PLANNING GUIDE

KOREA FACTORY PRODUCTION

HYUNDAI
ELEVATOR CO., LTD.

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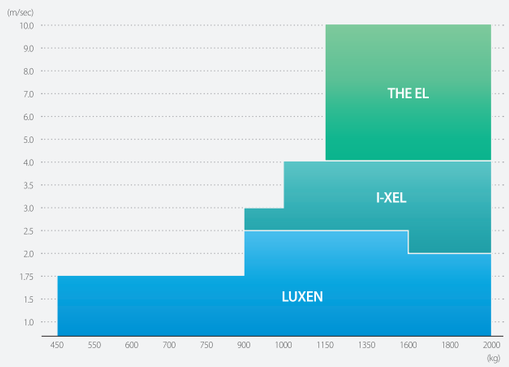
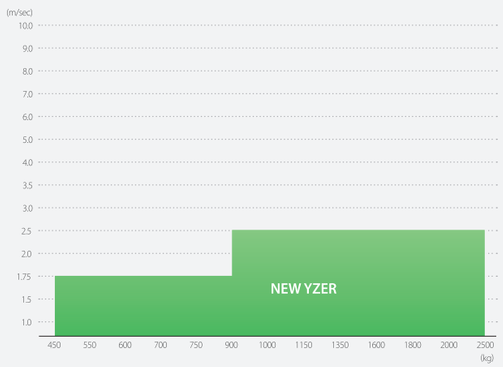


MR (Machine Room)



MRL (Machine Room Less)

Selection of Elevator System

PLANNING GUIDE

The selection of elevators should be made in consideration of the building type/scale, tenant characteristics, elevator usage and the anticipated passenger carrying capacity at the building's traffic peak time.

Hyundai elevators are available from machine-room-less elevators to low-medium and high-speed elevators, covering the full range of vertical transportation requirements.

And a variety of functional and attractive designs per usages, such as passenger, service, observation, freight and automobile elevators are offered for architect's and customer's flexible applications.

ELEVATORS

Product	Speed	Floor	Control
LUXEN	1.0~2.5m/sec	30 floors or less	Machine Room
NEW YZER	1.0~2.5m/sec		Machine Room Less
I-XEL	3.0~4.0m/sec	50 floors or less	Machine Room
THE EL	5.0~10.0m/sec	50 floors or more	

SIGNATURE PROJECTS

1 BUSAN INTERNATIONAL FINANCE CENTER (KOREA)
Thirty-two elevators were installed, including two 10 m/sec units (Korea's fastest), three 9 m/sec units, and eight 8 m/sec units, as well as fourteen escalators.

2 GALLERY WEST (INDONESIA)
Twenty-three 4 m/sec elevators were installed, as well as twelve escalators.

3 PARK HYATT BUSAN (KOREA)
Eleven elevators were installed, including two 6 m/sec units and three 4 m/sec units.

4 METROPOL ISTANBUL (TURKEY)
One hundred twenty-seven elevators were installed, including six 6 m/sec units, one 5.8 m/sec unit, and twenty-eight 4 m/sec units, as well as twenty-four escalators.

5 KEANGNAM HANOI LANDMARK TOWER (VIETNAM)
Twenty-nine elevators were installed, including two 4 m/sec units, as well as twenty-seven escalators.

6 KL GATEWAY (MALAYSIA)
Twenty-seven elevators were installed, including eight 3.5 m/sec units, as well as forty-nine escalators and an auto parking system.

7 F&F TOWER (PANAMA)
Twenty elevators were installed, including five 3 m/sec units, two 2.5 m/sec units, and six 2 m/sec units.

8 F&F TOWER (PANAMA)
Five 4 m/sec elevators were installed.

9 LG U+ YONGSAN OFFICE BUILDING (KOREA)
Ten elevators were installed, including 3.5 m/sec double deck units (Korea's first) and four 4 m/sec units, as well as two escalators.

10 VARYAP MERIDIAN (TURKEY)
Fifty-three elevators were installed, including seven 4 m/sec units and five 3.5 m/sec units.

1


2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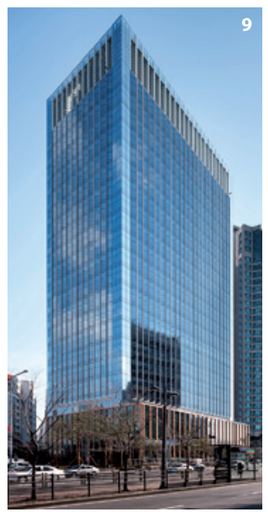
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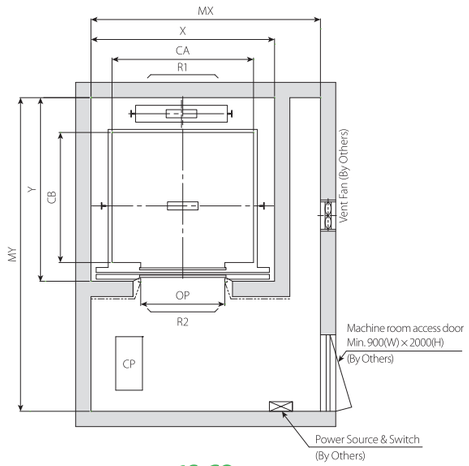
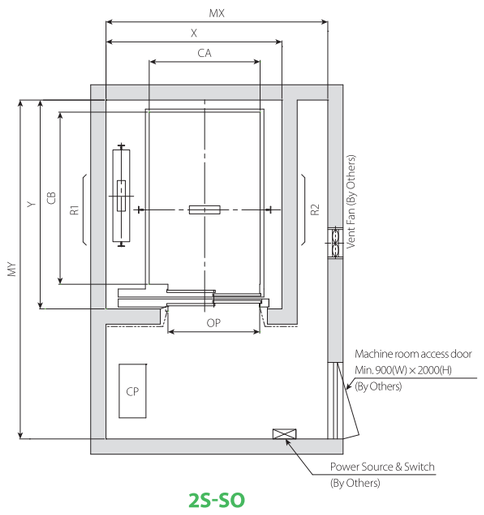
10

