



Accredited with ISO 9001,
an industry first in Korea



Accredited with ISO 14001,
an industry first in Korea



Accredited with
OHSAS 18001 Certification



Accredited with Korea
Service Quality Business
Certification



Approved for CE Marking for
all areas of elevator,
an industry first in Korea



GOOD DESIGN

Selected for GD
[Good Design]



Accredited with KC
(Korea Certification)
for elevator safety



OBSERVATION ELEVATORS



C-OBE-E1915/2017.5/Revision 19

THROUGH
THE
WINDOW

Experience
Advanced Value

03
INTRO

04
STRONG POINT

06
PORTFOLIO

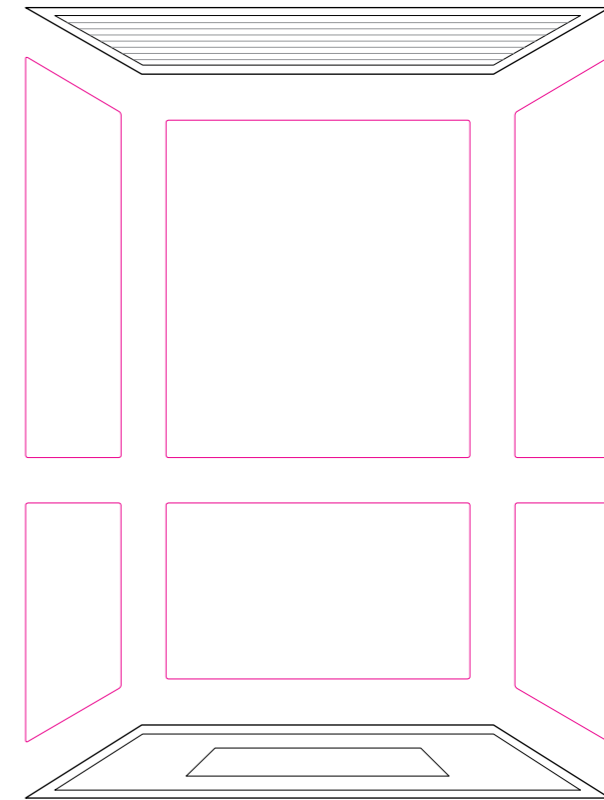
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INSTALLATION



OBSERVATION ELEVATORS

**Hyundai Elevator's
cutting-edge technology and
elegant design elevates the
prestige of your building.**

An observation elevator is an excellent addition to all building types, including hotels, shopping centers, office buildings, hospitals and observation towers, and offers incredible views through its transparent windows, thereby upgrading the value and prestige of any building.

△ HYUNDAI ELEVATOR

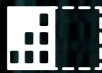


Introducing the Hyundai observation elevator, the industry's No.1 brand



DIVERSE PRODUCT LINEUP

The wide range of our product lineup, including one-, two- and three-sided, round type window or glass-walled elevators, guarantees customer satisfaction.



EXCELLENT USE OF SPACE

As the elevator shaft can be installed on the building exterior, there is no need to use interior space.



EXCELLENT TECHNOLOGY

Hyundai's exclusive technology and thorough testing offer a safe and comfortable passenger experience.



ENHANCED VALUE

The expansive, uncompromised view adds value and prestige to your building.

Add value to your building with **Hyundai Elevator's cutting-edge technology and refined design.**

An observation elevator is the perfect addition to all building types, such as hotels, shopping centers, office buildings, hospitals, residential buildings and observation towers. Hyundai's modern design and advanced technology, embracing new trends and customer preferences, has been widely recognized for adding value to many buildings.

SEOUL CITY COMPLEX_KOREA



COURT HOUSE_TURKEY



GARDEN 5_KOREA



CHEONGGYE STREAM SAMIL BRIDGE_KOREA



PARK HYATT BUSAN_KOREA



HYUNDAI DEPARTMENT STORE_KOREA



OBSERVATION ELEVATORS

LINE-UP

Our product lineup's variety, ranging from one-, two- and three-sided, semicircular type window elevators to glass-walled elevators, offers a range of models to fit your building's location, height and layout. Our sophisticated and trendy designs to complement your building's architecture guarantee greater customer satisfaction.



SQ-121A

1SIDE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS Painted steel (P-021), Glass

Cage Design

CEILING CD219A (Painted steel / P-022), Skylite 10T
WALL Stainless hairline, Stainless hairline etching (SE2302), Glass
DOOR Stainless hairline etching (SE2302)
HANDRAIL Stainless 1 pipe (1R) / Polished
OPB OPP-N264A / Stainless hairline
INDICATOR PI-D700
FLOORING Deco-tile (DTE6025, DTE6033)

Front

Rear



* Number and / or size of ceiling panels and number of lighting fixtures will vary per selected car size. * Applicable prices will vary per selected optional designs / materials.



SQ-129A

1SIDE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS Painted steel (P-016), Glass
DECORATIVE ILLUMINATIONS Acryl, LED lighting

Cage Design

CEILING CD253A (Painted steel / P-021, P-022), LED Downlight, Skylite 10T
WALL Stainless hairline, Stainless hairline etching (SE2311), Glass
DOOR Stainless hairline etching (SE2311)
HANDRAIL Stainless 1 pipe (1R) / Polished
OPB OPP-N264A / Stainless hairline
INDICATOR PI-L700
FLOORING Deco-tile (DTE5324, DTE2407)

Front

Rear



* Colors printed in this catalog may appear different from actual colors.



SQ-129B

1SIDE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS	Painted steel (P-021, G804500), Glass
DECORATIVE ILLUMINATIONS	Acryl, LED lighting

Cage Design

CEILING	CD191B / Art metal silver (AM01), LED bar type module (P-022), Ceiling plate (Painted steel / P-024)
WALL	Stainless hairline, Stainless hairline etching(SE2303), Stainless mirror trim (30mm), Glass
DOOR	Stainless hairline etching [SE2303]
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A / Stainless hairline
INDICATOR	PI-D900
FLOORING	Deco-tile (DTE2257, DTE2241)

Front

Rear



* Number and / or size of ceiling panels and number of lighting fixtures will vary per selected car size. * Applicable prices will vary per selected optional designs / materials.



SQ-119C

2SIDE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS	Painted steel (P-011), Glass
DECORATIVE ILLUMINATIONS	LED signal panel decorative lighting, LED downlight

Cage Design

CEILING	CD219A (Painted steel / P-022), Skylite 10T
WALL	Stainless hairline, Stainless hairline etching (SE2306), Glass
DOOR	Stainless hairline etching [SE2306]
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A / Stainless hairline
INDICATOR	PI-L900
FLOORING	Deco-tile (DTE2246, DTE2257, DTE2217)

Front

Rear



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SQ-119Z

2SIDE OBSERVATION ELEVATORS

Exterior Design

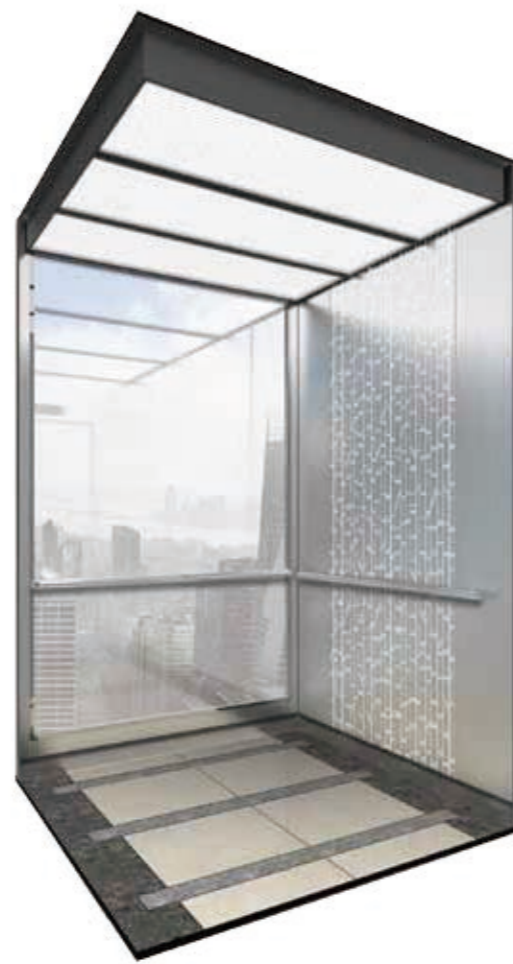
EXTERIOR PANELS Painted steel (P-011), Glass

Cage Design

CEILING CD219A (Painted steel / P-022), Skylite 10T
WALL Stainless hairline, Stainless hairline etching (SE2306), Glass
DOOR Stainless hairline etching (SE2306)
HANDRAIL Stainless 1 pipe (1R) / Polished
OPB OPP-N264A / Stainless hairline
INDICATOR PI-L900
FLOORING Deco-tile (DTE2246, DTE2257, DTE2217)

Front

Rear



* Number and / or size of ceiling panels and number of lighting fixtures will vary per selected car size. * Applicable prices will vary per selected optional designs / materials.



