



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

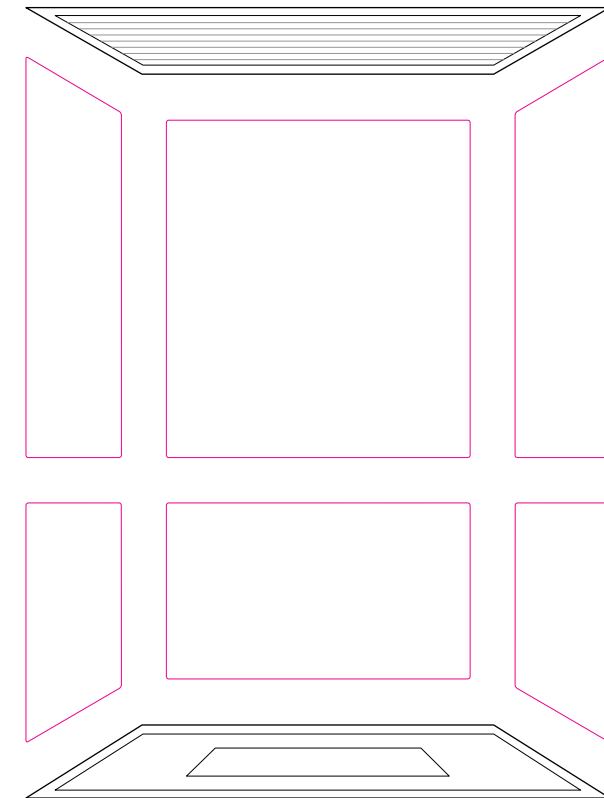
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INSTALLATION



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



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



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



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



* 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.

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



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



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



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 |

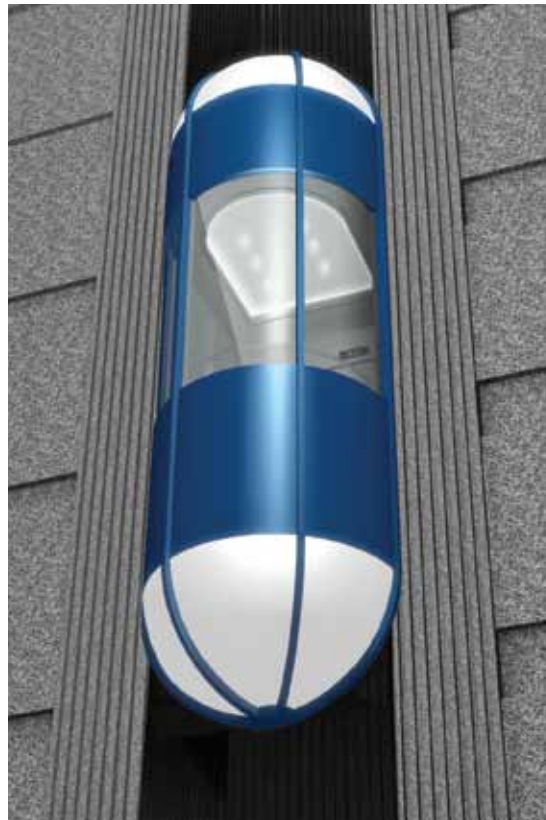
Front



Rear



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



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.

