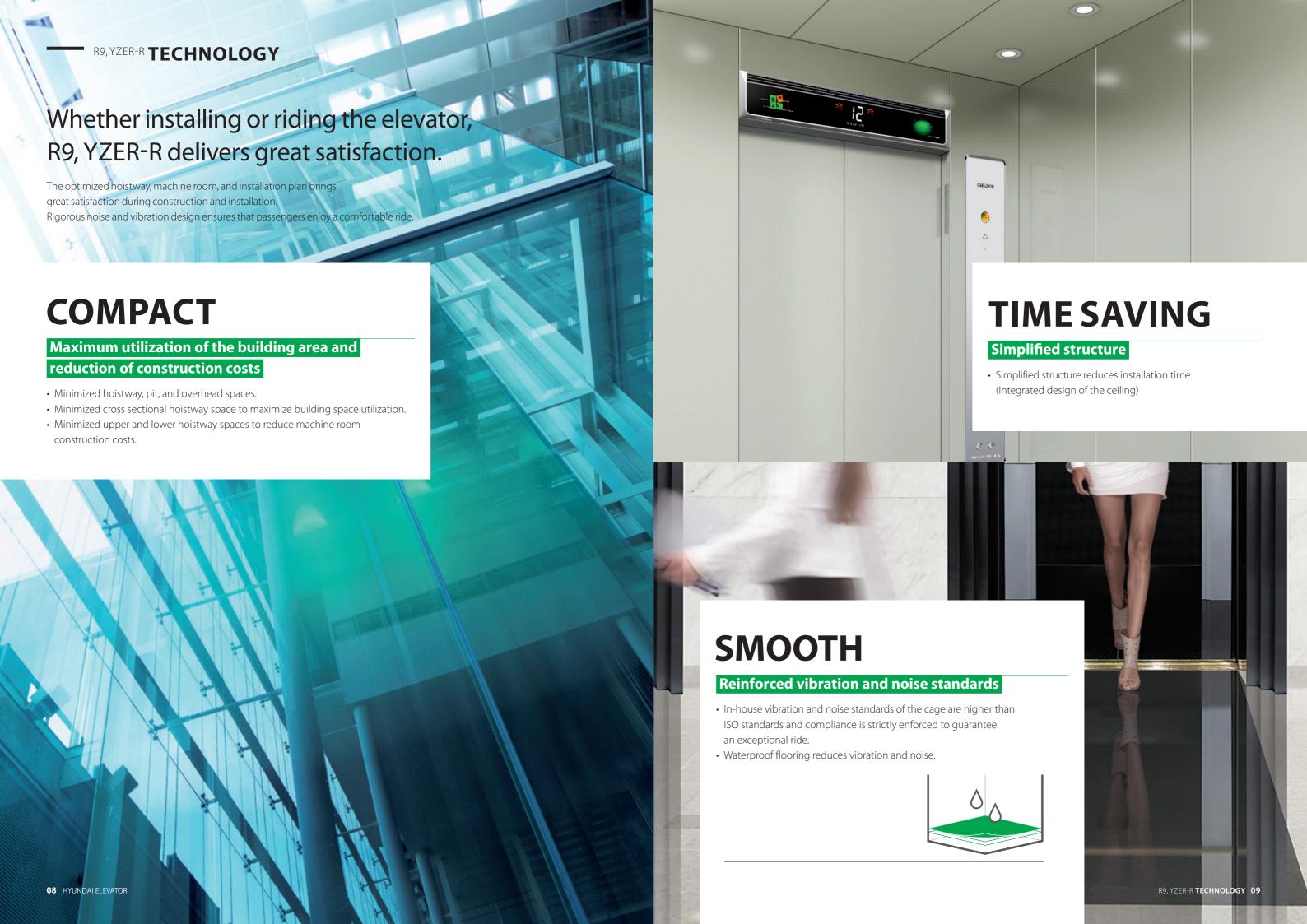
- Gearless traction machine and synchronous motor minimize power consumption.
 **Optional PWM-type inverter can maximize energy efficiency
- U-shaped groove design of the drive sheave reduces friction and extends the service life of the rope to improve reliability.
- Eco-friendly, lubrication-free system reduces costs and simplifies maintenance.



SAFE

Derail prevention guide shoes

• Derail prevention guide shoes minimize accidents and enhance user safety.



R9, YZER-R CAGE DESIGN

Stylish and durable materials improve convenience while ensuring a comfortable ride.

SID-1701

OPERATING PANEL



INDICATOR



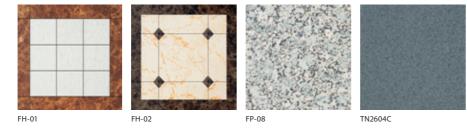
FILING Ceiling Height: 2430mm



PAINTED STEEL



FLOORING DESIGN





Notes

1. Samples and images depicted may differ from the actual product. All specifications are based on the actual product.

SID-1702

CD199A / Color Steel Plate P017
Stainless Hairline
Stainless Hairline
OPP-N364 / Stainless Hairline
PVC / FP-08
PI-L210 / Anion Air Cleaner, Ultrasonic Pest Repellant

SID-1703

CEILING	CD198A / Color Steel Plate P024 / LED Lighting
CAR WALL	Stainless Hairline
CARDOOR	Stainless Hairline
CAR OPERATING PANAL	OPP-D521 / White LED Dot / Stainless Hairline
FLOORING	PVC / FH-02
INDICATOR	PI-L210 / Anion Air Cleaner, Ultrasonic Pest Repellant