RC-219A

2SIDE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS Painted steel (P-022), Glass
DECORATIVE ILLUMINATIONS Acryl, LED lighting

Cage Design

CEILING CD199A / Aluminum (silver), PC ABS, LED lighting, Ceiling plate (Painted steel / P-021)
WALL Stainless hairline, Stainless hairline etching (SE2304), Glass
DOOR Stainless hairline etching (SE2304)
HANDRAIL Stainless 1 pipe (1R) / Polished
OPB OPP-N264A / Stainless hairline
INDICATOR PI-D110
FLOORING Deco-tile (DTE2415, DTE2455)

Front

Rear



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HG-132A

3SIDE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS	Painted steel (P-021)
DECORATIVE ILLUMINATIONS	Acrylic Lens / Fluorescent illuminations through milky-white acrylic covers

Cage Design

CEILING	CD524A (Painted steel / P-021), LED downlight, Indirect lighting
WALL	Stainless hairline, Stainless hairline etching (SE1591), Stainless mirror trim (30mm), Glass
DOOR	Stainless hairline
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A / Stainless hairline
INDICATOR	PI-D700
FLOORING	Deco-tile (DTE2126, DTE2109, DTE2416)

Front

Rear



* Number and / or size of ceiling panels and number of lighting fixtures will vary per selected car size. * Applicable prices will vary per selected optional designs / materials.



HG-339A

3SIDE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS	Painted steel (E56305)
DECORATIVE ILLUMINATIONS	Acryl / LED Lighting / Down Lighting (LED)

Cage Design

CEILING	CD419E (Painted steel / P-024), LED downlight, Sheet (CS172), Acryl
WALL	Stainless hairline, Stainless hairline etching (SE1591), Stainless mirror trim (30mm), Glass
DOOR	Stainless hairline
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A / Stainless hairline
INDICATOR	PI-D700
FLOORING	Deco-tile (DTE2109, DTE2125)

Front

Rear



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SC-419A

SEMI-CIRCLE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS	Painted steel (P-021)
DECORATIVE ILLUMINATIONS	LED Lighting / Fluorescent illuminations through milky-white acrylic covers fitted at bottom of the carcovers

Cage Design

CEILING	CD461F (Painted steel / P-017), Fluorescent illuminations through milky-white acrylic covers
WALL	Stainless linen, Stainless mirror trim (30mm), Glass, Sheet
DOOR	Stainless linen
HANDRAIL	Stainless bar type / Hairline
OPB	OPP-N264A / Stainless linen
INDICATOR	PI-D900
FLOORING	Granite (Po-cheon) / Water jet

Front



Rear



* Number and / or size of ceiling panels and number of lighting fixtures will vary per selected car size. * Applicable prices will vary per selected optional designs / materials.



SC-419B

SEMI-CIRCLE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS	Painted steel (P-021)
DECORATIVE ILLUMINATIONS	LED Lighting (Blue) / LED Acrylic Lighting / Down Lighting (LED)

Cage Design

CEILING	Painted steel (P-022), Skylite 10T, LED lighting, Glass
WALL	Stainless bead blast, Stainless mirror trim (30mm), Glass
DOOR	Stainless bead blast
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A / Stainless bead blast
INDICATOR	PI-D900
FLOORING	Marble (Star galaxy) / Water jet

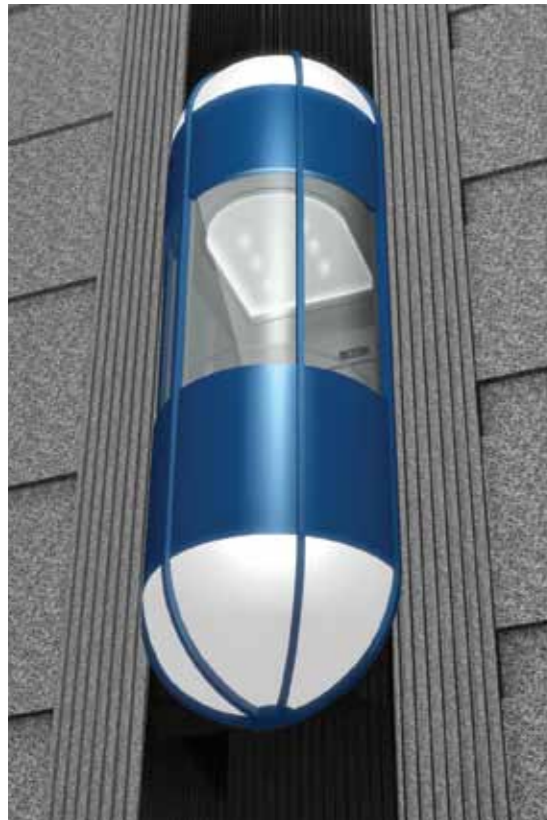
Front



Rear



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SC-846A

SEMI-CIRCLE OBSERVATION ELEVATORS

Exterior Design

EXTERIOR PANELS	Painted steel (G614008)
DECORATIVE ILLUMINATIONS	Fluorescent illuminations through milky-white acrylic covers fitted at top and bottom of the car

Cage Design

CEILING	CD523C (Painted steel / P-021, P-022), LED downlight, Indirect lighting
WALL	Stainless 3S vibration, Stainless mirror, Glass
DOOR	Stainless 3S vibration
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A / Stainless 3S vibration
INDICATOR	PI-L900
FLOORING	Marble (Marron emperador dark, Crema marfil) / Water jet

Front



Rear



* Number and / or size of ceiling panels and number of lighting fixtures will vary per selected car size. * Applicable prices will vary per selected optional designs / materials.



ND-01

GLASS - WALLED ELEVATORS

Cage Design

CEILING	CD451B (Painted steel / P-022), Skylite 10T, Acryl lens
WALL	Stainless hairline, Glass
DOOR	Stainless hairline, Glass, Semitransparent sheet
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A, OPP-N264A (For disabled) / Stainless hairline
INDICATOR	PI-D700
FLOORING	Deco-tile (DTE5324, DTE2455)

Front



Rear



* Colors printed in this catalog may appear different from actual colors.



ND-02

GLASS - WALLED ELEVATORS

Cage Design

CEILING	CD253A (Painted steel / P-021, P-022), LED downlight, Skylite 10T
WALL	Stainless hairline, Glass
DOOR	Stainless hairline, Glass, Semitransparent sheet
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	OPP-N264A, OPP-N264A (For disabled) / Stainless hairline
INDICATOR	PI-L700
FLOORING	Deco-tile (DTE2245, DTE2217)

Front

Rear



* Number and / or size of ceiling panels and number of lighting fixtures will vary per selected car size. * Applicable prices will vary per selected optional designs / materials.



NDFL-01

FRAMELESS GLASS - WALLED ELEVATORS

Cage Design

CEILING	STS hairline, LED downlight
WALL	STS hairline, Glass (16T)
DOOR	STS hairline, Glass (16T), Fog sheet
HANDRAIL	Stainless 1 pipe (1R) / Polished
OPB	Swing type OPP-N266A / STS hairline
INDICATOR	PI-D900
FLOORING	Marble (White galaxy)

Front

Rear



* Colors printed in this catalog may appear different from actual colors.