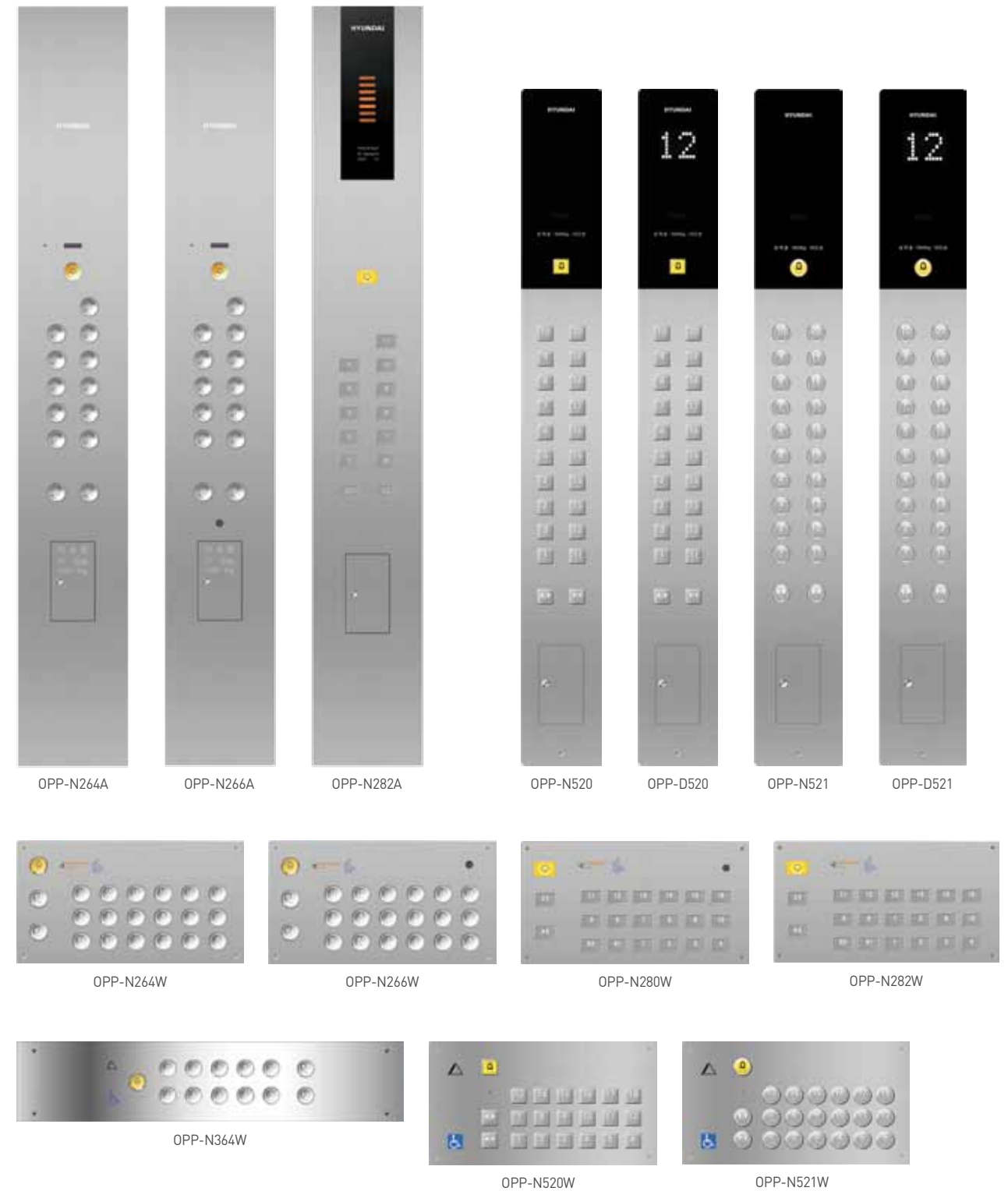


ELEVATOR FIXTURES

DESIGN

CAR OPERATING PANEL

D: DOT TYPE



* 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 : DOTTYPE / 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





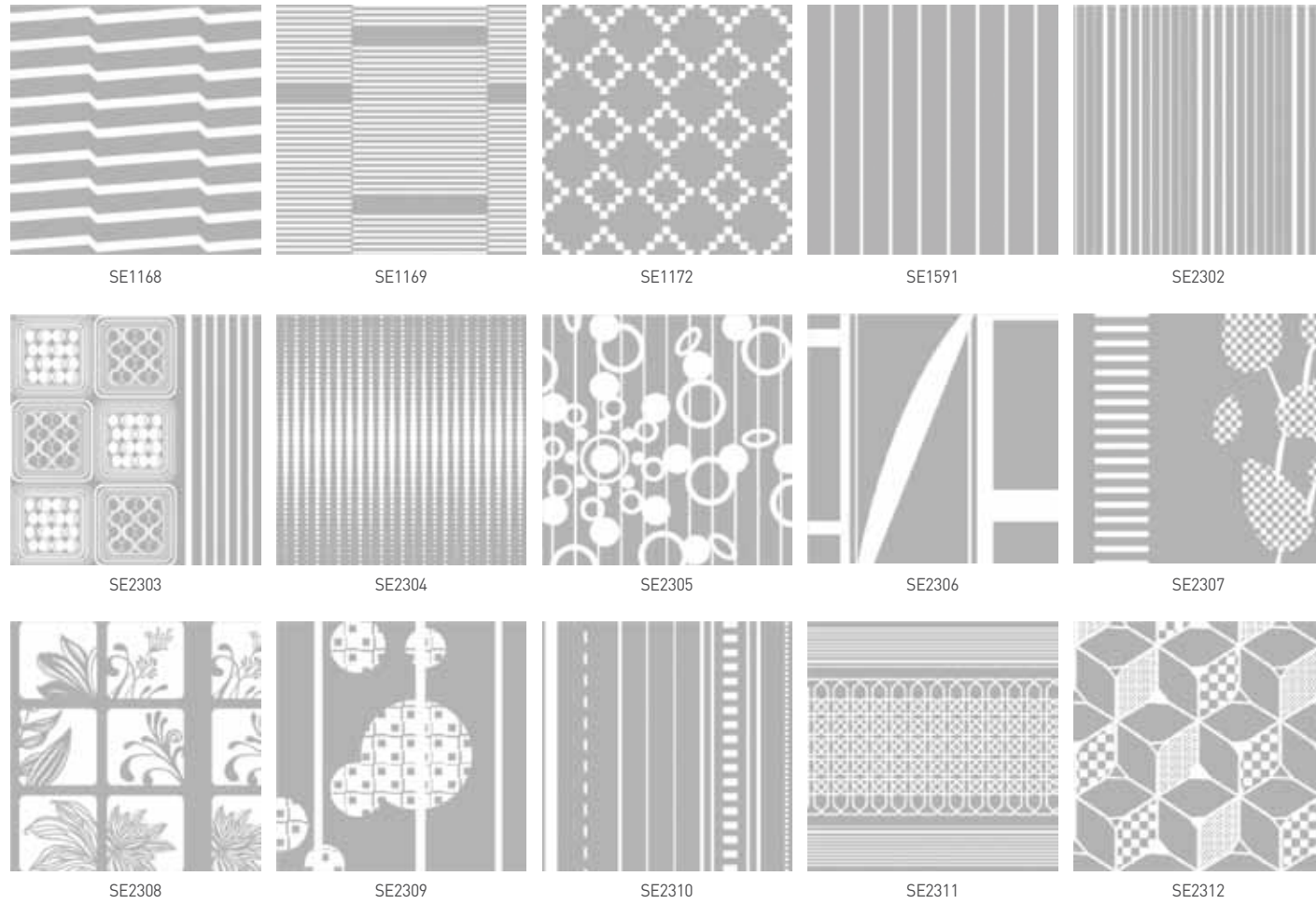
HANDRAIL



1R (1 Pipe Stainless Polished)