LUXEN | PASSENGER ELEVATORS
1.0~2.5m/sec

PLAN OF HOISTWAY

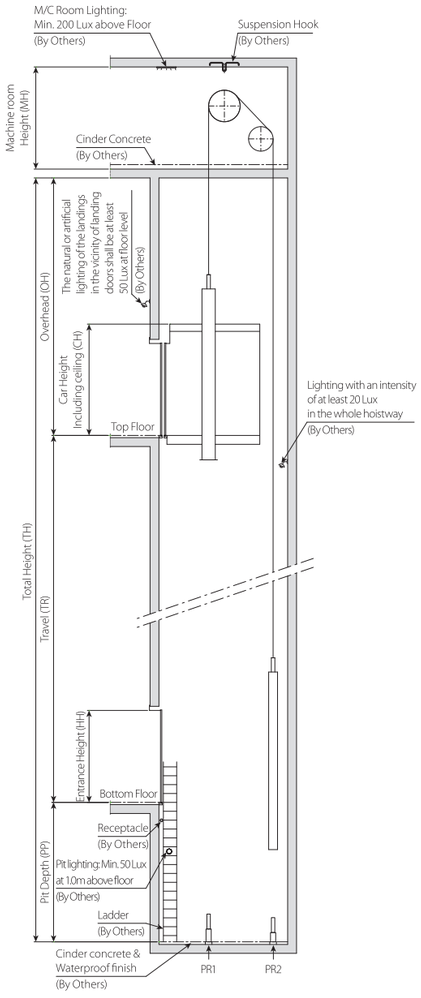


1S-CO



2S-SO

SECTION OF HOISTWAY



OVERHEAD & PIT DEPTH

(Unit : mm)

Capacity (kg)	Speed (m/sec)	Overhead (OH)[Note.2]		Pit Depth (PP)	M/C Room Height (MH)
		EN81-1	EN81-20		
450 ~ 1150	1.0	CH+1850	CH+2050	1250	2300
	1.5	CH+2000	CH+2200	1350	2400
	1.75	CH+2050	CH+2250	1400	2400
	2.0	CH+2200	CH+2400	1900[Note.3]	2600
	2.5	CH+2600	CH+2800	2200[Note.3]	2600
1350 ~ 2000	1.0	CH+1850	CH+2050	1350	2400
	1.5	CH+2000	CH+2200	1400	2400
	1.75	CH+2050	CH+2250	1450	2400
	2.0	CH+2200	CH+2400	2000[Note.3]	2600
	2.5	CH+2600	CH+2800	2200[Note.3]	2600

* CH: (External) Car Height

◂**Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
   1). If applied air conditioner, the Overhead (OH) should be increased by 400mm
   2). In case of fire-fighter lift or applied emergency exit door on car top, the Overhead (OH) should be increased as below.
   - EN81-1 : OH+400mm / - EN81-20 : OH+200mm
3. If Travel exceeds 125meters, Pit depth should be more than 2400mm.
4. M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
5. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
6. If the height of non-stop floor is over 11m(In case of fire-fighter lift is 7m), please consult us as to the needs for emergency exit.

STANDARD DIMENSIONS & REACTIONS

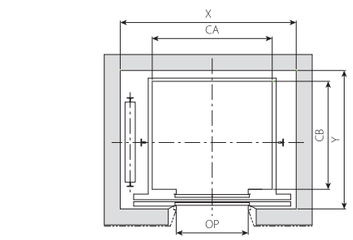
Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	C.WT Drop	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
Persons	kg			OP		CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2
6	450	1.0 1.5 1.75	1S-CO	700	Rear	1100 × 1100	1600 × 1700	1950 × 3500	3600	2000	5500	4500
7	550			800	Rear	1300 × 1100	1750 × 1700	2100 × 3500	4050	2250	6000	4900
8	600 (630)			800	Rear	1400 × 1100	1800 × 1700	2150 × 3500	4100	2450	6300	5100
				900	Rear	1100 × 1400	1950 × 2000	2300 × 3800				
9	700			800	Rear	1400 × 1250	1800 × 1850	2150 × 3650	4200	2700	6800	5400
10	750			800	Rear	1400 × 1300	1800 × 1900	2150 × 3700	4550	2800	7100	5600
	800			800	Rear	1400 × 1350	1800 × 2000	2150 × 3800	4550	2800	7400	5800
12	900			900	Rear	1600 × 1350	2050 × 2000	2400 × 3800	5100	3750	8100	6300
13	1000			900	Rear	1600 × 1400	2050 × 2050	2400 × 3850	5450	4300	8600	6600
				1100	Rear	2100 × 1100	2550 × 1750	2900 × 3550				
15	1150			1000	Rear	1800 × 1400	2300 × 2050	2650 × 3850	6600	5100	11000	8700
				900	Side	1200 × 2200	2200 × 2600	2500 × 3750				
18	1350			1000	Rear	1800 × 1600	2300 × 2300	2650 × 4100	7800	6000	12200	9500
				1100	Rear	2000 × 1450	2500 × 2150	2850 × 3950				
21	1600			1100	Rear	2000 × 1700	2500 × 2400	2850 × 4200	8500	6800	13600	10400
					Rear	2150 × 1550	2650 × 2250	3000 × 4050				
24	1800			1100	Rear	2000 × 1800	2550 × 2500	2900 × 4300	8800	7200	14200	10900
					Rear	2150 × 1700	2700 × 2400	3050 × 4200				
26	2000			1200	Rear	2100 × 1900	2650 × 2600	3000 × 4400	9500	7700	15100	12000
					Rear	2150 × 1850	2700 × 2550	3050 × 4350				
12	900	2.0 2.5	1S-CO	900	Rear	1600 × 1350	2100 × 2050	2450 × 3850	12030	6630	12400	10600
13	1000			900	Rear	1600 × 1400	2100 × 2100	2450 × 3900	12810	6950	13300	11300
15	1150			1000	Rear	1800 × 1400	2300 × 2100	2650 × 3900	13080	7100	14500	12200
				900	Side	1200 × 2200	2250 × 2600	2550 × 3750				
18	1350			1000	Rear	1800 × 1600	2300 × 2300	2650 × 4100	14360	7650	16500	13800
				1100	Rear	2000 × 1450	2500 × 2150	2850 × 3950				
21	1600			1100	Rear	2000 × 1700	2500 × 2400	2850 × 4200	15100	8100	18100	14900
					Rear	2150 × 1550	2650 × 2250	3000 × 4050				
24	1800			1100	Rear	2000 × 1800	2550 × 2550	2900 × 4350	15500	8500	18450	15300
					Rear	2150 × 1700	2700 × 2450	3050 × 4250				
26	2000			1200	Rear	2100 × 1900	2650 × 2650	3000 × 4450	16000	9100	19000	16000
					Rear	2150 × 1850	2700 × 2600	3050 × 4400				

Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	C.WT Drop	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
Persons	kg			OP		CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2
6	450	1.0 1.5 1.75	2S-SO	800	Rear	1100 × 1100	1550 × 1800	1900 × 3600	3600	2000	5500	4500
7	550			800	Side	1100 × 1300	1850 × 1800	2150 × 2950	4050	2250	6000	4900
8	600 (630)			800	Side	1100 × 1400	1850 × 1850	2150 × 3000	4100	2450	6300	5100
9	700			800	Side	1200 × 1400	1950 × 1850	2250 × 3000	4200	2700	6800	5400
10	750			800	Side	1300 × 1400	2050 × 1850	2400 × 3000	4550	2800	7100	5600
	800			800	Side	1300 × 1400	2100 × 2000	2400 × 3150	4550	2800	7400	5800
12	900			900	Side	1300 × 1600	2100 × 2050	2400 × 3200	5100	3750	8100	6300
13	1000			900	Side	1100 × 2100	1900 × 2550	2200 × 3700	5450	4300	8600	6600
				1100	Rear	2100 × 1100	2550 × 1850	2900 × 3650				
15	1150			1000	Side	1200 × 2100	2050 × 2550	2350 × 3700	6600	5100	11000	8700
18	1350			1100	Side	1300 × 2300	2200 × 2750	2500 × 3900	7800	6000	12200	9500
21	1600			1200	Side	1400 × 2400	2300 × 2850	2600 × 4000	8500	6800	13600	10400
24	1800			1200	Side	1500 × 2400	2500 × 2850	2800 × 4000	8800	7200	14200	10900
26	2000			1300	Side	1600 × 2500	2650 × 2950	2950 × 4100	9500	7700	15100	12000
12	900	2.0 2.5	2S-SO	900	Side	1300 × 1600	2250 × 2100	2550 × 3250	12030	6630	12400	10600
13	1000			900	Side	1100 × 2100	2050 × 2550	2350 × 3700	12810	6950	13300	11300
				1100	Rear	2100 × 1100	2600 × 1900	2950 × 3700				
15	1150			1000	Side	1200 × 2100	2150 × 2550	2450 × 3700	13080	7100	14500	12200
18	1350			1100	Side	1300 × 2300	2250 × 2750	2550 × 3900	14360	7650	16500	13800
21	1600			1200	Side	1400 × 2400	2350 × 2850	2650 × 4000	15100	8100	18100	14900
24	1800			1200	Side	1500 × 2400	2550 × 2850	2850 × 4000	15500	8500	18450	15300
26	2000			1300	Side	1600 × 2500	2650 × 2950	2950 × 4100	16000	9100	19000	16000

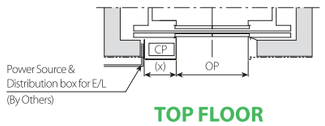
▲**Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, please contact us.
3. If apply through (180 degree) type, please consult with us.
4. If capacity below 600kg and CWT Rear drop and car depth exceed 1150mm, please consult with us.
5. If only single car is located in the hoistway and rated speed is 2.5m/sec, the hoistway size is different from above table. Please contact us.
6. If travel is above 125m or requested a compensation rope system, Hoistway depth must be increased at least 50mm.
7. Rail Bracket (Seperated Beam(Wall)) pitch: Applied with 2,000mm for 2.0m/sec & 2.5m/sec.
8. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
9. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