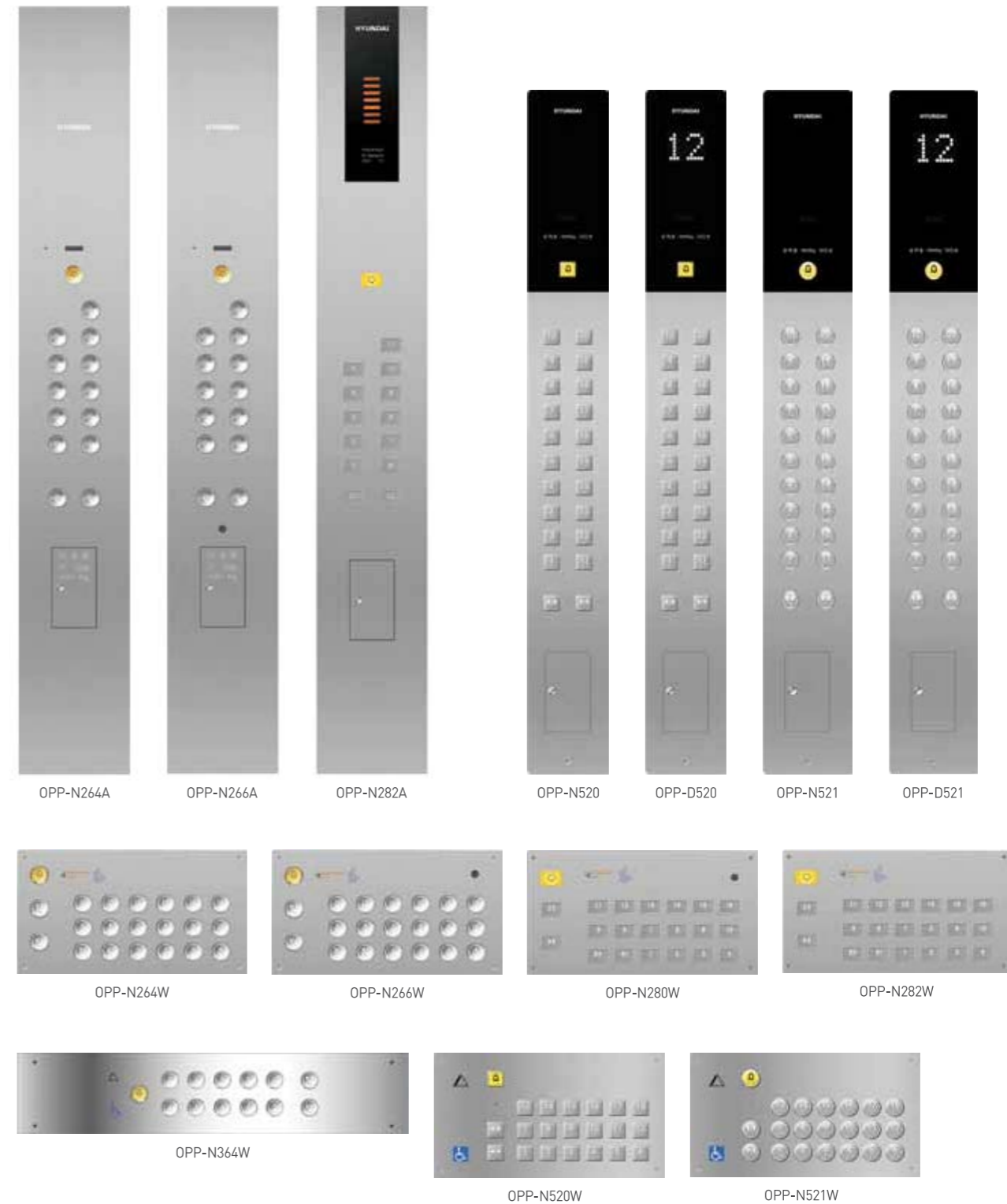


ELEVATOR FIXTURES

DESIGN

CAR OPERATING PANEL

D · DOTTYPE



* Colors printed in this catalog may appear different from actual colors.

HALL BUTTON

D : DOT TYPE / L : LCD TYPE

Boxless Type



Box Type



INDICATOR

D : DOT TYPE / L : LCD TYPE

Boxless Type



Box Type

* Box type doesn't apply to glass transom.



* Colors printed in this catalog may appear different from actual colors.

CEILING



HALL LANTERN

* Hall lantern colors are lime green when the elevator is going up and yellow gold when it is going down.

Boxless Type



Box Type



BUTTON





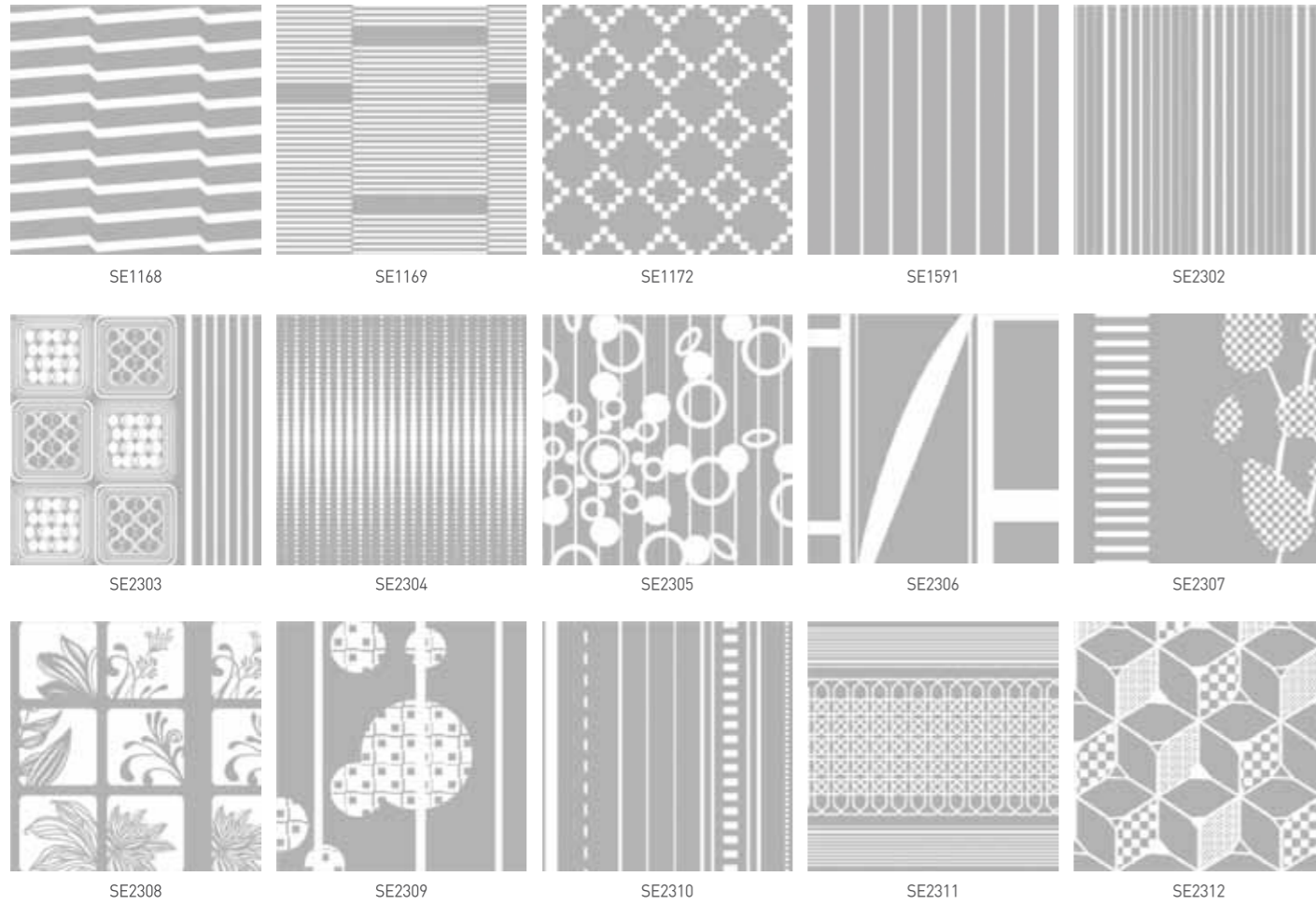
HANDRAIL



1R (1 Pipe Stainless Polished)

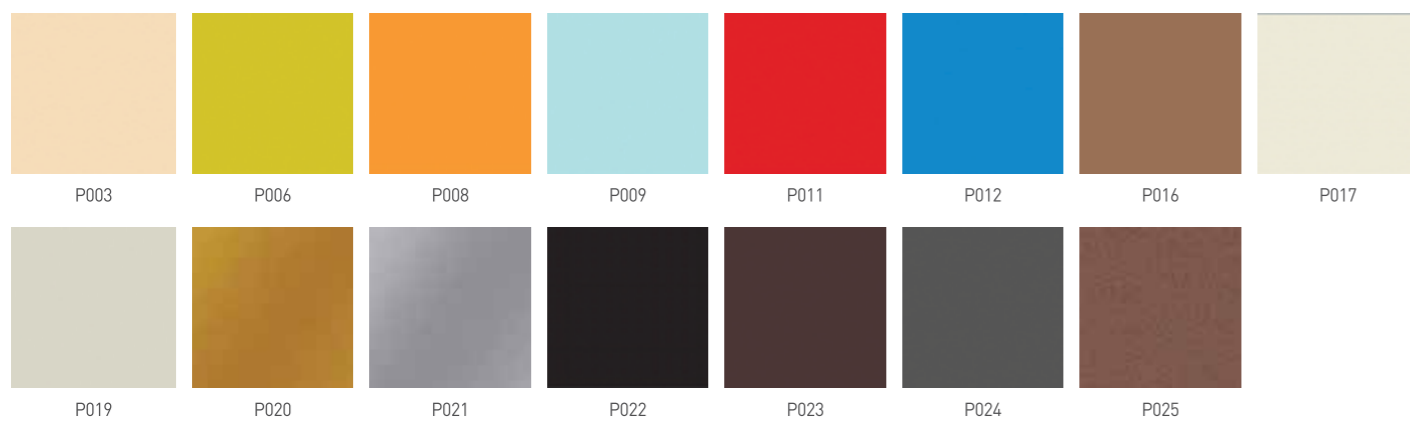
ETCHING PATTERN

* Etching patterns in this catalog are 1/3 of the actual size. *  Relief /  Engraving of etched parts



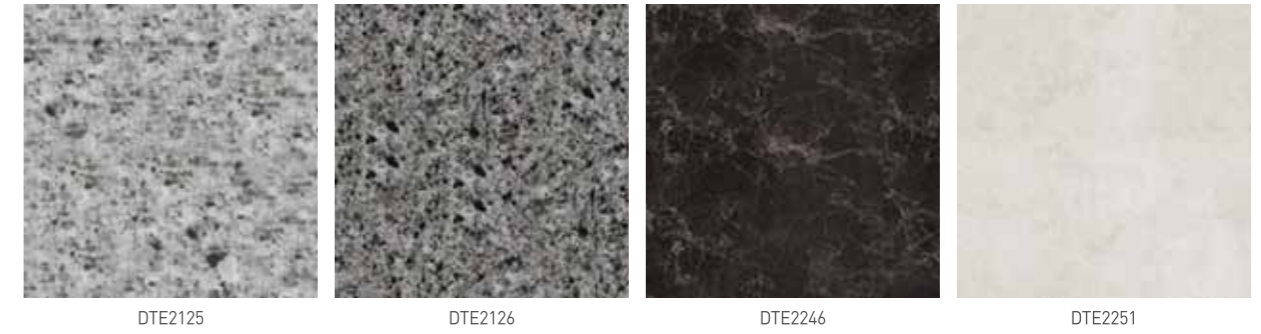
PAINTED STEEL

* P016, P020, and P021 are metallic colors and may appear different from the actual colors.