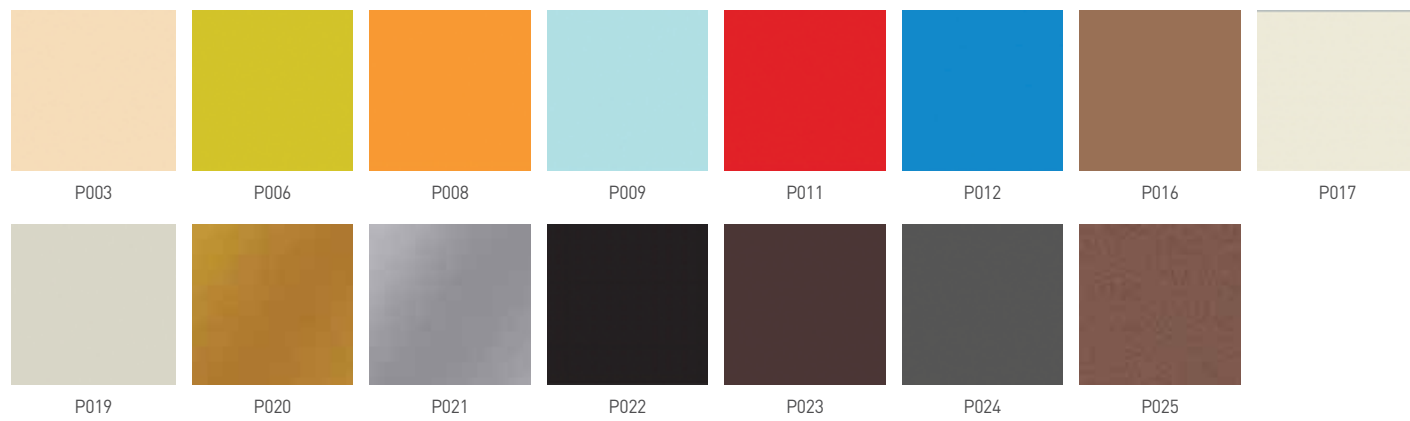
ETCHING PATTERN

* 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.

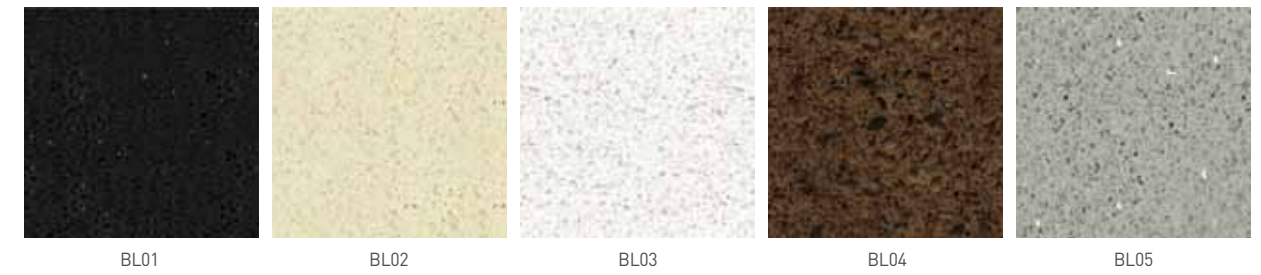


FLOOR

Deco tile



Artificial marble



WINDOW SIZE

Standard



Optional

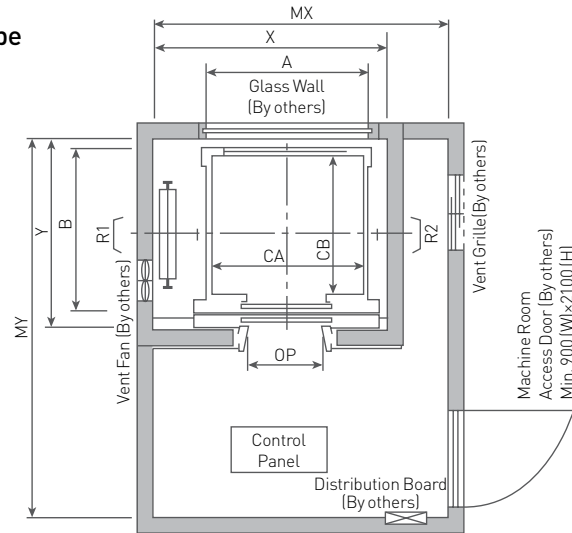


* Colors printed in this catalog may appear different from actual colors.