SID-1704

CEILING	CD191A / Color Steel Plate P033 / LED Lighting /
	Stainless Hairline
CAR WALL	Stainless Hairline
CAR DOOR	Stainless Hairline
CAR OPERATING PANAL	OPP-N321 / Stainless Hairline
FLOORING	PVC / FP-08
INDICATOR	PI-L210 / Anion Air Cleaner, Ultrasonic Pest Repellant

SID-1705

CEILING	CD451B / Color Steel Plate P022
CAR WALL	Stainless Hairline
CAR DOOR	Stainless Hairline
CAR OPERATING PANAL	OPP-D521 / White LED Dot / Stainless Hairline
FLOORING	PVC / TN2604C





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Notes:

1. Samples and images depicted may differ from the actual product. All specifications are based on the actual product.

2. Lateral cross section may vary depending on the weight capacity of the elevator.

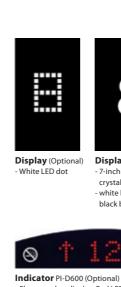
KEY FEATURES

Every detail has been embellished while keeping efficiency and functionality in mind.

OPERATING PANEL / HALL BUTTON / INDICATOR











crystal display

- white letters on

Display (Optional) Display (Optional) - 7-inch vertical liquid - 7-inch vertical liquid crystal - white letters on black background pink background



- Floor number display: Red LED dot



Indicator PI-D700 (Optional) - Floor number display: White LED dot

**Operation panel does not include the cage's floor number display





Button

64 Type



Button 21 Type

Button

(Optional) 82 Type

OPTIONAL



Operating Panel OPP-D521 (Standard) - Display type: White LED dot

- Button: 21 Type

Operating Panel for the Handicapped OPP-N521W

- Display type: no display - Button: 21 Type

HALL BUTTON

BOXLESS-TYPE









Button

(Optional)

Button

(Standard)



82 Type





Hall Button HIP-DE21C

OPTIONAL





Hall Button



Indicator PI-D600 - Red LED dot



Indicator PI-D610 - Red LED dot



BOX-TYPE

Hall Button

HIP-DC21







HIP-DC21W

Hall Button HIP-D221CW



Display - Red LED dot

(Standard)

21 Type



(Optional)

64 Type

Button Button



background

Button (Optional) 82 Type

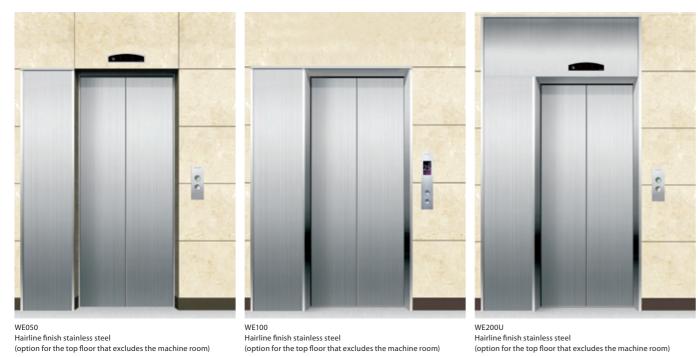
 $Note: Samples \ and \ images \ depicted \ may \ differ \ from \ the \ actual \ product. \ All \ specifications \ are \ based \ on \ the \ actual \ product.$

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KEY FEATURES

ENTRANCE DESIGN





HANDRAIL

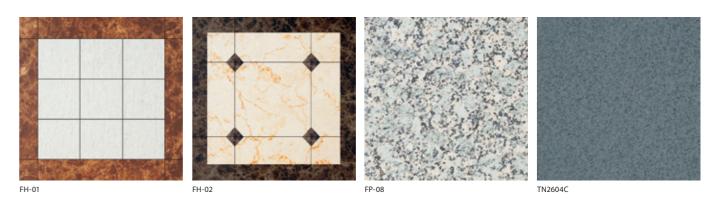


Note: Samples and images depicted may different from the actual product. All specifications are based on the actual product.

CEILING



FLOORING DESIGN



PAINTED STEEL

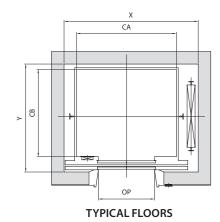
STANDARD COLOR

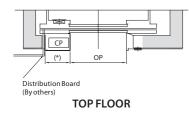


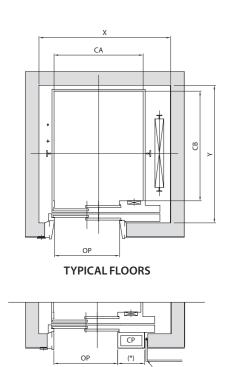
HOISTWAY PLAN AND SECTION

YZER-R MRL

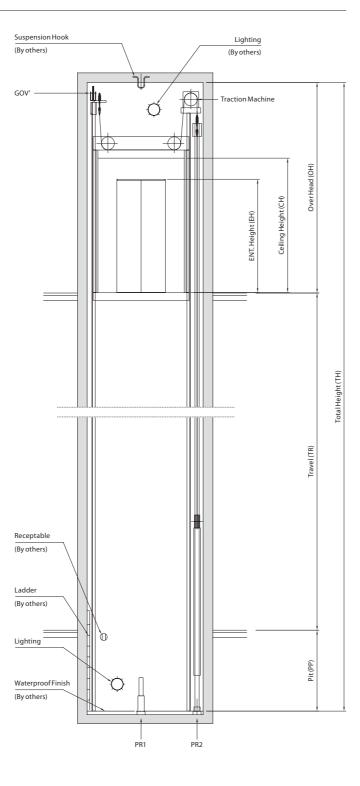
LAYOUT OF HOISTWAY







TOP FLOOR



Notes

- 1. The lighting of hoistway should be installed less than 500mm from above the ceiling of hoistway and within 500mm above the bottom of the pit. (By others)
- Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.