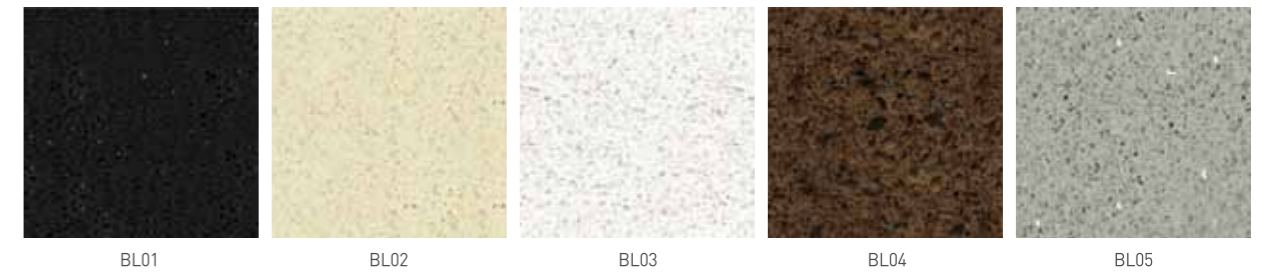


FLOOR

Deco tile



Artificial marble



WINDOW SIZE

Standard



Optional



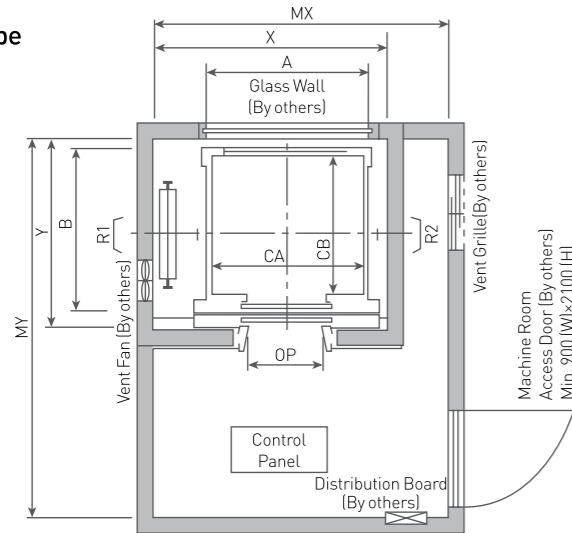
* Colors printed in this catalog may appear different from actual colors.

1 SIDE TYPE, 2 SIDE TYPE ELEVATORS

LAYOUT PLAN

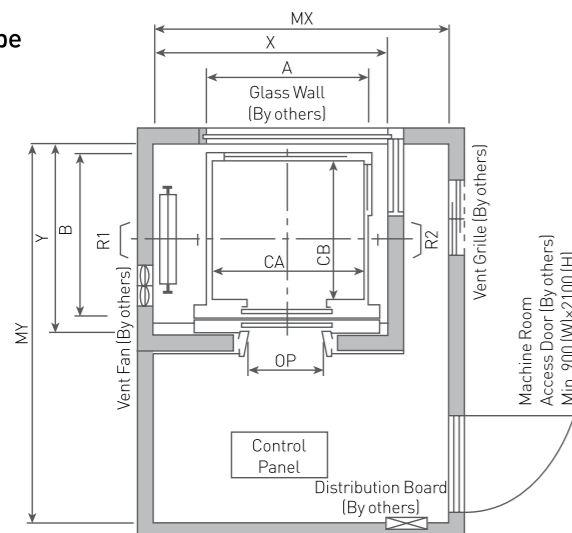
Plan of Hoistway & Machine Room

1Side Type

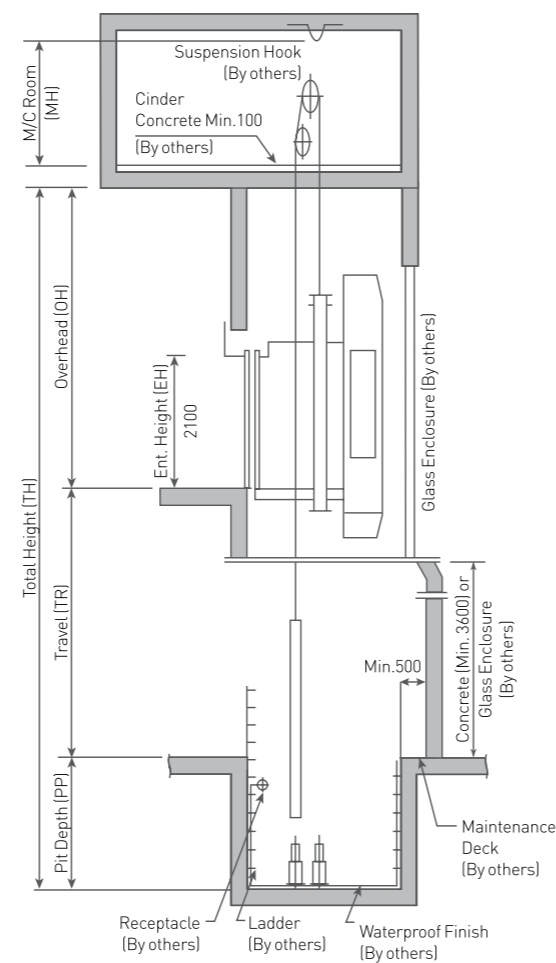


※ Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.

2Side Type



Section of Hoistway



MANUFACTURER STANDARD

[Unit: mm]

Type	Speed (m/sec)	Capacity		Opening Type	Opening Size (mm)	Car Size (mm)	Hoistway Size (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)		
		Persons	kg						R1	R2	PR1	PR2	
Rear	1.0 1.5 1.75	6	450	2P-CO	800	1400×850	2200×1400	2600×2900	5000	2700	6650	5750	
		8	550		800	1400×1030	2200×1500	2600×3000	5350	3000	7300	6200	
		9	600		800	1400×1100	2200×1600	2600×3100	5550	3100	7600	6400	
		10	700		800	1400×1250	2200×1750	2600×3200	5900	3300	8200	6800	
		11	750		800	1400×1350	2200×1850	2600×3350	6100	3400	8500	7000	
		13	900		900	1600×1350	2400×1850	3000×3350	6800	3750	9550	7750	
		15	1000		1000	1600×1500	2400×2000	3000×3500	7100	3900	10100	8150	
		17	1150		1150	1000	1800×1500	2850×2000	3500×3500	8900	5300	12800	10500
		20	1350		1350	1000	1800×1700	2850×2200	3500×3700	9000	6650	14100	11400
		24	1600		1600	1100	2000×1750	3050×2250	3700×3750	9850	7050	15500	12300
Rear & 1Side	1.0 1.5 1.75	8	550	2P-CO	800	1400×1030	2200×1500	2600×3000	5400	3050	7500	6400	
		9	600		800	1400×1100	2200×1600	2600×3100	5600	3120	7800	6600	
		10	700		800	1400×1250	2200×1750	2600×3200	5950	3350	8400	7000	
		11	750		800	1400×1350	2200×1850	2600×3350	6100	3450	8700	7200	
		13	900		900	1600×1350	2400×1850	3000×3350	6850	3750	9750	7950	
		15	1000		1000	1600×1500	2400×2000	3000×3500	7150	3930	10350	8350	
		17	1150		1150	1000	1800×1500	2850×2000	3500×3500	9000	5400	13000	10700
		20	1350		1350	1000	1800×1700	2850×2200	3500×3700	9100	6700	14250	11600
		24	1600		1600	1100	2000×1750	3050×2250	3700×3750	9950	7100	15700	12500

※ Above dimensions are applied base on Standard Car size & Opening size For other applicable dimensions, please contact us.

※ In case to apply with additional weight like as marble finish on floor, Please contact us.

※ If apply the safety gear on Counterweight side, please consult with us.

※ The Hoistway dimensions width & depth are based on clear dimension ±20mm horizontal tolerances over the total hoist height.

Overhead & Pit Depth

CH: (External) Car Height

Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)	Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)
EN81-1	1.0	450 - 1600	CH+1900	1750	2200	EN81-20	1.0	450 - 1600	CH+2250	1750	2200
	1.5		CH+2100	1900	2400		1.5		CH+2400	1900	2400
	1.75		CH+2200	2000	2400		1.75		CH+2500	2000	2400

※ For OH: Base on the distance between the car top safety guard and shaft wall is less than 800mm Refer to EN81-20, The above OH complied the safety guard height with 1100mm.

※ If want to reduce the overhead, shall be proposed with semi-observation type. It means that without exterior panel and lighting.

※ M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.

※ Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.