LAYOUT PLAN

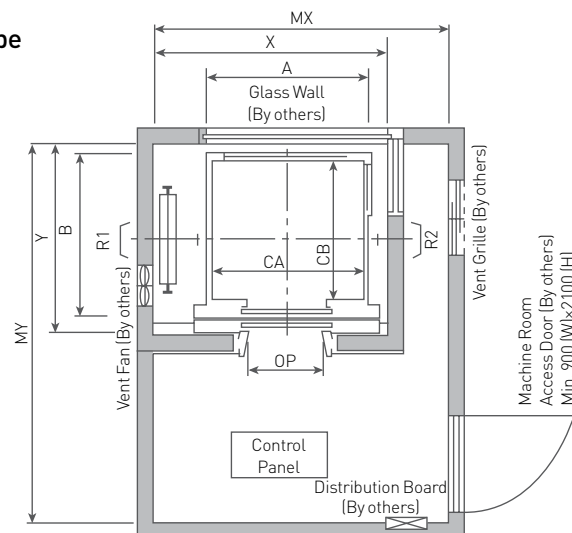
Plan of Hoistway & Machine Room

1Side Type

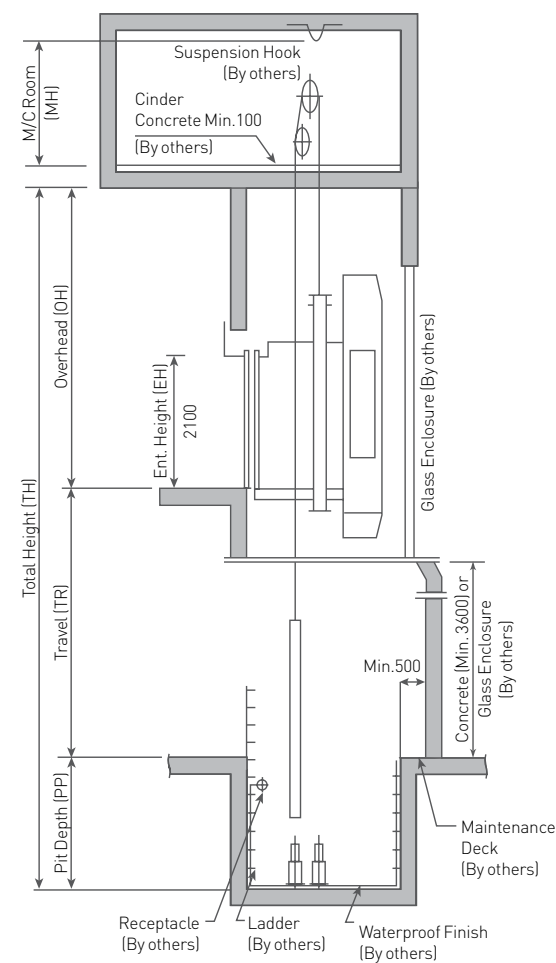


※ Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.

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 | | 900 | 1600×1500 | 2400×2000 | 3000×3500 | 7100 | 3900 | 10100 | 8150 | |
| | | 17 | 1150 | | 1000 | 1000 | 1800×1500 | 2850×2000 | 3500×3500 | 8900 | 5300 | 12800 | 10500 |
| | | 20 | 1350 | | 1000 | 1000 | 1800×1700 | 2850×2200 | 3500×3700 | 9000 | 6650 | 14100 | 11400 |
| | | 24 | 1600 | | 1100 | 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 | | 900 | 1600×1500 | 2400×2000 | 3000×3500 | 7150 | 3930 | 10350 | 8350 | |
| | | 17 | 1150 | | 1000 | 1000 | 1800×1500 | 2850×2000 | 3500×3500 | 9000 | 5400 | 13000 | 10700 |
| | | 20 | 1350 | | 1000 | 1000 | 1800×1700 | 2850×2200 | 3500×3700 | 9100 | 6700 | 14250 | 11600 |
| | | 24 | 1600 | | 1100 | 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 | | | | CH+2400 | 1900 | 2400 |
| | 1.75 | | CH+2200 | 2000 | 2400 | | | | 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%.