NEW YZER | PASSENGER ELEVATORS
MRL (Machine Room Less) 1.0~2.5m/sec

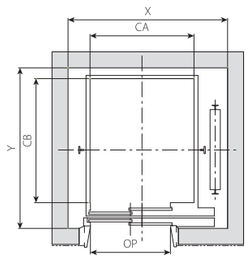
PLAN OF HOISTWAY



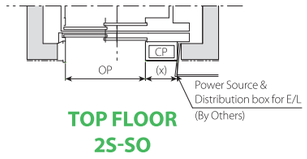
TYPICAL FLOORS



TOP FLOOR
1S-CO

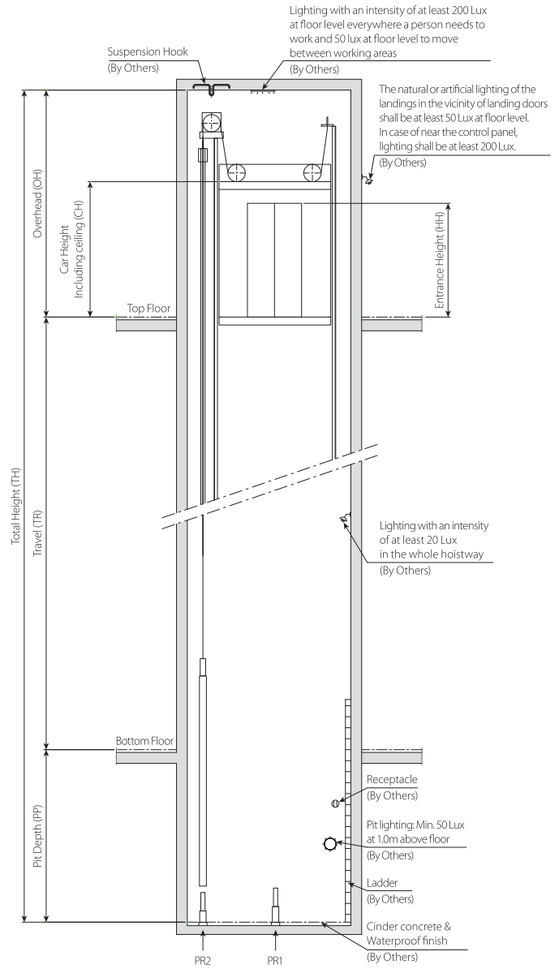


TYPICAL FLOORS



TOP FLOOR
2S-SO

SECTION OF HOISTWAY



OVERHEAD & PIT DEPTH

(Unit : mm)

Capacity (kg)	Speed (m/sec)	Overhead (OH)[Note.2]		Pit Depth (PP)[Note.4]
		EN81-1[Note.4]	EN81-20	
450 ~ 1150	1.0	CH+1300	CH+1650	1100[Note.3]
	1.5	CH+1400	CH+1750	1300
	1.75	CH+1500	CH+1850	1350
	2.0	CH+1800	CH+2000	2050
	2.5	CH+2100	CH+2300	2200
1350 ~ 1600	1.0	CH+1400	CH+1700	1200[Note.3]
	1.5	CH+1600	CH+1900	1350
	1.75	CH+1800	CH+2000	1350
	2.0	CH+2000	CH+2300	2050
	2.5	CH+2250	CH+2500	2200
1800 ~ 2500	1.0	CH+2000	CH+2400	1350
	1.5	CH+2200	CH+2600	1700
	1.75	CH+2200	CH+2600	1700
	2.0	CH+2400	CH+2800	2050
	2.5	CH+2600	CH+3000	2200

* CH: (External) Car Height

◂ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
   1) If applied air conditioner, the Overhead (OH) should be increased by 400 mm.
   2) In case of fire-fighter lift or applied emergency exit door on car top, the Overhead (OH) should be increased as below.
   - EN81-1 : OH+400mm
   - EN81-20 : OH+200mm
3. The travel is above 25m, Pit depth should be increased by 200mm to apply the compensation device.
4. If apply the roller guide shoe for car side with EN81-1, OH & PP should be increased by 200mm per each.
5. If the height of non-stop floor is over 11m(In case of firefighter lift is 7m), please consult us as to the needs for emergency exit.