STANDARD DIMENSIONS AND REACTIONS

YZER-R MRL

MANUFACTURER STANDARD

Unit: mm

	Speed (m/sec)	Capacity		Opening Type	Clear Opening	Car Size (mm)	Hoistway Size (mm)	Control Panel Box (mm)		action (g)
	(111/300)	Persons	Kg		ОР	CA x CB	X x Y	СР	PR1	PR2
	1.0	6	450		700	1100 × 1100	1700 × 1450		5600	4700
_	1.0	7	550		800	1100 × 1300	1800 × 1650		6100	5000
		8	630		800 -	1100 × 1400	1800 × 1750		7000	5700
Center	1.0		030	2P-CO	000	1400 × 1100	2000 × 1450	FOF		3700
G	1.5	9	700	ZF-CU	800	1250 × 1400	1900 × 1750	- 505 · · · · · · · · · · · · · · · · · ·	7400	6000
		10	800		800	1300 × 1400	1900 × 1750		7800	6200
	1.75	12	900		900	1600 × 1300	2200 × 1650		8700	6900
		13	1000		900	1600 × 1400	2200 × 1750		9600	7600
		5	400		800	1000 × 1100	1600 × 1500		5300	4500
	1.0	6	450		800	1100 × 1100	1700 x 1550		5600	4700
_		7	550		800	1100 × 1300	1700 × 1700		6100	5000
		8	630		800	1100 × 1400	1700 × 1800		7000	5700
Side	1.0	9	700	2P-SO	900	1200 × 1400	1800 × 1800	505	7400	6000
	1.5	10	800		900	1300 × 1400	1900 × 1800		7800	6200
		12	900		900	1300 × 1600	1900 × 2000		8700	6900
	1.75	13	1000		900	1100 × 2100	1700 × 2500		9600	7600
		13	1000		1200	2100 × 1100	2700 × 1550		9000	7000

Notes:

- $1. \ \ Above dimensions are applied base on standard car size \& opening size for other applicable dimensions, please contact us.$
- $2. \ \ \text{If apply the safety gear on counterweight side, please consult with us.}$
- 3. If need to apply safety gear on counterweight, please consult with us.

OVERHEAD & PIT DEPTH

Unit: mm

	Speed (m/s)	Max.Travel (TR)	Overhead (OH)	Pit Depth (PP)
	1.0	50,000	CH+1400	1200
EN81-1	1.5	70,000	CH+1500	1300
-	1.75	80,000	CH+1600	1400
	1.0	50,000	CH+1700	1200
EN81-20	1.5	70,000	CH+1800	1300
	1.75	80,000	CH+1900	1400

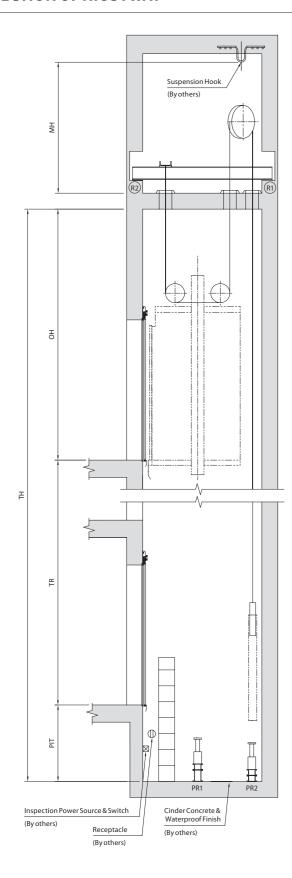
lotes:

- $1. \ \ Above dimentions are applied base on standard car size \& opening for other applicable dimensions, please contact us.$
- $2. \ \ In case of 1.0 m/s with travel is above 25 m, Pit depth should be increased 100 mm to apply the compensation device.$
- 3. When non-satandard capacites and dimensions are required to meet the local code, Please consult us.

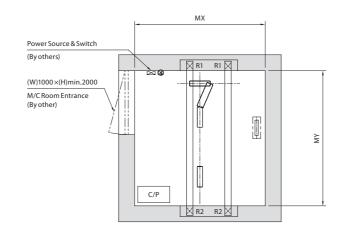
HOISTWAY PLAN AND SECTION

R9MR/CWT at REAR

SECTION OF HIOSTWAY

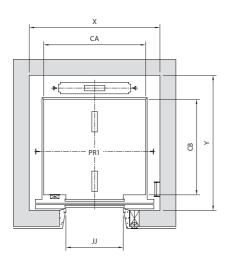


PLAN OF M/C ROOM



Notes: M/C room entrance on front 0 rear side, please contact us.