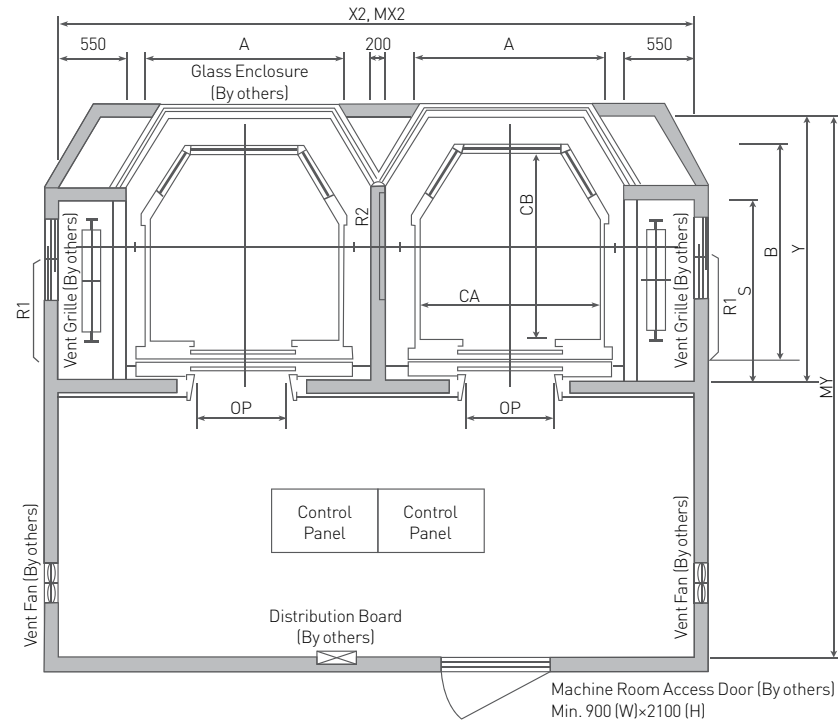
LUXEN(GEARLESS) LAYOUT PLAN

3 SIDE TYPE, ROUND TYPE ELEVATORS

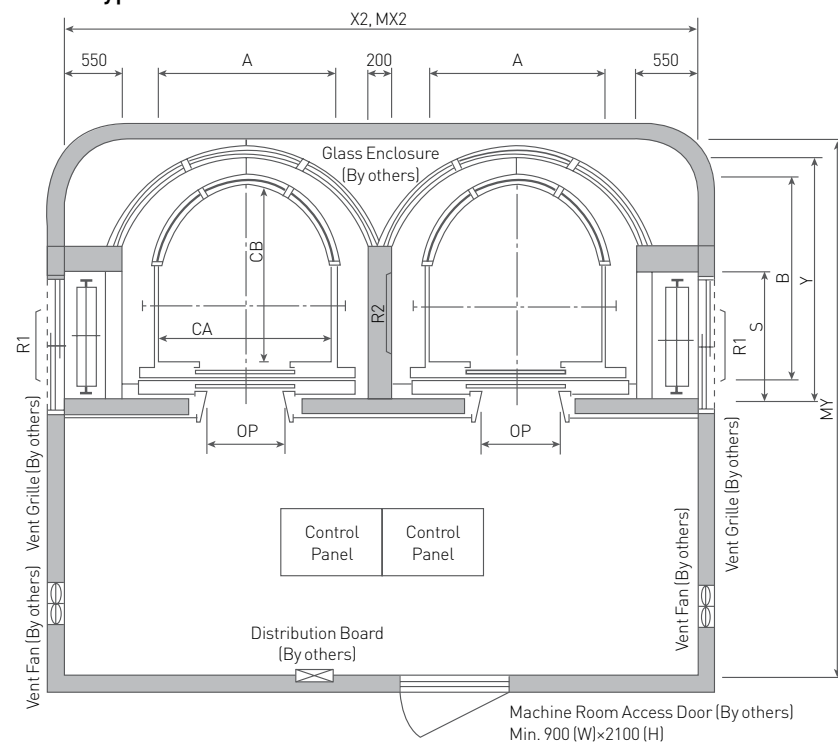
LAYOUT PLAN

Plan of Hoistway & Machine Room

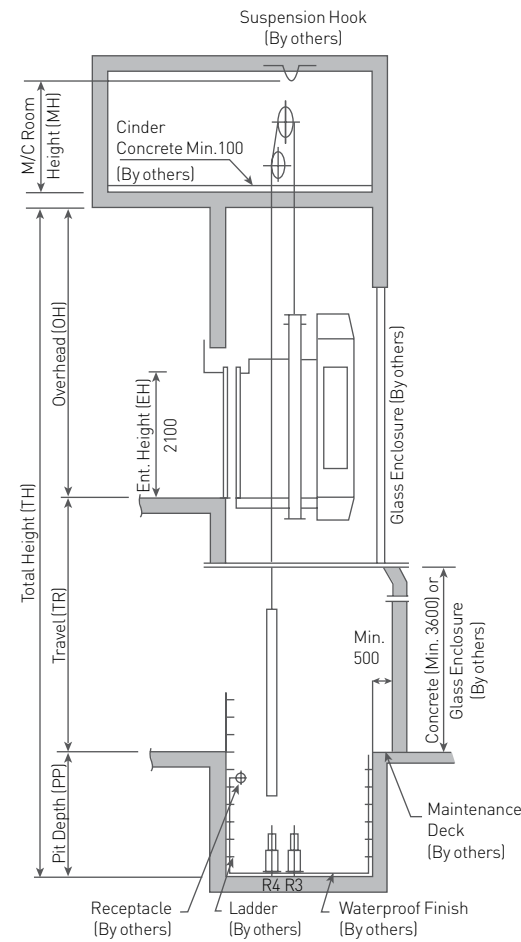
3Side Type



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 | | |
| 3 Side | 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 | | |

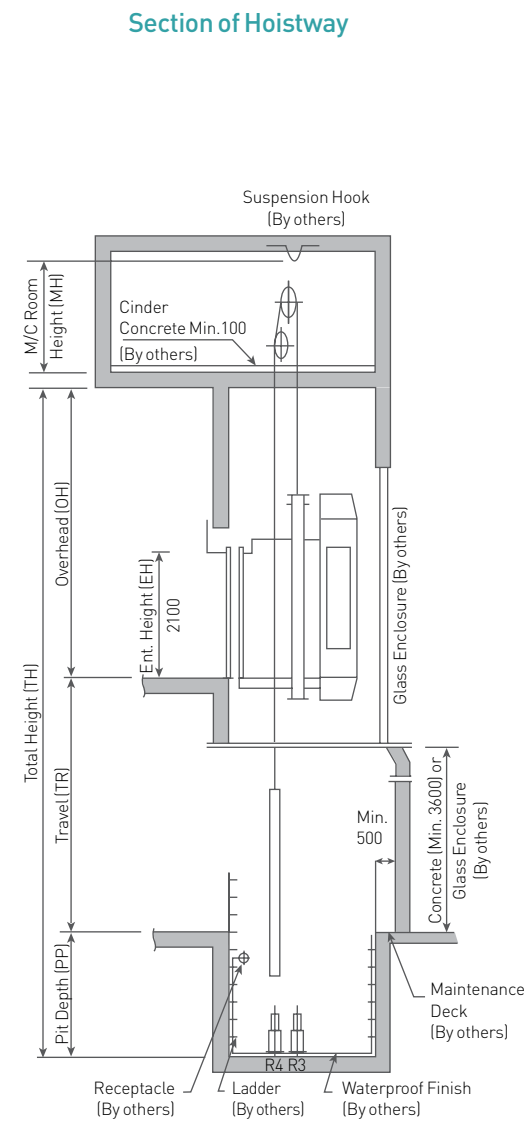
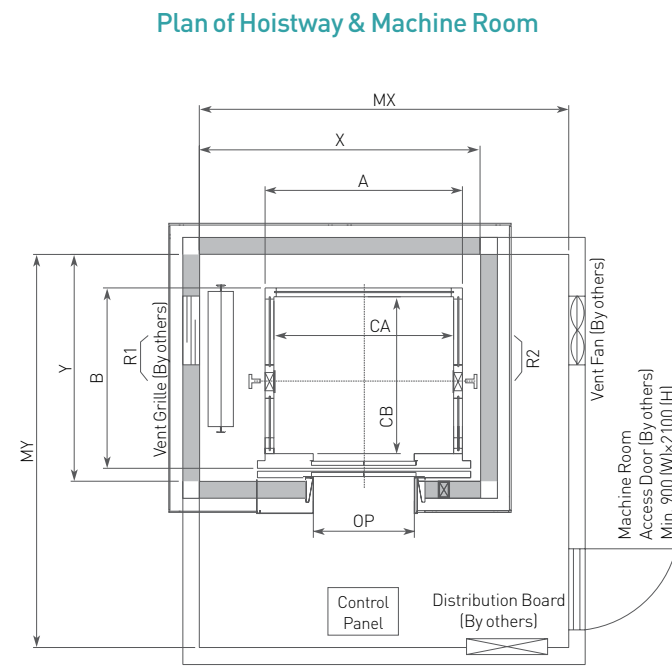
Overhead & Pit Depth