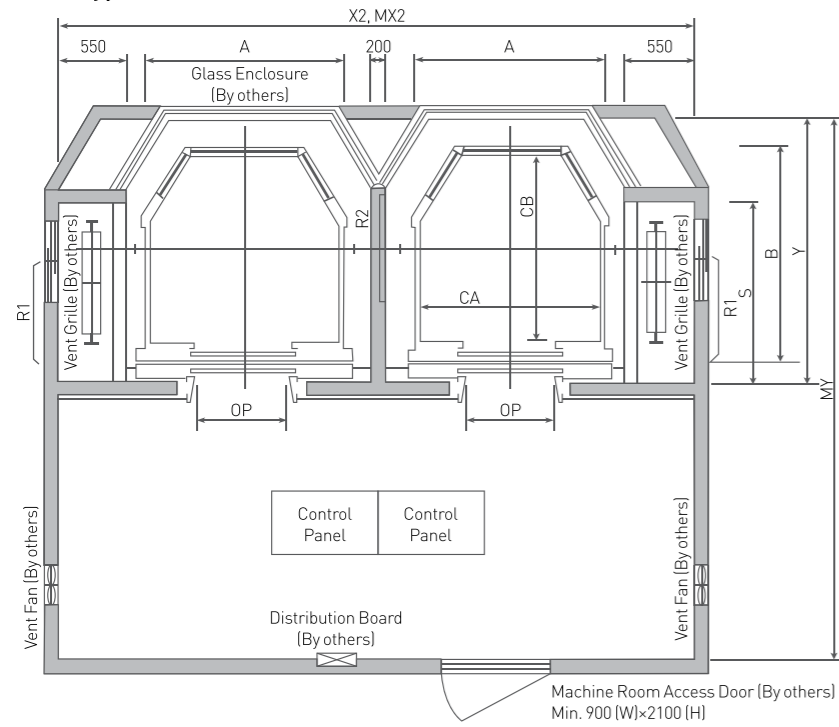
LUXEN(GEARLESS) LAYOUT PLAN

3 SIDE TYPE, ROUND TYPE ELEVATORS

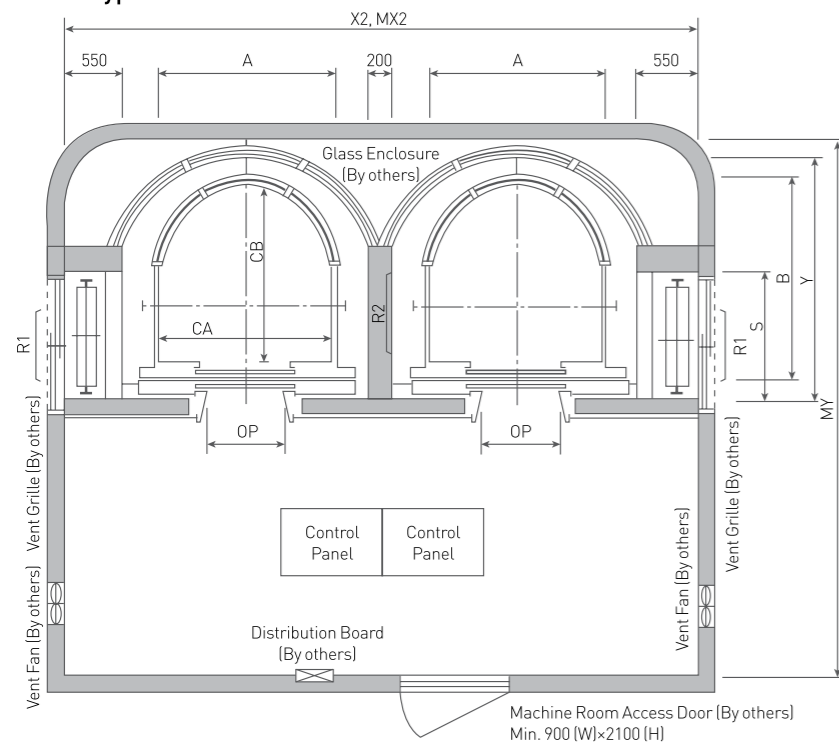
LAYOUT PLAN

Plan of Hoistway & Machine Room

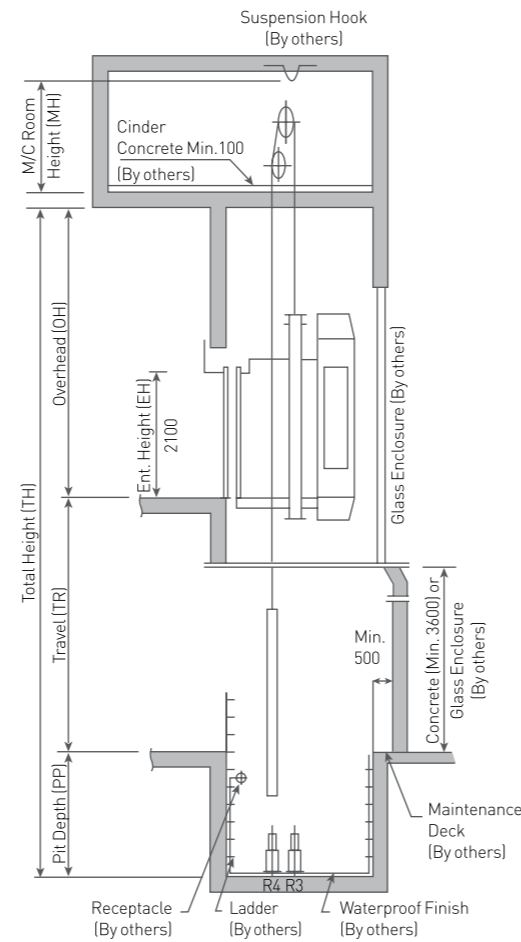
3Side Type



Round Type



Section of Hoistway



MANUFACTURER STANDARD

[Unit: mm]

Type	Speed (m/sec)	Capacity		Opening Type	Opening Size (mm)		Car Size (mm)		Hoistway Size (mm)		Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
		Persons	kg		OP	CA × CB	X1 × Y	S	MX1 × Y	R1	R2	PR1	PR2		
3Side	1.0 1.5 1.75	11	750	2P-CO	800	1400×1400	2450×2000	1200	2900×3500	6150	3450	8700	7150		
		13	900		900	1600×1450	2650×2050	1350	3300×3550	6900	3750	9700	7900		
		15	1000		900	1600×1570	2650×2200	1350	3300×3700	7200	3950	10300	8300		
		17	1150		1000	1800×1580	2850×2200	1600	3500×3700	9000	5450	13150	10900		
		20	1350		1000	1800×1800	2850×2400	1600	3500×3900	9150	6750	14550	11850		
		24	1600		1100	1800×2000	2850×2600	1600	3500×4100	10000	7150	16100	12900		
Round	1.0 1.5 1.75	11	750	2P-CO	800	1400×1480	2450×2000	1200	2900×3500	6180	3450	8700	7150		
		13	900		900	1600×1500	2650×2050	1350	3300×3550	6930	3750	9700	7900		
		15	1000		900	1600×1650	2650×2200	1350	3300×3700	7220	3950	10300	8300		
		17	1150		1000	1800×1650	2850×2200	1600	3500×3700	9100	5450	13150	10900		
		20	1350		1000	1800×1900	2850×2400	1600	3500×3900	9150	6750	14550	11850		
		24	1600		1100	1800×2130	2850×2600	1600	3500×4100	10050	7200	16100	12900		

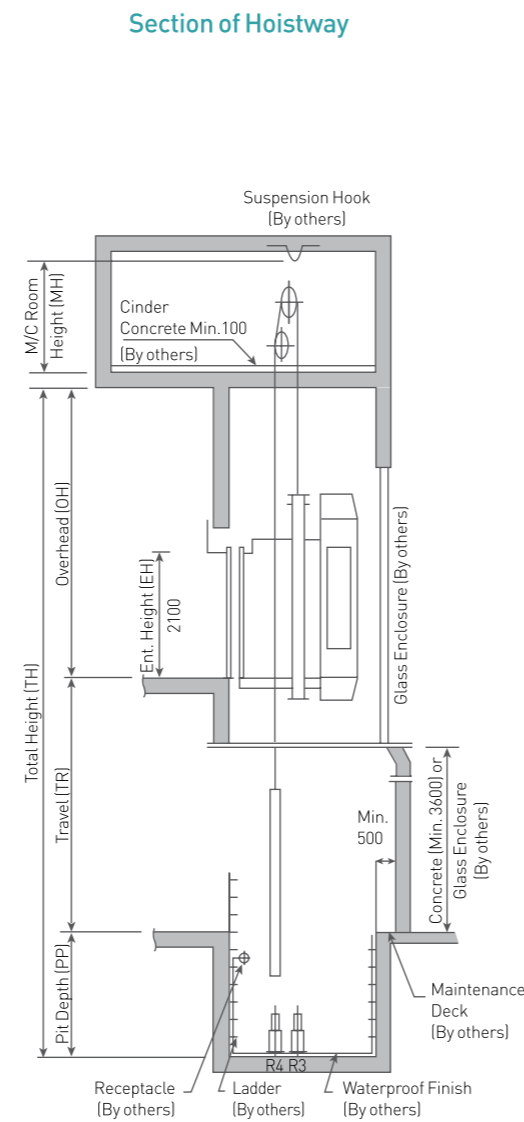
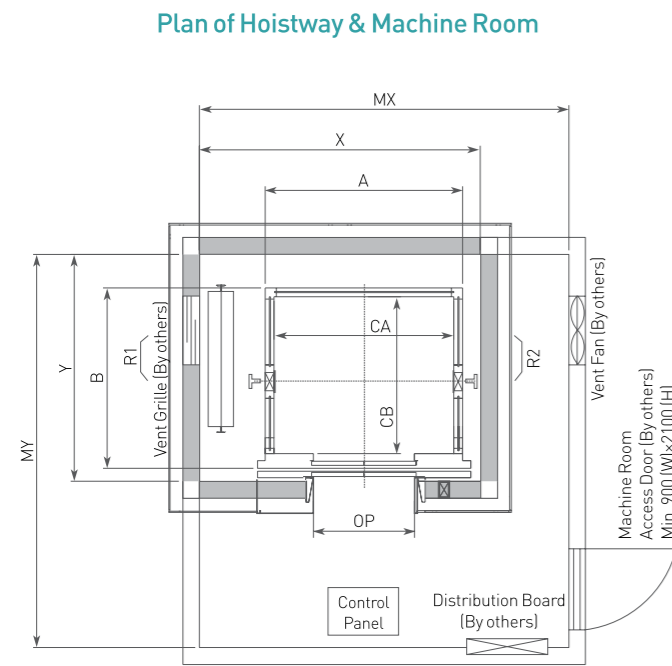
Overhead & Pit Depth