CENTER OPEN



STANDARD DIMENSIONS AND REACTIONS

R9 MR / CWT at REAR (NON CODE & NOTES)

MANUFACTURER STANDARD

Unit: mm

Capa	icity	Speed (m/sec)	Opening Type	Door Width (mm)		r Si mm			mm	y Size ı)	Machine Room Size (mm)		n Reaction N)		action :N)
Persons	Kg	- (111/3000)	.,,pc	JJ	CA	х	СВ	Х	х	Υ	MX × MY	R1	R2	PR1	PR2
		1.0													
6	450	1.5	1SCO	700	1100	Χ	1100	1550	Χ	1720	1550 × 1720	31.8	28	44	35
		1.75													
		1.0													
7	550	1.5	1SCO	800	1300	Χ	1100	1750	Χ	1720	1750 × 1720	34.7	30	48.8	37.8
		1.75													
		1.0													
8	630	1.5	1SCO	800	1400	Χ	1100	1850	Χ	1720	1850 × 1720	48	30	53	41
		1.75													
		1.0													
		1.5										57	35	61	45
10	800	1.75	1SCO	800	1400	Χ	1350	1850	Χ	1970	1850 × 1970	37	33		
		2.0												63.2	47.2
		2.5										68	40	70	54
		1.0													
		1.5							2050 × 2120		68	40	71	51	
13	1000	1.75	1SCO	900	1600	x 1	1500	2050		2050 × 2120	00	40			
		2.0												73.6	53.6
		2.5										73.6	51.2	80	60
		1.0													
		1.5										72.8	50.8	81.6	58.6
15	1150	1.75	1SCO	1000	1800	Χ	1500	2250 x 2120 2250	2120 2250 x 2120	2250 × 2120	/ 2.0	JU.0 _			
		2.0												81.6	58.6
		2.5										80.8	56.8	90	67

Notes:

- $1. \ \ The table of dimensions as per Hyundai standard and EN81-1 Only, For other country codes and spec requirements, Please contact us.$
- $2. \ \ Refer to above table, Rear CWT arrangement for EN81-20 \, market is only available for 1150 kg capacity dur to the refuge space limitatin on car roof.$
- $3. \ \ \text{If apply the safety gear on Counterweight side, please contact us.}$
- $4. \ \ If apply through (180\,degree)\,type, please \,consult\,with\,us.$
- $5. \ \ The \ Ho is tway \ dimensions \ width \& depth \ are \ based \ on \ clear \ dimension \ \pm 20 mm \ horizontal \ tolerances \ over the \ total \ ho is tway \ height.$

OVERHEAD & PIT DEPTH

Unit: mm

Speed (m/sec)	Overhead (OH)	Pit Depth (PIT)	M/C Room Height (MH)
1.0	4100	1250	2200
1.5	4200	1300	2200
1.75	4300	1350	2200
2.0	4500	1500	2200
2.5	4750	1700	2200

Notes:

- 1. This table is calculated based on CH= 2430mm.
- 2. If non-standard car height is required, OH need to changed correspondingly.

R9, YZER-R SPECIFICATIONS 21

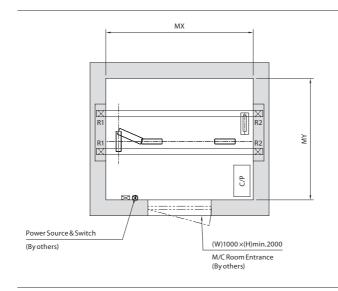
HOISTWAY PLAN AND SECTION

R9 MR / CWT at SIDE

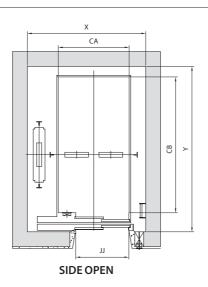
SECTION OF HIOSTWAY

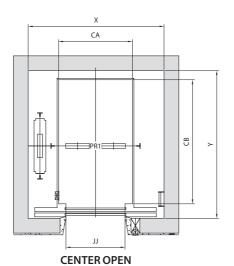
(By others) Inspection Power Source & Switch (By others)

PLAN OF M/C ROOM



CENTER OPEN





STANDARD DIMENSIONS AND REACTIONS

R9 MR / CWT at SIDE (EN81-1)

MANUFACTURER STANDARD

Unit: mm

Capa	icity	Speed (m/sec)	Opening Type	Door Width (mm)	Car Size (mm)	Hoistway Size (mm)	Machine Room Size (mm)		n Reaction N)		action :N)	
Persons	Kg	- (111/36C)	туре	IJ	CA x CB	X x Y	MX x MY	R1	R2	PR1	PR2	
		1.0										
8	630	1.5	1SCO	800	1100 × 1400	1940 × 1720	1940 × 1720	48	30	53	41	
		1.75										
		1.0										
		1.5						57	35	61	45	
		1.75	1SCO	800	1100 × 1800	1950 × 2200	1950 × 2200	57	-			
		2.0								63.2	47.2	
10	800	2.5						66	46.8	70	54	
10	000	1.0										
		1.5						57	35	61	45	
		1.75	2SSO	900	1100 × 1700	1840 × 2100	1840 × 2100	31	-			
		2.0								63.2	47.2	
		2.5						66	46.8	70	54	
		1.0										
		1.5					2100 × 2500	68	40	71	51	
		1.75	1SCO	900	1100 × 2100	2100 × 2500			-			
		2.0								73.6	53.6	
13	1000	2.5						73.6	51.2	80	60	
		1.0										
		1.5						68	40	71	51	
		1.75	. 2SSO	900	1100 × 2100	1100 × 2100 1840 × 2500 1840 × 2500	× 2100 1840 × 2500 1840 × 2500	1100 × 2100 1840 × 2500 1840 × 2500	2500 1840 × 2500	1840 × 2500 1840 × 2500		
		2.0								73.6	53.6	
		2.5			73.6	51.2	80	60				
		1.0										
		1.5						72.8	50.8	81.6	58.6	
		1.75	. 1SCO	1000	1250 × 2100	2300 × 2500	2300 × 2500					
		2.0								81.6	58.6	
15	1150	2.5						80.8	56.8	90	67	
		1.0										
		1.5			4200 2405		4040	72.8	50.8	72.8	50.8	
		1.75	2SSO	1000	1200 × 2100	1940 × 2500	1940 × 2500		-			
		2.0								81.6	58.6	
		2.5						80.8	56.8	90	67	