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 | 450 - 1600 | CH+2250 | 2000 | 2200 |
| | 1.5 | | CH+2100 | 2100 | 2400 | | 1.5 | | CH+2400 | 2100 | 2400 |
| | 1.75 | | CH+2200 | 2200 | 2400 | | 1.75 | | 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 | | 1100 | 2000x1700 | 3100x2250 | 3800x3750 | 10050 | 7200 | 16800 | 13600 |

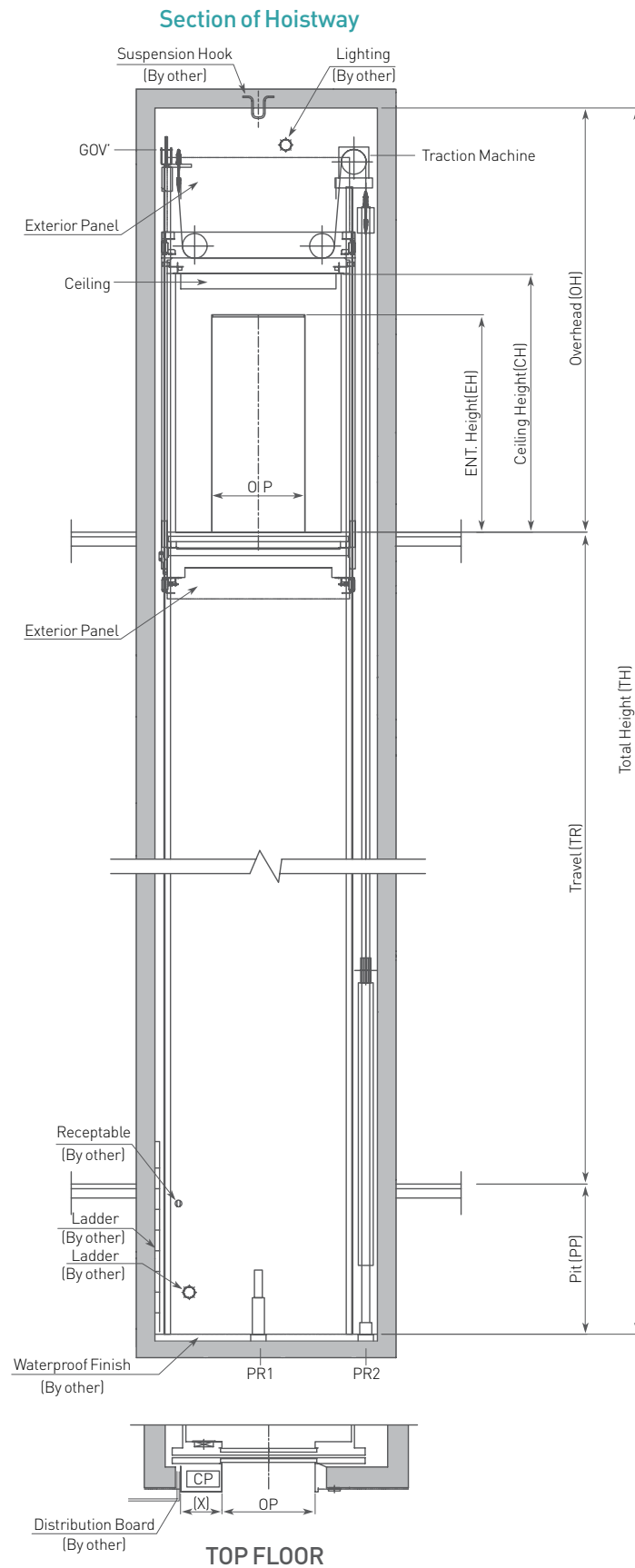
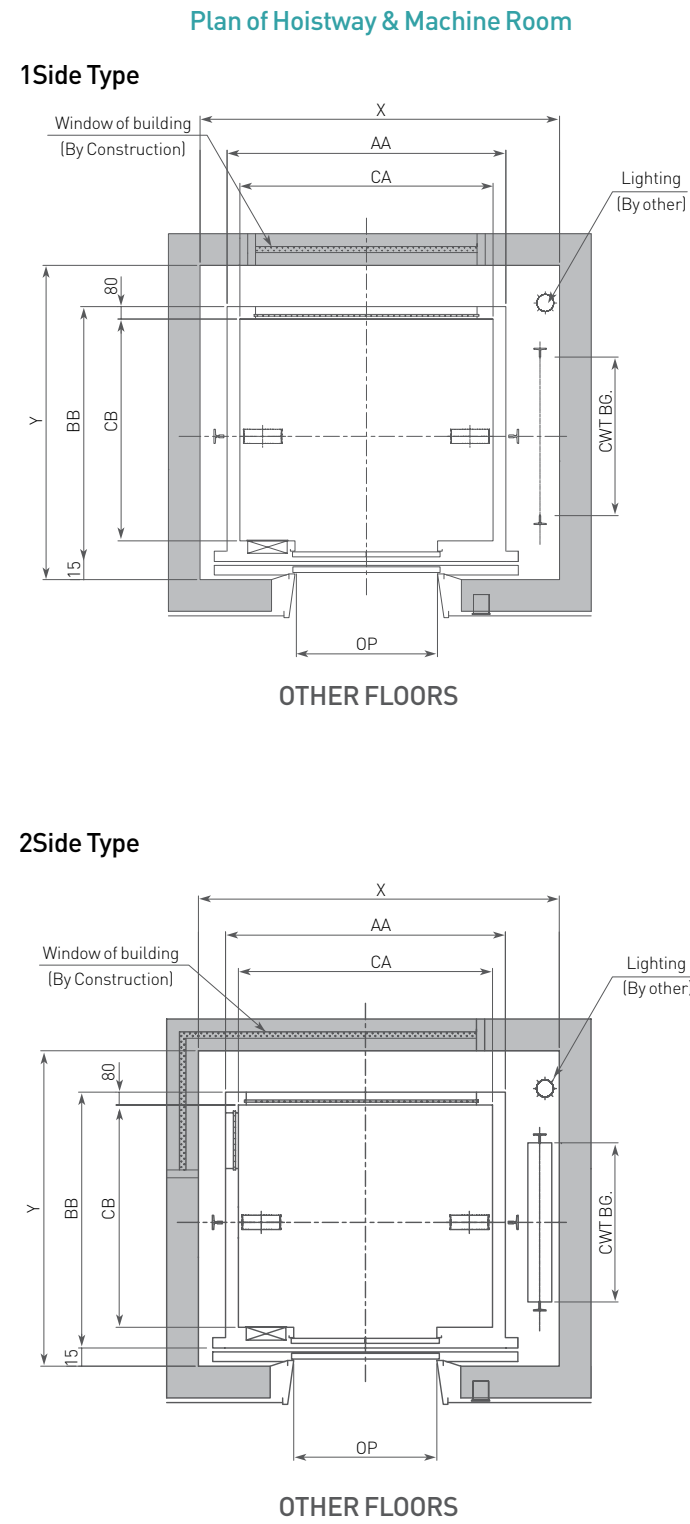
Overhead & Pit Depth