CH: (External) Car Height

Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)	Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)
EN81-1	1.0	450 ~ 1600	CH+1900	2000	2200	EN81-20	1.0 1.5 1.75	450 ~ 1600	CH+2250	2000	2200
	1.5		CH+2100	2100	2400				CH+2400	2100	2400
	1.75		CH+2200	2200	2400				CH+2500	2200	2400

- ※ For OH: Base on the distance between the car top safety guard and shaft wall is less than 800mm Refer to EN81-20, The above OH complied the safety guard height with 1100mm.
- ※ M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
- ※ If the height of non-stop floor is over 11m, please consult Hyundai as to the needs for emergency exit.
- ※ Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.

LAYOUT PLAN



MANUFACTURER STANDARD

[Unit: mm]

Type	Speed (m/sec)	Capacity		Opening Type	Opening Size (mm)	Car Size (mm)	Hoistway Size (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
		Persons	kg						R1	R2	PR1	PR2
Nude	1.0 1.5 1.75	8	550	2P-CO	800	1400x1030	2300x1500	2700x3000	5450	3050	7800	6700
		9	600		800	1400x1100	2300x1600	2700x3100	5650	3150	8200	7000
		10	700		800	1400x1250	2300x1750	2700x3200	6000	3400	8750	7350
		11	750		800	1400x1350	2300x1850	2700x3350	6200	3500	9300	7800
		13	900		900	1600x1300	2500x1850	3100x3360	6950	3800	10350	8550
		15	1000		900	1600x1400	2500x2000	3100x3500	7200	4000	11050	9050
		17	1150		1000	1600x1400	2750x2000	3600x3500	9100	5450	13650	11350
		20	1350		1000	1800x1600	2900x2200	3600x3700	9150	6750	15300	12600
		24	1600		1000	2000x1700	3100x2250	3800x3750	10050	7200	16800	13600

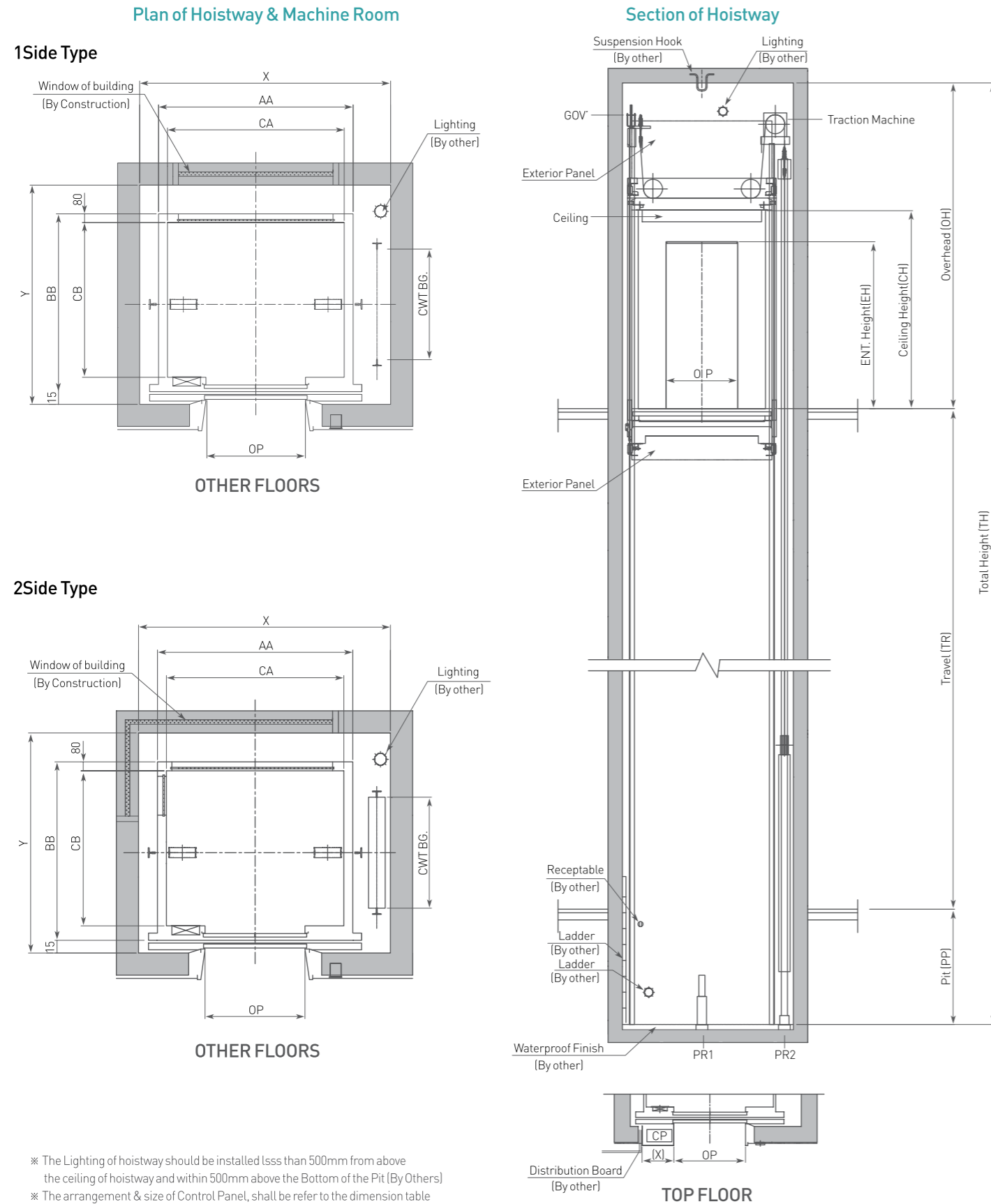
Overhead & Pit Depth

CH: (External) Car Height

Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)	Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)
EN81-1	1.0	450 ~ 1600	CH+1900	1450	2200	EN81-20	1.0	450 ~ 1600	CH+2250	1450	2200
	1.5		CH+2100	1700	2400		1.5		CH+2400	1700	2400
	1.75		CH+2200	2000	2400		1.75		CH+2500	2000	2400

- ※ For OH: Base on the distance between the car top safety guard and shaft wall is less than 800mm Refer to EN81-20, The above OH complied the safety guard height with 1100mm.
- ※ M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
- ※ If the height of non-stop floor is over 11m, please consult Hyundai as to the needs for emergency exit.
- ※ Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.

LAYOUT PLAN



※ 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)
 ※ The arrangement & size of Control Panel, shall be refer to the dimension table

MANUFACTURER STANDARD

[Unit: mm]

Type	Speed (m/sec)	Capacity		Opening Type	Opening Size (mm)	Car Size (mm)	Hoistway Size (mm)	Control Panel Box (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
		Persons	kg						R1	R2	PR1	PR2
Rear	1.0 1.5 1.75	8	550	2P-CO	800	1300×1100	2000×1650	430	-	-	7500	6400
		9	600						-	-	7800	6600
		10	700						-	-	8400	7000
		11	750						-	-	8700	7200
		13	900						-	-	9750	7950
		15	1000						-	-	10300	8350
		17	1150						-	-	13000	10700
		20 ^{Note.2}	1350						-	-	14300	11600
		24 ^{Note.2}	1600						-	-	15700	12500

※ Above dimensions are applied base on Standard Car size & Opening size For other applicable dimensions, please contact us.
 ※ In case to apply with additional weight like as marble finish on floor, Please contact us.
 ※ If apply the safety gear on Counterweight side, please consult with us.
 ※ The Hoistway dimensions width & depth are based on clear dimension ±20mm horizontal tolerances over the total hoist height.