Notes:

- $1. \ \ The table of dimensions as per Hyundai standard EN81-1, For other country codes and spec requirements, Please contact us.$
- 2. For comply the EN81-20, The CB size recommend with Min. 1400mm (In case of EN81-1, Recommend with Min. 1350mm).
- 3. If apply the safety gear on Counterweight side, please contact us.
- 4. If apply through (180 degree) type, please consult with us.
- $5. \ \ The \ Ho is tway \ dimensions \ width \& depth \ are \ based \ on \ clear \ dimension \ \pm 20 mm \ horizontal \ tolerances \ over the \ total \ ho is tway \ height.$

OVERHEAD & PIT DEPTH

Unit: mm

Speed (m/sec)	Overhead (OH)	Pit Depth (PIT)	M/C Room Height (MH)
1.0	4100	1250	2200
1.5	4200	1300	2200
1.75	4300	1350	2200
2.0	4500	1500	2200
2.5	4750	1700	2200

Notes:

- 1. This table is calculated based on CH= 2430mm.
- $2. \ \ If non-standard \ car height is required, OH need \ to \ changed \ correspondingly.$

STANDARD DIMENSIONS AND REACTIONS

R9 MR / CWT at SIDE (EN81-20)

MANUFACTURER STANDARD

				Door Width	Ca	r Si	70	Hoist	tw/a	y Size	Machine	. D	nom Siza	M/C Roor	n Peaction	Dit De	Unit: mm
Capa	icity	Speed (m/sec)	Opening Type	(mm)		nm			mn			mn			(N)		(N)
Persons	Kg	_ (111/36C)	туре	JJ	CA	х	СВ	Х	х	Υ	MX	х	MY	R1	R2	PR1	PR2
		1.0															
7	550	1.5	- 1SCO	800	1100	Χ	1350	1890	Х	1700	1890	Х	1700	34.7	30	48.8	37.8
		1.75															
0	620	1.0	1SCO	900	1100		1400	1000		1750	1000		1750	40	20	F2	41
8	630	1.5 1.75	- 1300	800	1100	X	1400	1890	Х	1750	1890	X	1750	48	30	53	41
		1.0															
		1.5															
		1.75			1100	Х	1800	1890	Х	2150	1890	Х	2150	57	35	69.8	53.5
		2.0															
		2.5	- 1SCO	800 -										66.7	46.8	77.2	61.2
		1.0	- 1300	000													
		1.5												57	35	69.8	53.5
10	800	1.75	-		1350	Х	1400	2140	Х	1750	2140	Х	1750				
		2.0	=											667	46.0	77.0	61.2
		1.0												66.7	46.8	77.2	61.2
		1.5															
		1.75	- 2SSO	900	1100	Х	1700	1800	Х	2150	1800	Х	2150	57	35	69.8	53.5
		2.0	. 2330				1700	1000		2130	1000		2.50				
		2.5	-											66.7	46.8	77.2	61.2
		1.0															
		1.5												68	40	80	59.6
		1.75			1100	Χ	2100	1990	Х	2450	1990	Χ	2450	00	40	00	33.0
		2.0	-														
		2.5	- 1SCO	900 -										73.6	51.2	86.3	65.9
		1.5															
13	1000	1.75			1400	X	1600	2100	X	1950	2190	Х	1950	68	40	80	59.6
15	1000	2.0	-		1400		1000	2170		1550	2150		1,550				
		2.5	=											73.6	51.2	86.3	65.9
		1.0															
		1.5												68	40	80	59.6
		1.75	2SSO	900	1100	Χ	2100	1800	Х	2550	1800	Χ	2550	00	40	00	39.0
		2.0	-														
		2.5												73.6	51.2	86.3	65.9
		1.0															
		1.5 1.75			1250	Y	2100	2140	Y	2450	2140	Y	2450	72.8	50.8	89.6	66.6
		2.0	-		1230	^	2100	2140	^	2430	2140	^	2450				
		2.5	-											80.8	56.8	96.1	72.6
		1.0	- 1SCO	1000 —													
		1.5												72.0	50.0	00.6	
15	1150	1.75			1500	Χ	1800	2290	Х	2150	2290	Χ	2150	72.8	50.8	89.6	66.6
		2.0	=														
		2.5												80.8	56.8	96.1	72.6
		1.0															
		1.5	2000	1000	1200	~	2100	1000	v	2550	1000		2550	72.8	50.8	89.6	66.6
		<u>1.75</u> 2.0	2SSO	1000	1200	X	∠100	1900	X	2550	1900	X	2550				
		2.5	=											80.8	56.8	96.1	72.6
		۷.٦												0.00	30.0	70.1	/ Z.U

OVERHEAD & PIT DEPTH

Unit- mr

			Onic min
Speed (m/sec)	Overhead (OH)	Pit Depth (PIT)	M/C Room Height (MH)
1.0	4100	1250	2200
1.5	4200	1300	2200
1.75	4300	1350	2200
2.0	4500	1500	2200
2.5	4750	1700	2200

Notes:

- 1. This table is calculated based on CH= 2430mm.
- 2. If non-standard car height is required, OH need to changed correspondingly.