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 | | 800 | 1300×1160 | 2000×1700 | | - | - | 7800 | 6600 |
| | | 10 | 700 | | 800 | 1300×1300 | 2000×1850 | 430 (1.0 mps) 505 (1.5-1.75mps) | - | - | 8400 | 7000 |
| | | 11 | 750 | | 800 | 1300×1400 | 2000×1900 | | - | - | 8700 | 7200 |
| | | 13 | 900 | | 900 | 1600×1300 | 2200×1850 | - | - | 9750 | 7950 | |
| | | 15 | 1000 | | 900 | 1600×1400 | 2200×1900 | - | - | 10300 | 8350 | |
| | | 17 | 1150 | | 1000 | 1800×1400 | 2450×2000 | 505 | - | - | 13000 | 10700 |
| | | 20 ^{Note.2} | 1350 | | 1000 | 1800×1600 | 2500×2200 | 505 (1.0mps) In Hoistway (1.5-1.75mps) | - | - | 14300 | 11600 |
| | | 24 ^{Note.2} | 1600 | | 1100 | 2000×1700 | 2700×2250 | | - | - | 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 | | 800 | 1300×1160 | 2100×1800 | | - | - | 8000 | 6800 |
| | | 10 | 700 | | 800 | 1300×1300 | 2100×1850 | 430 (1.0 mps) 505 (1.5-1.75mps) | - | - | 8600 | 7200 |
| | | 11 | 750 | | 800 | 1300×1400 | 2100×1900 | | - | - | 8900 | 7400 |
| | | 13 | 900 | | 900 | 1600×1300 | 2400×1900 | - | - | 9950 | 8150 | |
| | | 15 | 1000 | | 900 | 1600×1400 | 2400×2000 | - | - | 10550 | 8550 | |
| | | 17 | 1150 | | 1000 | 1800×1400 | 2700×2150 | 505 | - | - | 13200 | 10900 |
| | | 20 ^{Note.2} | 1350 | | 1000 | 1800×1600 | 2750×2350 | 505 (1.0mps) In Hoistway (1.5-1.75mps) | - | - | 14450 | 11800 |
| | | 24 ^{Note.2} | 1600 | | 1100 | 2000×1700 | 2950×2400 | | - | - | 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-1192 type only can be used which doesn't be applied exterior panel included lighting.