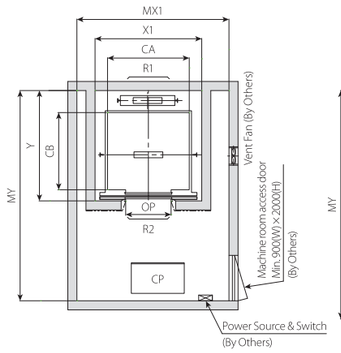
STANDARD DIMENSIONS & REACTIONS

Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall[Note.3]	Pit Reaction (kg)	
						CP on Hall	CP in Hoistway			
Persons	kg			OP	CA × CB	X × Y	X × Y	CP	PR1	PR2
6	450	1.0 1.5 1.75	1S-CO	700	1100 × 1100	1700 × 1500	1700 × 1650	430	6250	5200
			2S-SO	800	1100 × 1100	1700 × 1550	1700 × 1700			
7	550		1S-CO	800	1100 × 1300	1800 × 1650	1800 × 1850		6500	5400
			2S-SO	800	1100 × 1250	1700 × 1650	1700 × 1850			
8	600 (630)		1S-CO	800	1100 × 1400	1800 × 1750	1800 × 1950		6800	5600
			2S-SO	800	1100 × 1400	1700 × 1800	1700 × 2000			
9	700		1S-CO	800	1200 × 1400	1850 × 1750	1850 × 1950	1.0m/sec : 430 1.5&1.75m/sec : 505	7300	5900
			2S-SO	800	1200 × 1400	1800 × 1800	1800 × 2000			
10	750 (800)		1S-CO	800	1300 × 1400	1900 × 1750	1900 × 1950	1.0m/sec : 430 1.5&1.75m/sec : 505	7600	6100
			2S-SO	900	1300 × 1400	1900 × 1800	1900 × 2000			
12	900		1S-CO	900	1500 × 1400	2100 × 1750	2100 × 1950	1.0m/sec : 430 1.5&1.75m/sec : 505	8400	6600
			2S-SO	900	1300 × 1600	1900 × 2000	1900 × 2200			
13	1000		1S-CO	900	1600 × 1400	2200 × 1750	2200 × 1950	1.0m/sec : 430 1.5&1.75m/sec : 505	8900	6900
				900	1100 × 2100	2000 × 2450	2000 × 2450			
			2S-SO	900	1100 × 2100	1700 × 2500	1700 × 2500			
				1200	2100 × 1100	2700 × 1500	2700 × 1700			
15	1150		1S-CO	1000	1800 × 1400	2400 × 1800	2400 × 2000	505	11800	9500
			2S-SO	1000	1200 × 2100	1800 × 2500	1800 × 2500			
18	1350		1S-CO	1000	1800 × 1600	2500 × 2000	2500 × 2250	1.0m/sec : 505 1.5&1.75m/sec : 605	13400	10700
			2S-SO	1100	1300 × 2300	2000 × 2750	2000 × 2750			
21	1600		1S-CO	1100	2000 × 1700	2700 × 2100	2700 × 2300	1.0m/sec : 505 1.5&1.75m/sec : 605	14200	11000
			2S-SO	1200	1400 × 2400	2150 × 2850	2150 × 2850			
24	1800		1S-CO	1100	2000 × 1800	2800 × 2200	2800 × 2400	1.0m/sec : 505 1.5&1.75m/sec : 605	14600	11300
			2S-SO	1200	1500 × 2400	2300 × 2850	2300 × 2850			
26	2000		1S-CO	1200	2100 × 1900	2900 × 2300	2900 × 2500	1.0m/sec : 505 1.5&1.75m/sec : 605	20500	16900
			2S-SO	1300	1600 × 2500	2400 × 2950	2400 × 2950			
33	2500		1S-CO	1200	2200 × 2200	3000[Note.4] × 2600[Note.4]	3000 × 2900	1.0m/sec : 605 1.5&1.75m/sec : in H/W	22800	18800
			2S-SO	1400	1800 × 2700	2600[Note.4] × 3150[Note.4]	2600 × 3150			
12	900	2.0 2.5	1S-CO	900	1500 × 1400	2200 × 1800	2200 × 1950	505	8400	6600
			2S-SO		1300 × 1600	2000 × 2050	2000 × 2200			
13	1000		1S-CO	900	1600 × 1400	2300 × 1800	2300 × 2050	2.0m/sec : 505 2.5m/sec : 605	8900	6900
			2S-SO		1100 × 2100	1800 × 2550	1800 × 2650			
15	1150		1S-CO	1000	1800 × 1400	2500 × 1800	2500 × 2050	2.0m/sec : 505 2.5m/sec : 605	11800	9500
			2S-SO		1200 × 2100	1900 × 2550	1900 × 2650			
18	1350		1S-CO	1000	1800 × 1600	2600 × 2000	2600 × 2300	605	13400	10700
			2S-SO	1100	1300 × 2300	2100 × 2800	2100 × 2950			
21	1600		1S-CO	1100	2000 × 1700	2800 × 2100	2800 × 2400	605	14200	11000
			2S-SO	1200	1400 × 2400	2200 × 2900	2200 × 3000			
24	1800		1S-CO	1100	2000 × 1800		2800 × 2500	in Hoistway	20500	16900
			2S-SO	1200	1500 × 2400		2300 × 3000			
26	2000		1S-CO	1200	2100 × 1900		2900 × 2600	in Hoistway	22800	18800
			2S-SO	1300	1600 × 2500		2400 × 3050			
33	2500		1S-CO	1200	2200 × 2200		3000 × 2900	in Hoistway	26500	21500
			2S-SO	1400	1800 × 2700		2600 × 3200			

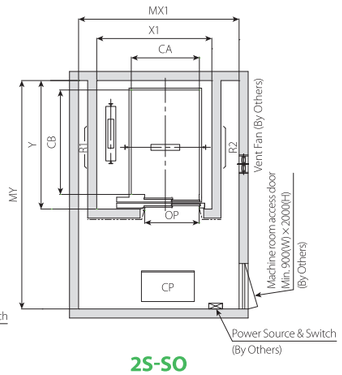
▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, Hoistway Width(X) needed to add 100mm.
3. The control panel box size(CP) may varied depending on the type of control type as PWM (Power Regeneration function), please refer to layout drawing for exact size. In case of control panel box size 605mm in Hall side, Min. wall+finished thickness 405mm is needed.
4. If control panel is located in the hoistway, remote control box should be installed at hall side of top floor and box hole should be needed. Please refer to layout drawing for exact box hole size & location.
5. If apply through(180 degree) type, please consult with us.
6. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