POWER SUPPLY PLAN

POWER SUPPLY PLAN

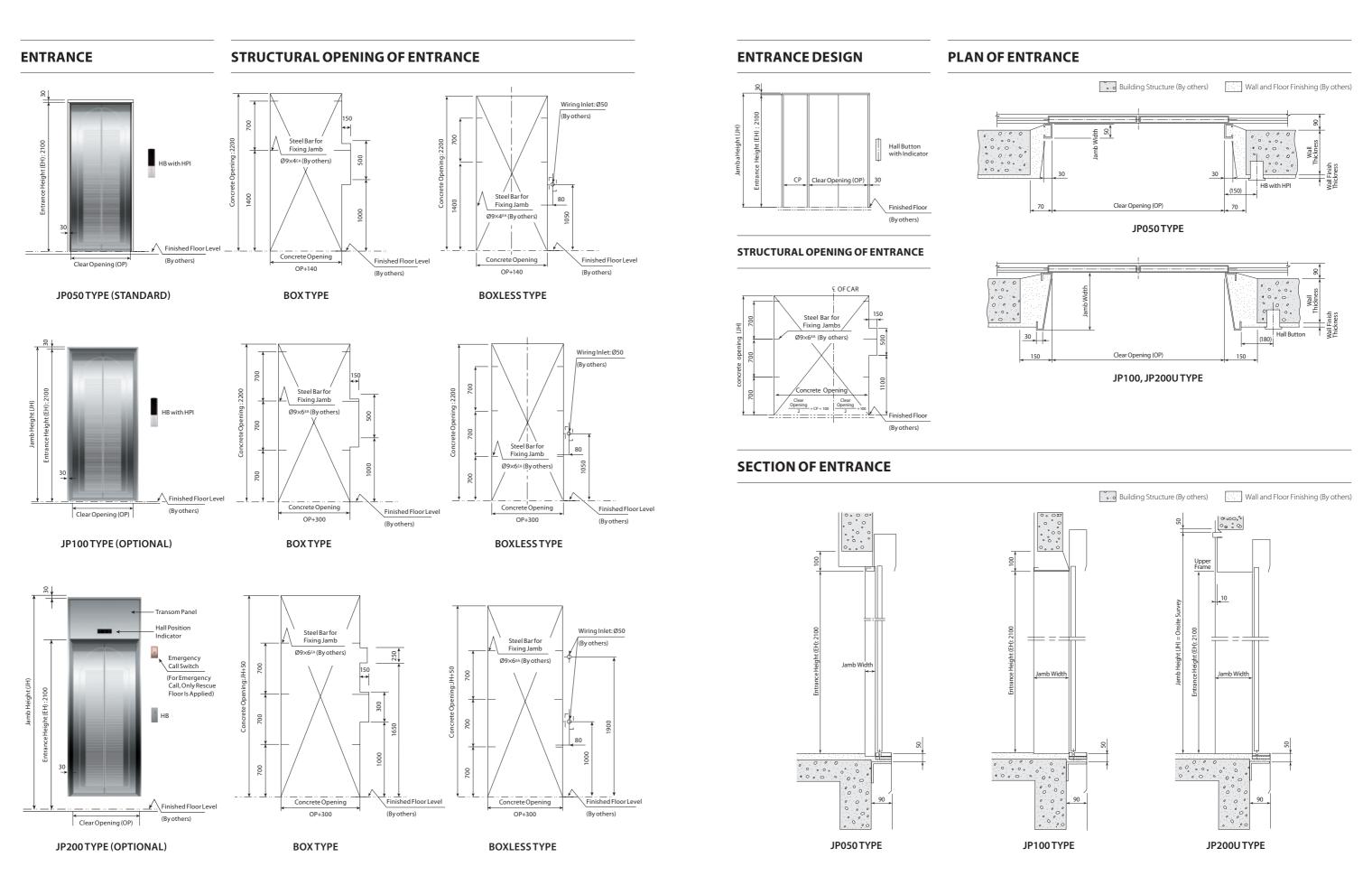
[380V] / Unit

Load (kg)	Speed (m/s)	Motor Capacity (kW)	MCCB Capacity of Building (A)	Power Capacity (kVA)	Power Cable Size (mm²)	Earth Wire Size (mm²)
	1.0	5.0	20	9	4	10
450	1.5	7.8	32	13	6	10
	1.75	9	32	14	6	10
	1.0	5	20	9	4	10
550	1.5	7.8	32	13	6	10
	1.75	9	32	14	6	10
	1.0	5	20 (20)	9	4	10
630	1.5	7.8	32	13	6	10
	1.75	9	32	14	6	10
	1.0	5	20	9	4	10
	1.5	7.8	32	13	6	10
800	1.75	9.0	32	14	6	10
	2.0	13.4	50	21	10	10
	2.5	17.6	63	25	16	10
	1.0	6	20	10	4	10
	1.5	10	32	15	6	10
1000	1.75	11.7	32	17	10	10
	2.0	13.4	50	21	10	10
	2.5	17.6	63	25	16	10
	1.0	7	32	11	4	10
	1.5	10.6	40	16	6	10
1150	1.75	12.3	50	18	10	10
	2.0	14.1	50	21	10	10
	2.5	17.6	63	25	16	16

Note:

Power cable size is assuming Max. 50m to maintain the maximum allowable voltage drip of 5% based on the maximum starting current at operating with full load.