Type	Speed (m/sec)	Capacity		Opening Type	Opening Size (mm)	Car Size (mm)	Hoistway Size (mm)	Control Panel Box (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
		Persons	kg						R1	R2	PR1	PR2
Rear & 1 Side	1.0 1.5 1.75	8	550	2P-CO	800	1300×1100	2100×1750	430	-	-	7700	6600
		9	600						-	-	8000	6800
		10	700						-	-	8600	7200
		11	750						-	-	8900	7400
		13	900						-	-	9950	8150
		15	1000						-	-	10550	8550
		17	1150						-	-	13200	10900
		20 ^{Note.2}	1350						-	-	14450	11800
		24 ^{Note.2}	1600						-	-	15900	12700

※ Above dimensions are applied base on Standard Car size & Opening size For other applicable dimensions, please contact us.
 ※ In case to apply with additional weight like as marble finish on floor, Please contact us.
 ※ If apply the safety gear on Counterweight side, please consult with us.
 ※ The Hoistway dimensions width & depth are based on clear dimension ±20mm horizontal tolerances over the total hoist height.
 ※ It has limited to applicable a view type. The SQ-119Z type only can be used which doesn't be applied exterior panel included lighting.

Overhead & Pit Depth

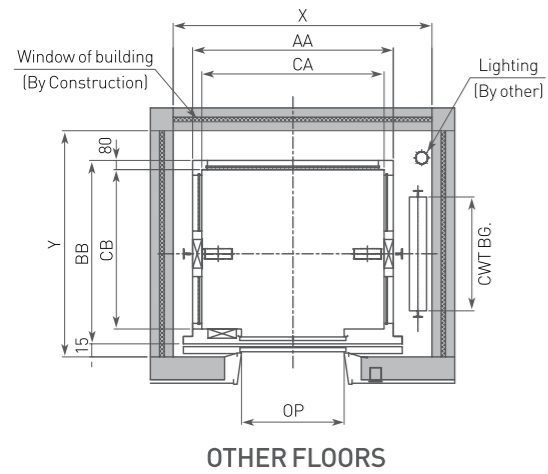
CH: (External) Car Height

Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)
EN81-1	1.0	450 ~ 1600	CH+2000	1750	EN81-20	1.0	450 ~ 1600	CH+2300	1750
	1.5		CH+2100	1900		1.5		CH+2400	1900
	1.75		CH+2200	2000		1.75		CH+2500	2000

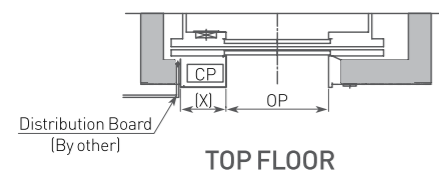
※ For OH: Base on the distance between the car top safety guard and shaft wall is less than 800mm Refer to EN81-20, The above OH complied the safety guard height with 1100mm.
 ※ If want to reduce the overhead, shall be proposed with semi-observation type. It means that without exterior panel and lighting.

LAYOUT PLAN

Plan of Hoistway & Machine Room



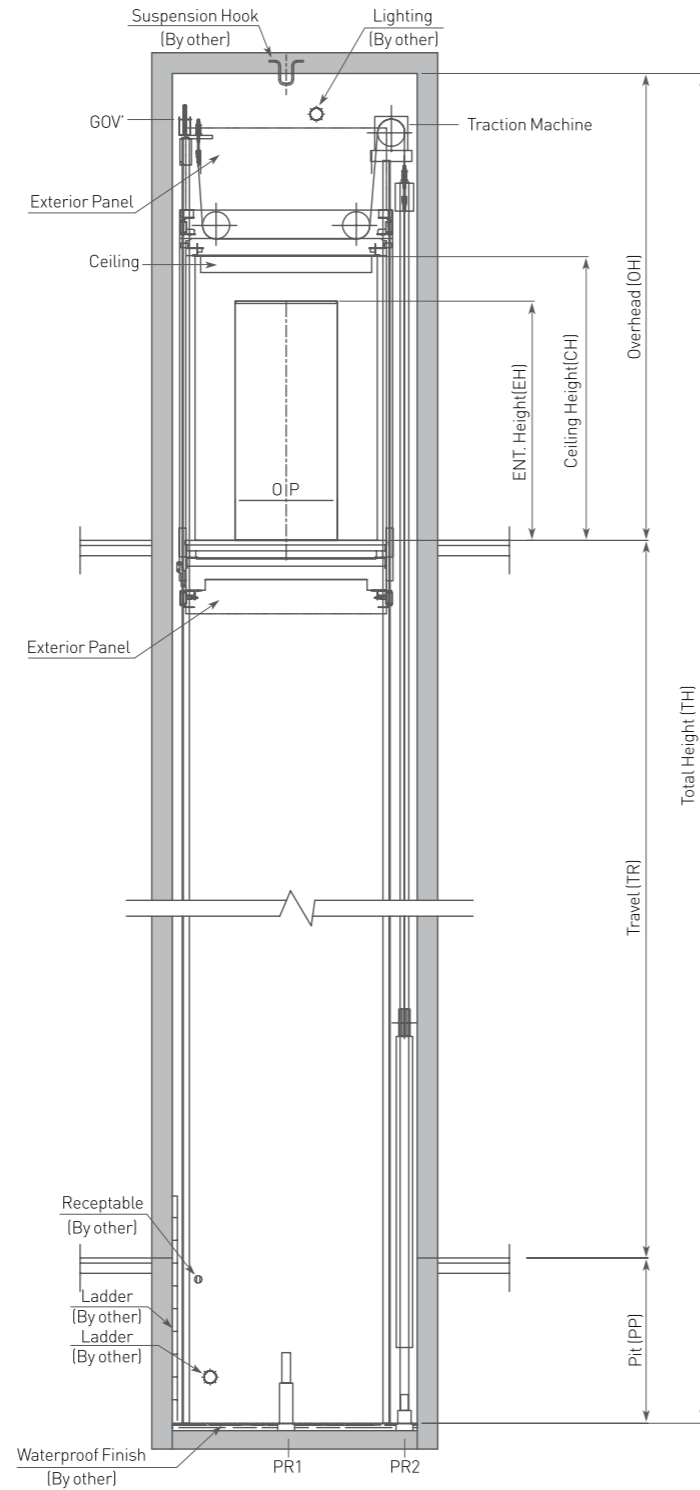
OTHER FLOORS



TOP FLOOR

- ※ 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)
- ※ The arrangement & size of Control Panel, shall be refer to the dimension table

Section of Hoistway



MANUFACTURER STANDARD

[Unit: mm]

Type	Speed (m/sec)	Capacity		Opening Type	Opening Size (mm)	Car Size (mm)	Hoistway Size (mm)	Control Panel Box (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)		
		Persons	kg						R1	R2	PR1	PR2	
Nude	1.0 1.5 1.75	8	550	2P-CO	800	1300×1100	2150×1750	430	-	-	8150	7050	
		9	600						-	-	8500	7300	
		10	700						-	-	9050	7650	
		11	750						430 (1.0 mps) 505 (1.5-1.75 mps)	-	-	9450	7950
		13	900							-	-	10500	8700
		15	1000							-	-	11150	9150
		17	1150							-	-	13750	11450

- ※ Above dimensions are applied base on Standard Car size & Opening size For other applicable dimensions, please contact us.
- ※ If apply the safety gear on Counterweight side, please consult with us.
- ※ The Hoistway dimensions width & depth are based on clear dimension ±20mm horizontal tolerances over the total hoist height.

Overhead & Pit Depth

CH: (External) Car Height

Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)	Code	Speed (m/s)	Duty Load (kg)	Overhead (OH)	Pit Depth (PP)
EN81-1	1.0	450 ~ 1600	CH+2000	1400	EN81-20	1.0	450 ~ 1600	CH+2300	1400
	1.5		CH+2100	1500		1.5		CH+2400	1500
	1.75		CH+2200	1700		1.75		CH+2500	1700

- ※ 1. For OH: Base on the distance between the car top safety guard and shaft wall is less than 800mm Refer to EN81-20, The above OH complied the safety guard height with 1100mm.
- ※ If the height of non-stop floor is over 11m, please consult Hyundai as to the needs for emergency exit.

WORKS TO BE DONE BY OTHER CONTRACTORS

The following works are not included in the elevator contract, and shall be done by other contractors in accordance with the Hyundai Elevator's drawings and the applicable codes and regulations. The reference rules shown are from Code ANSI.