THE EL / I-XEL | ULTRA-HIGH-SPEED / HIGH-SPEED ELEVATORS
3.0~10.0m/sec

PLAN OF HOISTWAY

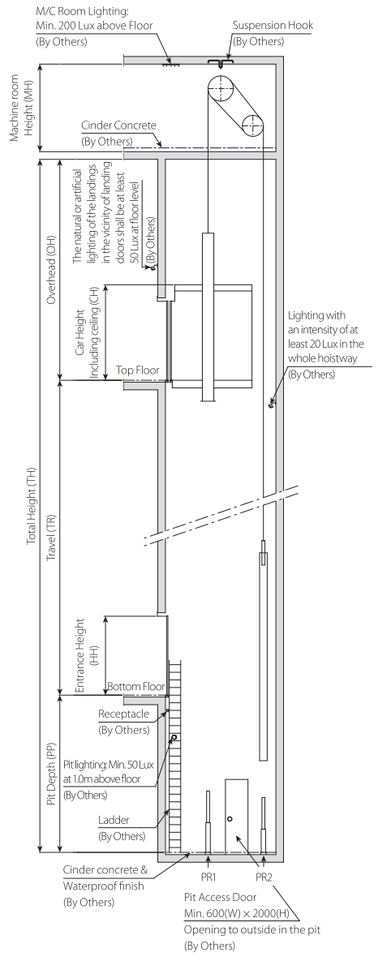


1S-CO



2S-SO

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	C.WT Drop	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
Persons	kg			OP		CA × CB	X × Y	MX1 × MY	R1	R2	PR1	PR2
12	900	3.0	1S-CO	900	Rear	1600 × 1350	2300 × 2100	2800 × 4350	12030	6650	13100	11300
			2S-SO	900	Side	1300 × 1600	2300 × 2100	2800 × 4350				
13	1000		1S-CO	900	Rear	1600 × 1400	2300 × 2150	2800 × 4400	12810	6950	14600	12600
			2S-SO	900	Side	1100 × 2100	2100 × 2600	2600 × 4850				
15	1150		1S-CO	1000	Rear	1800 × 1400	2500 × 2150	3000 × 4400	13080	7150	17200	14900
			2S-SO	1000	Side	1200 × 2100	2200 × 2600	2700 × 4850				
18	1350		1S-CO	1000	Rear	1800 × 1600	2500 × 2350	3000 × 4600	14360	7650	18800	16100
			2S-SO	1100	Side	1300 × 2300	2300 × 2800	2800 × 5050				
21	1600		1S-CO	1100	Rear	2000 × 1700	2700 × 2450	3200 × 4700	15100	8100	21000	17100
			2S-SO	1200	Side	1400 × 2400	2400 × 2900	2900 × 5150				
24	1800		1S-CO	1100	Rear	2000 × 1800	2700 × 2550	3200 × 4800	15700	8400	24000	18700
			2S-SO	1200	Side	1500 × 2400	2550 × 2900	3050 × 5150				
26	2000		1S-CO	1200	Rear	2100 × 1900	2800 × 2650	3300 × 4900	16200	8700	21000	17100
			2S-SO	1300	Side	1600 × 2500	2650 × 3000	3150 × 5250				
13	1000	3.5 4.0	1S-CO	900	Rear	1600 × 1400	2300 × 2200	2800 × 4450	12810	7800	14600	12600
			2S-SO	900	Side	1300 × 1800	2350 × 2300	2850 × 4550				
15	1150		1S-CO	1000	Rear	1800 × 1400	2500 × 2200	3000 × 4450	14100	8000	17200	14900
			2S-SO	1000	Side	1300 × 2000	2350 × 2500	2850 × 4750				
18	1350		1S-CO	1000	Rear	1800 × 1600	2500 × 2400	3000 × 4650	15100	8050	18800	16100
			2S-SO	1100	Side	1300 × 2300	2350 × 2800	2850 × 5050				
21	1600		1S-CO	1100	Rear	2000 × 1700	2700 × 2500	3200 × 4750	15700	8100	21000	17100
			2S-SO	1200	Side	1400 × 2400	2450 × 2900	2950 × 5150				
24	1800		1S-CO	1100	Rear	2000 × 1800	2700 × 2600	3200 × 4850	16000	8500	24000	18700
			2S-SO	1200	Side	1500 × 2400	2600 × 2900	3100 × 5150				
26	2000		1S-CO	1200	Rear	2100 × 1900	2800 × 2700	3300 × 4950	16400	8800	21000	17100
			2S-SO	1300	Side	1600 × 2500	2700 × 3000	3200 × 5250				

Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)				Machine Room Size (mm)				M/C Room Reaction (kg)		Pit Reaction (kg)	
Persons	kg			OP	CA × CB	X1	X2	X3	× MY	MX1	MX2	MX3	× Y	R1	R2	PR1	PR2
15	1150	5.0 6.0	1S-CO	1000	1800 × 1400	2600	5300	8000	× 2350	3300	6000	8700	× 5850	17500	13000	-	-
18	1350			1000	1800 × 1600	2600	5300	8000	× 2550	3300	6000	8700	× 6050	17800	13200	-	-
				1100	2000 × 1450	2800	5700	8600	× 2400	3500	6400	9300	× 5900				
21	1600			1100	2000 × 1700	2800	5700	8600	× 2650	3500	6400	9300	× 6150	18100	13500	-	-
				1100	2150 × 1550	2950	6000	9050	× 2500	3650	6700	9750	× 6000				
24	1800			1100	2000 × 1800	2800	5700	8600	× 2750	3500	6400	9300	× 6250	18300	13800	-	-
				1100	2150 × 1700	2950	6000	9050	× 2650	3650	6700	9750	× 6150				
26	2000			1100	2100 × 1900	2900	5900	8900	× 2850	3600	6600	9600	× 6350	-	-	-	-
				1100	2150 × 1850	2950	6000	9050	× 2800	3650	6700	9750	× 6300				
15	1150	7.0 8.0	1S-CO	1000	1800 × 1400	2700	5500	8300	× 2500	3400	6200	9000	× 6000	-	-	-	-
18	1350	7.0 ~ 10.0		1100	2000 × 1450	2900	5900	8900	× 2550	3600	6600	9600	× 6050	-	-	-	-
21	1600			1100	2000 × 1700	2900	5900	8900	× 2800	3600	6600	9600	× 6300	-	-	-	-
24	1800			1100	2000 × 1800	2900	5900	8900	× 2900	3600	6600	9600	× 6400	-	-	-	-
26	2000			1100	2100 × 1900	3000	6100	9200	× 3000	3700	6800	9900	× 6500	-	-	-	-

▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side. please contact us.
3. If apply through (180 degree) type, please consult with us.
4. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
5. Rail Bracket (Seperated Beam(Wall)) pitch: 2,000mm for speed 3.0m/sec elevators with a capacity below 1,600kg.
6. If only single car is located in the hoistway, please contact us for wind pressure countermeasures of building and elevator.
7. If the speed is over 7.0m/s, the reaction force will be calculated according to the travel. Please contact us.
8. The Hoistway dimensions width & depth are based on clear dimension +30mm horizontal tolerances over the total hoistway height.

OVERHEAD & PIT DEPTH

(Unit : mm)

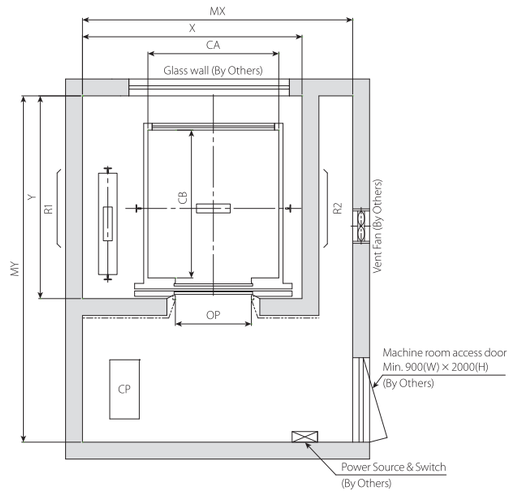
Capacity (kg)	Speed (m/sec)	Overhead (OH) EN81-1 & 20	Pit Depth (PP)	M/C Room Height (MH)
900 ~ 2000	3.0	CH+3300	2700[Note.2]	3000
	3.5	CH+3700	3200[Note.2]	3000
	4.0	CH+4400	3850[Note.2]	3000
	5.0	CH+5300	4200	3300
	6.0	CH+5600	4300	3300
	7.0	CH+5800	6000	3300
	8.0	CH+6800	6400	3600
	9.0	CH+7050	8800	3600
	10.0	CH+7300	9000	3600