ENTRANCE LAYOUTS



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LAYOUT OF FUNCTIONS

STANDARD SPECIFICATIONS

Function	Description			
Simplex selective collective operation	Operation is carried out completely automatically when a call is registered.			
Automatic low speed operation	If the car stops and the cage is not at the same level as the landing under normal operation, the cage is moved automatically to the closest landing at low speeds before the door is opened.			
Automatic door opening	Doors open automatically when the elevator reaches a landing.			
Door open hall button	Pressing the door open hall button opens the door of an elevator on standby on the respective floor. The door closes automatically after a given time period elapses. It remains open while the button is held down.			
Door close button	Pressing the door close button while operating in automatic mode forces an open door to close before the automatic open door time elapses.			
Door open button	Pressing the door open button while the cage is still at a landing with the door closed prompts the door to open.			
Repetitive door opening	The elevator automatically reports a breakdown and displays a breakdown sign when doors fail to close completely and repeat an open and close movement.			
Inspection mode	Engaging the inspection switch causes the elevator to operate under inspection mode. Calls are cancelled and usage of the elevator from the cage or hallways is stopped completely. The inspector can move the cage up or down at regulated speeds by pressing the up and down buttons.			
Emergency lighting	ng Emergency lights inside the cage turn on automatically in the event of a power failure.			
Inter phone	The cage, machine room, ceiling, pit, and control room can be connected for passengers or maintenance personnel to call for assistance when trapped.			
Manual operation	Operation mode can be switched from automatic to manual through a switch on the operating panel.			
Call cancel	Passengers can cancel stops by pressing the respective floor button a second time.			
Reverse direction call auto canceling	All stop requests are cancelled once the elevator arrives at the last floor on either direction.			
Automatic light switch	Lights inside the cage turn off automatically if a call is not registered within a given period of time. Lights are reactivated once the elevator is called.			
Automatic air conditioning switch	Air conditioning inside the cage is turned off automatically if a call is not registered within a given period of time. It is reactivated once the elevator is called.			
Auto-wait floor	Under automatic operation mode, the elevator returns automatically to a designated floor if a preset time period elapses without any calls.			
Hoistway data automatic learning	Diverse hoistway (floor height, safe opening/closing level, etc.) and operation data are permanently learned and stored.			
Customization of service floors	Service floors, parallel lifts, evacuation floors, parking (doors locked) floors, basement floors, etc. can be customized through the elevator's user interface (UI).			
LED dot-type floor indicators	Dot type position indicators in cages and hallways allow beautiful and lively communication through a diverse selection of colors.			
Scrolling numeric/directional display	Scrolling arrow displays in the hall and cages signal movement and direction of travel.			
Automatic update of cage position signal	Elevator position data is updated by reconfirming the activation position of safety and horizontal floor level switches.			
Service lock	The elevator ceases to operate when the service lock switch is turned on. It resumes operation as soon as the lock switch is turned off.			
Emergency return	Activation of the fire switch on the main floor cancels all calls and prompts the elevator to go immediately to the evacuation floor (safety floor) and to remain with the doors opened.			
Protective door safety shield	Infrared sensors monitor the entire height of the door to protect passengers and cargo while the door is closing.			
Overload protection	A buzzer rings and doors remain open when weight capacity is exceeded. The cage display informs passengers that the weight limit has been surpassed.			
Reverse operation protection	The system recognizes if the elevator movement does not match with the direction of the indicator for more than 3 minutes and immediately stops the car, alerting the control room.			
Slip protection	Cage operation is stopped and a breakdown alert is sent when the system detects a rope slip.			
Cage slip prevention	If the system detects feedback pulses for more than 3 seconds after the elevator comes to a stop and there is a change in the cage's horizontal position, the system will suspect an elevator slip and immediately stop the cage's operation, sending out a breakdown alert.			
Overrun prevention	Deceleration switches and limit switches at the top and bottom ends of the elevator cage prevent the elevator from overrunning floors.			
Arrival voice announcement	A voice system informs passengers about the arrival floor and direction of operation when the elevator arrives at a landing.			

OPTIONS

Function	Description	
Door safety shoe	Elevator doors open immediately if a passenger or object touches the safety shoe while the door is closing.	
Parallel control	If two elevators share a single call system, the closest elevator is summoned when the call button is pressed to increase efficiency.	
Group control operation	3 or 4 elevators are grouped and controls are centralized in high-rise buildings with a large number of users to increase transportation efficiency.	
Emergency leveling during power outages	Energy stored in rechargeable batteries supply power to move the elevator automatically to the closest landing and to open the doors to unload passengers during power outages.	
Secondary operating panel in the cage	A secondary operating panel can be installed in the cage of high capacity elevators for the convenience of passengers.	
Flashing car position indicator lamp	Position indicator lamps in the hallway flash to announce the arrival of an elevator and indicate its travel direction.	
Automatic pass through	The car only responds to internal calls and passes through other floors when it reaches full capacity while operating in automatic mode.	
Jam prevention	All registered floor requests are canceled automatically if there are more than 6 registered calls and few passengers aboard.	
Emergency firefighting operation	When the firefighting switch is turned on, all external calls are canceled and the elevator responds to internal calls only.	
VIP function	Cage doors open and the elevator remains on standby on a designated VIP floor upon being summoned.	
IC card function	The IC card function can be added to hall buttons and operating panels of cages to service IC card holders only.	
Door hold function	Door is held open for a preset time.	
Destination selecting system	System analyzes pre-registered floor requests and optimizes operation to reduce passenger time and save energy.	