ELEVATORS

■ Building Work

Hoistway

- Clear, plumb hoistway with fire resistant hatch walls as required by the applicable code. [Rule 100.1a]
- 75° bevel guards on all projections, recesses, or setbacks over 50mm except on side used for loading or unloading. [Rule 100.6]
- Venting of the hoistway as required by the applicable code or responsible authority. [Rule 100.4]
- Supports for rail brackets at each floor, roof, and machine room. [Rule 200.9] Maximum allowable vertical spacing of rail supports without backing. [Rule 200.4 and 301.1] Divider beams 100mm between hoistway at each floor and roof, for guide rail bracket supports. [Rule 200.4, 200.9 and 301.1]
- Recesses supports and patching as required to accommodate hall button boxes, signal fixtures, etc.
- All barricades either outside elevator hoistways or between inside hoistways as required.
- Dry pit reinforced to sustain normal vertical forces from rails and buffers. [Rule 106.1b and 109] Consult Hyundai Elevator Company for rail forces and buffer impacts. Where there is space below the pit floor that can be occupied, consult Hyundai Elevator Company for special requirements. [Rule 300.4] Cylinder hole, casings under the pit as required, and backfilling around the cylinder casings when direct plunger type is to be installed.
- Where access to the pit is by means of the lowest hoistway entrance, vertical iron ladder extending 1060mm minimum above sill of access door. [Rule 106.1d]
- Entrance walls and finished floor are not to be constructed until after door frames and sills are in place. Door frames are to be anchored to walls and properly grouted in place to maintain legal fire rating.
- For application as indoor or outdoor observation elevator, a glass enclosure of at least 3.6m in height at the bottom landing is recommended for safety. For use as an outdoor observation elevator, a full-height glass enclosure is required.

Machine Room

- Enclosed and protected machine room. [Rule 101.1]
- Access to the machine room and machinery space as required by the applicable code or responsible authority. [Rule 101.3]
- Reinforced concrete machine room floor slab or grating, as specified, which must not be placed over the hoistway until elevator machinery is set in position. [Rule 100.3 for Traction Elevator] Clear access above ceiling or trench in floor, for oil line and wiring duct from machine room, if machine room is remote from elevator hoistway. [For Hydraulic Elevator] Cutout through machine room wall, for oil line and wiring duct as required by Hyundai Elevator's shop drawings. [For Hydraulic Elevator]
- Hoisting beams, trap doors, and other means of access to machine room for maintenance and equipment removal purposes. [Rule 101.3d]
- Cable guards in the machine room or secondary level. [Rule 104.1]
- Supports for machine and sheave beams and reactions including wall pockets and patching after beams are set in place. [Rule 105.1 to 105.5]

■ Electrical Work

Hoistway

- Light outlet for each elevator, in center of hoistway (or in machine room) as indicated by Hyundai Elevator Company.
- Convenience outlet and light fixture in pit with switch located adjacent to the access door. [Rule 106.1e]
- Wiring and piping work of emergency bell, interphone, etc. outside the hoistway and the machine room.

Machine Room

- Lighting, convenience outlets, ventilation, heating of machine room, and machinery space. [Rule 101.5]
- Temperature should be maintained below 40°C by a ventilating fan and/or air

- conditioner, if necessary, and humidity below 90%.
- A fused disconnect switch or circuit breaker for each elevator and light switch located per the applicable code and where practicable located adjacent to the door of the machine room. [Rule 210.5 and 306.7]
 - Feeder and branch wiring to the controller, including main-line switch and convenience outlets.
 - Suitable power feeder and branch wiring circuits as required for elevators with power-operated doors, including disconnect switch or circuit breaker.
- #### Emergency Provisions
- Elevator fireman's and other emergency services wiring and interconnections to automatic sprinkler systems or heat and smoke sensing devices furnished by others and installed to terminal points on the elevator controllers.
 - When emergency power operation of elevators is required, the electrical contractor should coordinate with Hyundai Elevator Company or local distributor for operation requirements.
 - Elevator fireman's and other emergency service requirements may differ from each country. Consult Hyundai Elevator Company or local distributor for other local requirements.
 - When provisions for earthquake protection are required, consult Hyundai Elevator Company for special requirements.

■ Power Supply Plan

Load (kg)	Speed (m/s)	Motor Capacity (kW)	MCCB Capacity of Building (A)		Power Supply Capacity (kVA)		Power Cable Size(mm ²)		Earth Wire Size(mm ²)		Starting Power (kVA/Car)
			1Car	2Car	1Car	2Car	1Car	2Car	1Car	2Car	
450	1.0	2.8	20/20	30/20	6	11	4/4	8/4	6/6	6/6	12
	1.5	4.2	30/20	50/30	8	16	7/4	16/6	6/6	6/6	16
	1.75	4.9	30/20	50/30	10	19	8/4	16/6	6/6	6/6	19
550	1.0	3.4	20/20	40/20	7	13	5/4	10/4	6/6	6/6	14
	1.5	5.1	30/20	50/30	10	19	8/4	16/6	6/6	6/6	19
	1.75	5.9	30/20	60/40	11	22	10/4	18/10	6/6	10/6	21
600	1.0	3.7	20/20	40/30	8	15	6/4	11/6	6/6	6/6	16
	1.5	5.6	30/20	60/40	11	21	9/4	17/10	6/6	10/6	21
	1.75	6.5	40/20	75/40	13	25	11/4	25/10	6/6	10/6	25
700	1.0	4.3	30/20	50/30	9	17	7/4	16/6	6/6	6/6	18
	1.5	6.5	40/20	75/40	13	25	11/4	25/10	6/6	10/6	25
	1.75	7.5	40/30	100/50	15	29	13/6	35/16	6/6	16/6	29
750	1.0	4.6	30/20	50/30	9	18	8/4	16/6	6/6	6/6	18
	1.5	6.9	40/20	75/40	13	26	12/4	25/10	6/6	10/6	25
	1.75	8.1	40/30	100/50	15	30	13/6	35/16	6/6	16/6	29
900	1.0	5.6	30/20	60/40	11	21	9/4	17/10	6/6	10/6	21
	1.5	8.3	50/30	100/50	16	31	16/6	35/16	6/6	16/6	31
	1.75	9.7	50/30	100/60	18	36	16/6	35/16	6/6	16/10	35
1000	1.0	6.2	40/20	75/40	12	23	10/4	25/10	6/6	10/6	23
	1.5	9.2	50/30	100/60	18	36	16/6	35/16	6/6	16/10	35
	1.75	10.8	60/40	125/75	21	41	18/10	50/25	10/6	25/10	40
1150	1.0	7.1	40/20	75/40	14	27	12/4	25/10	6/6	10/6	27
	1.5	10.6	60/30	125/60	20	40	18/6	50/16	10/6	25/10	38
	1.75	12.4	75/40	125/75	23	46	25/10	50/25	10/6	25/10	44
1350	1.0	8.3	50/30	100/50	16	31	16/6	35/16	6/6	16/6	31
	1.5	12.5	75/40	125/75	23	46	25/10	50/25	10/6	25/10	44
	1.75	14.5	75/50	125/100	27	54	25/16	50/35	10/6	25/16	52
1600	1.0	9.9	50/30	100/60	19	37	16/6	35/16	6/6	16/10	37
	1.5	14.8	75/50	150/100	27	54	25/16	70/35	10/6	25/16	52
	1.75	17.2	75/50	150/100	31	62	29/16	70/35	10/6	25/16	59

※ The Power cable size is based on full load operating condition. It is the length max. 50m

SPECIAL NOTES ON PLANNING THE INSTALLATION

In planning the installation of observation elevators, the architect as well as the product designer should consider the unique design features and special requirements of observation elevators.

These special notes should be carefully considered for both building construction and product engineering.

■ Observation Elevator Hoistway Requirement

- Observation and glass-walled elevator's hoistway glass needs to be laminated glass. Please consult Hyundai when using other type of glass.
- Hoistway's glass joint needs to be water-proof.

■ Exterior Lighting

- The lamps used for the exterior illumination shall be designed for long life and easy replacement.
- The electric power requirements may vary per elevator models and illumination designs, however the proper power source required is AC 1Ø, 220V, 20-30A range.

■ Air-Conditioning & Ventilation

- The in-car temperature of the observation elevator can be highly increased because of the solar radiation heat, this factor should be considered in planning the hoistway layout.
- When required by the building, the air-conditioner can be installed on the observation elevator. When the air-conditioner is installed, a water drain is required in the pit.
- The hoistway and the machine room should be properly ventilated to prevent excessive temperature rise.

■ Data Required for Elevator Estimation

- Project Name and Location
- Applicable Code (ANSI, BS, JIS, CEN, etc.)
- Required Delivery
- Type & Units in System
- Capacity
- Speed
- Control / Operation System
- Landings & Openings (Front & Rear)
- Machine Location (Overhead or Basement)
- Travel, Overhead & Pit Depth
- Hoistway width, Depth and Elevation
- Door Width & Height
- Car & Entrance Design
- Signal Fixtures
- Special Features Required
- Power Supply

■ Hoistway Structures & Others (Proposal)

- To facilitate the inspection, maintenance and cleaning of the car exteriors, an access hole and min. 500mm wide maintenance deck with a glass or concrete enclosure should be provided at the bottom of the hoistway (usually at the basement level).
- To prevent the breakage of the hoistway glass from the outside, 1.8 meters high concrete enclosure shall be provided at ground level.
- When the hoistway glass is directly exposed to the public, a fence should be installed at min. 1.5 meters distance from the hoistway to prevent access.
- When any especially-designed car top & bottom is required, the pit depth and overhead requirement may change.
- When an outdoor type observation elevator is required for application in an outside openhoistway, special engineering is required for protection from water, corrosion, ice, wind, dusts, etc.

■ Heat Emission of Machine Room

$$Q : (\text{kcal/H}) = W \times V \times F \times N$$

W : Capacity (kg) F : Factor (1/42 - VVVF)
V : Speed (m/min) N : Number of cars