Overhead & Pit Depth

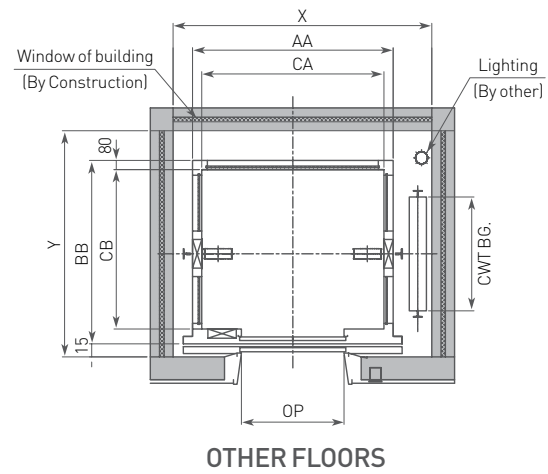
CH: (External) Car Height

| 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 |

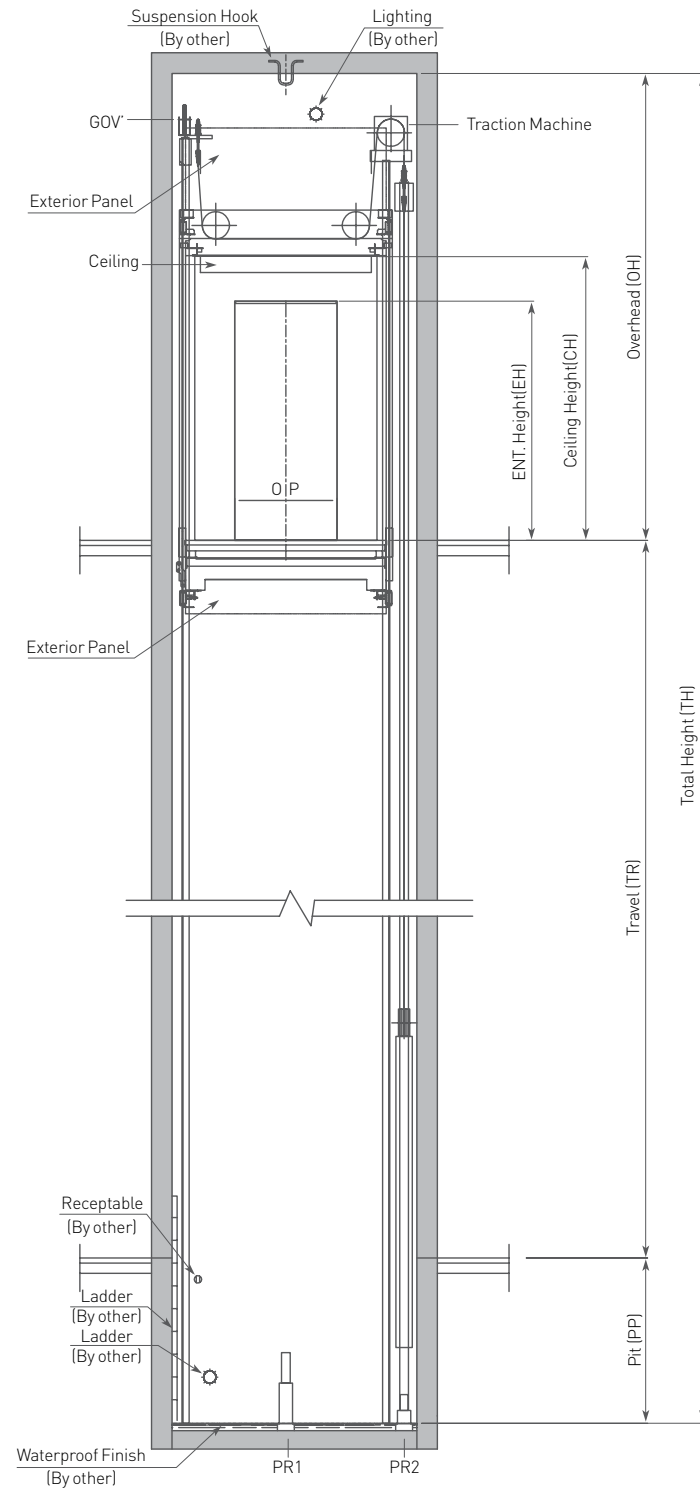
※ For OH: Base on the distance between the car top safety guard and shaft wall is less than 800mm Refer to EN81-20, The above OH complied the safety guard height with 1100mm.
 ※ If want to reduce the overhead, shall be proposed with semi-observation type. It means that without exterior panel and lighting.

LAYOUT PLAN

Plan of Hoistway & Machine Room



Section of Hoistway



- ※ 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 |
| Nude | 1.0 1.5 1.75 | 8 | 550 | 2P-CO | 800 | 1300×1100 | 2150×1750 | 430 | - | - | 8150 | 7050 |
| | | 9 | 600 | | 800 | 1300×1160 | 2150×1800 | | - | - | 8500 | 7300 |
| | | 10 | 700 | | 800 | 1300×1300 | 2150×1850 | | - | - | 9050 | 7650 |
| | | 11 | 750 | | 430 (1.0 mps) 505 (1.5-1.75 mps) | 800 | 1300×1400 | 2150×1900 | - | - | 9450 | 7950 |
| | | 13 | 900 | | | 900 | 1500×1400 | 2350×1900 | - | - | 10500 | 8700 |
| | | 15 | 1000 | | | 900 | 1600×1400 | 2450×2000 | - | - | 11150 | 9150 |
| | | 17 | 1150 | | | 1000 | 1800×1400 | 2700×2150 | 505 | - | - | 13750 |

- ※ 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

01. Clear, plumb hoistway with fire resistant hatch walls as required by the applicable code. [Rule 100.1a]
02. 75° bevel guards on all projections, recesses, or setbacks over 50mm except on side used for loading or unloading. [Rule 100.6]
03. Venting of the hoistway as required by the applicable code or responsible authority. [Rule 100.4]
04. 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]
05. Recesses supports and patching as required to accommodate hall button boxes, signal fixtures, etc.
06. All barricades either outside elevator hoistways or between inside hoistways as required.
07. 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.
08. 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]
09. 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.
10. 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

11. Enclosed and protected machine room. [Rule 101.1]
12. Access to the machine room and machinery space as required by the applicable code or responsible authority. [Rule 101.3]
13. 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]
14. Hoisting beams, trap doors, and other means of access to machine room for maintenance and equipment removal purposes. [Rule 101.3d]
15. Cable guards in the machine room or secondary level. [Rule 104.1]
16. 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

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

Machine Room

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

- conditioner, if necessary, and humidity below 90%.
06. 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]
 07. Feeder and branch wiring to the controller, including main-line switch and convenience outlets.
 08. Suitable power feeder and branch wiring circuits as required for elevators with power-operated doors, including disconnect switch or circuit breaker.
- #### Emergency Provisions
09. 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.
 10. When emergency power operation of elevators is required, the electrical contractor should coordinate with Hyundai Elevator Company or local distributor for operation requirements.
 11. Elevator fireman's and other emergency service requirements may differ from each country. Consult Hyundai Elevator Company or local distributor for other local requirements.
 12. 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