CONSTRUCTION AND INSPECTION REQUIREMENTS

ELEVATOR CONSTRUCTION AND INSTALLATION REQUIREMENTS

Applicable to all construct	ion that follows Hyundai Elevator's floor and construction plans			
General conditions	1. The buyer shall provide an unloading dock for construction materials and equipment, as well as sufficient warehouse space with a secure locking system.			
	2. The buyer shall bear responsibility for the storage of elevator equipment boxes prior to opening. Buyer and supplier shall jointly unpack and inspect the equipment.			
	3. The buyer shall build a hoistway in accordance to the civil drawings and rectify any discrepancies as requested by the supplier.			
	4. The buyer shall be responsible for any modifications of the interior and the hole on the floor after installation.			
	5. Before and during the installation of the elevator, every opening on each floor must be guarded with safety rails or sheaths that are at least 1.2 m in height. Each must withstand at least 900N in strength.			
Pit	1. The buyer shall provide a dry, waterproof pit that can resist loads as per the civil drawings.			
	2. The buyer shall provide reinforced concrete flooring or cement grouting to support equipment installed in the pit.			
	3. The buyer shall install drainage or waterproofing if necessary.			
	4. The buyer shall dispose all waste that is unrelated to the construction work.			
Hoistway	1. The hoistway and its construction must comply with all relevant standards as dictated by national authorities and Hyundai Elevator's construction drawings and attain the required fire rating. Hoistway walls must be adequately reinforced and evened, without any protrusions or exposed rebar and foreign matter.			
	2. The hoistway must have the openings and recesses necessary to install the door frames, hall buttons, and displays in accordance to Hyundai Elevator's drawings. It must include ventilation holes and hoistway emergency exits.			
	 When planning and building the hoistway, all components, including T beams and H beams, must meet weight and load requirements that correspond to the planned use of the elevator. 			
	4. Each hoistway elevator door opening must include space for door sills and headers in accordance to Hyundai Elevator's drawings.			
	5. The buyer shall provide exact reference marks and sill reference lines for the installation of door frames.			
Machine room	1. Openings must be provided according to specifications on the plans. Machine room height and space must conform to the drawings.			
	2. Three-phase, 5-line electric power supply that meets or exceeds the minimum required output rating must be supplied free of charge for the machine room and lighting during the construction period.			
	3. Machine room door and windows must be shut and locked. They must be marked with "Restricted Access: Authorized Personnel Only" labels.			
	4. A hook with sufficient loading capacity must be placed directly at the top of the hoistway of the machine room.			
	5. An independent grounding line with a cross-sectional area greater than that of the power line must be provided in the machine room. Ground resistance must be less that 4 ohms, and insulation wire must be used on the section starting from the ground up to the machine room.			
	6. The machine room floor must have sufficient strength (minimum 500kg/m²) and slip resistance. Each weight loading point shall meet mechanical reaction force criteria.			
	7. Proper ventilation or air conditioning equipment must be installed in the machine room.			

ELEVATOR INSPECTION REQUIREMENTS

- Machine room air temperature shall be between 5 ~ 40°C, have good ventilation, and maintain humidity levels below 85%. Ground lighting should be 200 lux or higher.
- 2. Voltage oscillation of power from the grid must remain between $\pm 7\%$ of the voltage rating.
- ${\it 3. \ \, Surrounding \, air \, must \, not \, contain \, corrosive \, gases, \, combustible \, gases, \, or \, conductive \, dust.}$
- 4. The machine room must not contain any articles or facilities unrelated to the elevator.
- 5. Proper elevator equipment documentation and an operational management system must be in place.
- Passages to the machine room, pulley room, and pit must be free of obstacles and have fixed lighting.
- Machine room doors and windows must be lockable and rainwater proof. They must bear a
 "Restricted Access: Authorized Personnel Only" label. The machine room must have proper
 firefighting equipment, fixed lighting, and power outlets.
- The grounding system should be a TN-S or TN-S-C type depending on the electric supply system.
 The central line (N) and the grounding line (PE) must be set apart starting from the machine room entrance.
- 9. If the distance between the elevator cage and a door pit on the hoistway becomes longer than 11m, an emergency door must be installed in between. The emergency door must only open outward from the interior of the hoistway. Once opened, the door must be closeable or lockable without a key. From the outside of the hoistway, the door must only be able to be opened with a key.
- 10. Spaces on the top of door frames and the hoistway wall must be grouted and filled. Recesses on the wall for hall buttons must be covered.
- 11. Hoistways used by more than 1 elevator must have partitions that are at least 2.5m high between elevators.

- 12. The hoistway must have fixed lighting. Lamps must be less than 0.5m apart at the top and bottom sections of the hoistway and 7m apart in the middle section.
- 13. The 5-way communication system must ensure communication between the cage and the control room
- 14. The machine room must have a circuit breaker and independent power, lighting, hoistway lighting and ventilation control switches for each elevator. Every machine room must have
- 15. The emergency elevator machine room and the hoistway must be separate.
- 16. Freight elevators must be operated by a full-time operator who has an elevator operation license (applicable only if required by the inspection authority of the local government).
- 17. The machine room must have proper fire fighting facilities.