* CH: (External) Car Height

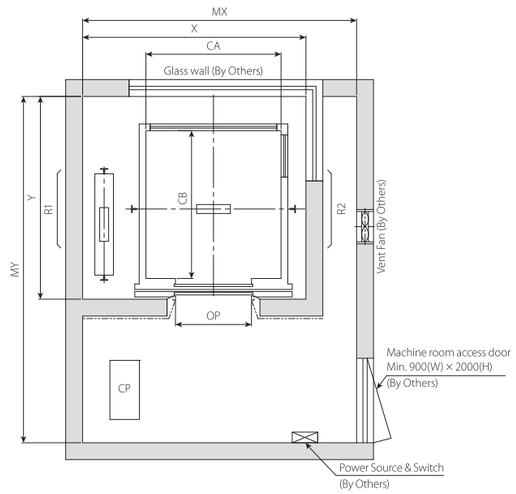
◀ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. The speed 3.0~4.0m/sec can be applied at pit depth 2500mm according to the layout condition. Please contact us separately.
3. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
4. If the height of non-stop floor is over 11m (In case of fire-fighter lift : 7m), please consult us as to the needs for emergency exit.

LUXEN | OBSERVATION ELEVATORS
1 SIDE / 2 SIDES TYPE

PLAN OF HOISTWAY

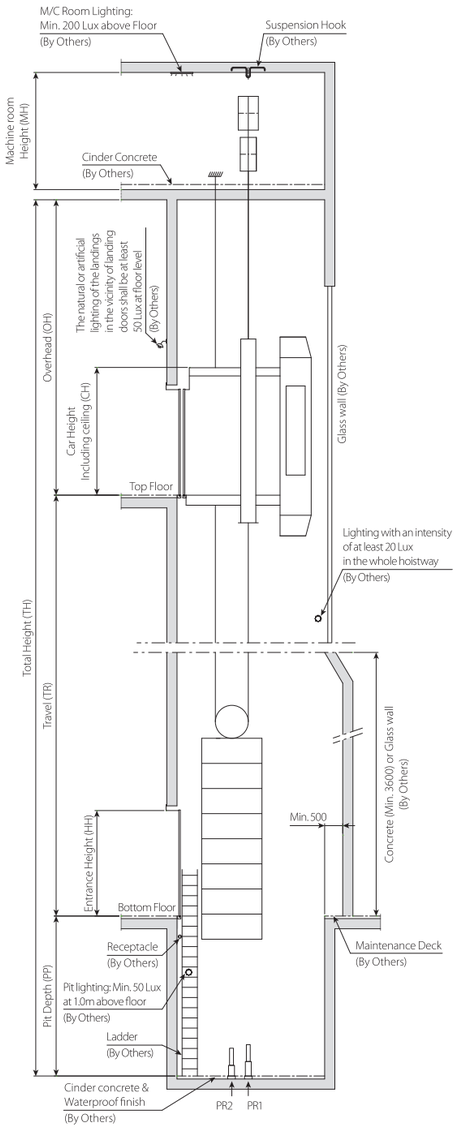


1 SIDE TYPE



2 SIDES TYPE

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
	Persons	kg			OP	CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2
1 SIDE (REAR)	6	450	1.0 1.5 1.75	1S-CO	800	1100 × 1100	2100 × 1600	2500 × 3100	5000	2700	6650	5750
	7	550			800	1100 × 1300	2100 × 1800	2500 × 3300	5350	3000	7300	6200
	8	600(630)			800	1100 × 1400	2100 × 1900	2500 × 3400	5550	3100	7600	6400
	9	700			800	1250 × 1350	2150 × 1850	2550 × 3350	5900	3300	8200	6800
	10	750(800)			800	1300 × 1400	2200 × 1900	2600 × 3400	6100	3400	8500	7000
	12	900			900	1600 × 1350	2500 × 1850	3150 × 3350	6800	3750	9550	7750
	13	1000			900	1600 × 1400	2500 × 1900	3150 × 3400	7100	3900	10100	8150
	15	1150			1000	1800 × 1400	2850 × 1900	3500 × 3400	8900	5300	12800	10500
	18	1350			1000	1800 × 1600	2850 × 2100	3500 × 3600	9000	6650	14100	11400
	21	1600			1100	2000 × 1700	3050 × 2200	3700 × 3700	9850	7050	15500	12300
	24	1800			1100	2000 × 1800	3050 × 2300	3700 × 3800	9950	7300	16300	12900
2 SIDES (REAR & 1 SIDE)	7	550	1.0 1.5 1.75	1S-CO	800	1100 × 1300	2100 × 1800	2500 × 3300	5400	3050	7500	6400
	8	600(630)			800	1100 × 1400	2100 × 1900	2500 × 3400	5600	3120	7800	6600
	9	700			800	1250 × 1350	2250 × 1850	2650 × 3350	5950	3350	8400	7000
	10	750(800)			800	1300 × 1400	2300 × 1900	2700 × 3400	6100	3450	8700	7200
	12	900			900	1600 × 1350	2600 × 1850	3250 × 3350	6850	3750	9750	7950
	13	1000			900	1600 × 1400	2600 × 1900	3250 × 3400	7150	3930	10350	8350
	15	1150			1000	1800 × 1400	2800 × 1900	3450 × 3400	9000	5400	13000	10700
	18	1350			1000	1800 × 1600	2900 × 2100	3550 × 3600	9100	6700	14250	11600
	21	1600			1100	2000 × 1700	3100 × 2200	3750 × 3700	9950	7100	15700	12500
	24	1800			1100	2000 × 1800	3100 × 2300	3750 × 3800	10050	7300	16300	13000

▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, please contact us.
3. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
4. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

OVERHEAD & PIT DEPTH

(Unit : mm)

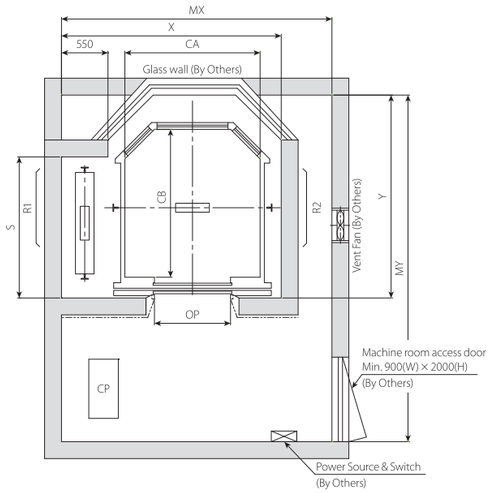
Capacity (kg)	Speed (m/sec)	Overhead (OH)Note.2		Pit Depth (PP)	M/C Room Height (MH)
		EN81-1	EN81-20		
450 ~ 1800	1.0	CH+1850	CH+2150	1750	2300
	1.5	CH+2000	CH+2300	1850	2500
	1.75	CH+2050	CH+2350	1900	2500

* CH: (External) Car Height

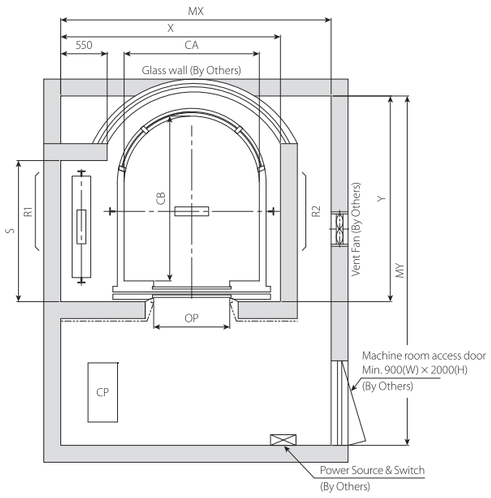
▲ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
   1). If applied air conditioner, the Overhead (OH) should be increased by 400 mm.
   2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
   - EN81-1 : OH+400mm
   - EN81-20 : OH+200mm
3. If neccesary to reduce the overhead & Pit, shall be proposed with semi-observation type. It means that without exterior panel and lighting.
4. M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
5. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
6. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

LUXEN | OBSERVATION ELEVATORS
3 SIDES / ROUND TYPE

PLAN OF HOISTWAY

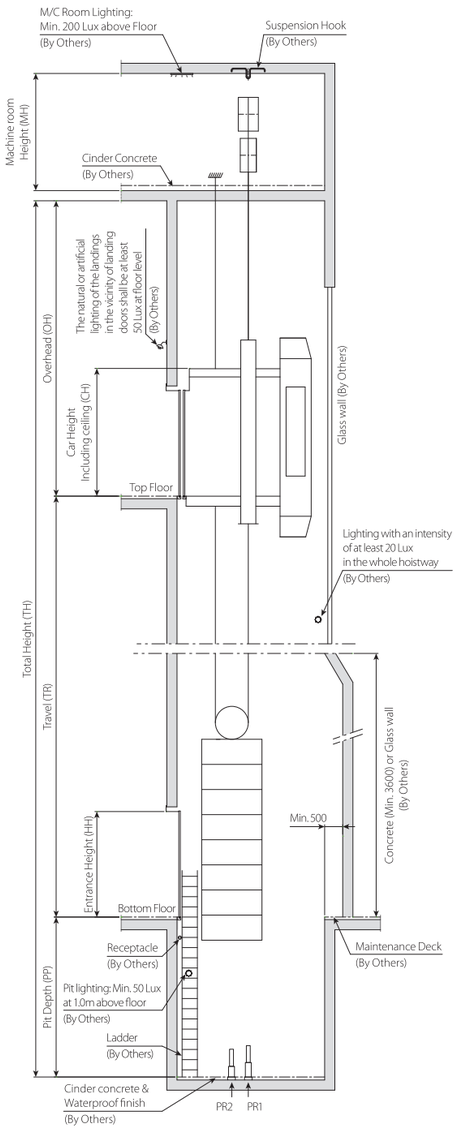


3 SIDES TYPE



ROUND TYPE

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
	Persons	kg			OP	CA × CB	X × Y	S	MX × MY	R1	R2	PR1	PR2
3 SIDES	10	750(800)	1.0	1S-CO	800	1400 × 1400	2450 × 2000	1400	2900 × 3500	6150	3450	8700	7150
	12	900			900	1600 × 1450	2650 × 2050	1550	3300 × 3550	6900	3750	9700	7900
	13	1000			900	1600 × 1570	2650 × 2200	1550	3300 × 3700	7200	3950	10300	8300
	15	1150	1.5		1000	1800 × 1580	2850 × 2200	1700	3500 × 3700	9100	5450	13150	10900
	18	1350	1.75		1000	1800 × 1800	2850 × 2400	1800	3500 × 3900	9150	6750	14550	11850
	21	1600			1100	1800 × 2000	2850 × 2600	1800	3500 × 4100	10000	7150	16100	12900
	24	1800			1100	1800 × 2150	2850 × 2750	1800	3500 × 4250	10250	7300	16800	13300
ROUND	10	750(800)	1.0	1S-CO	800	1400 × 1480	2450 × 2000	1400	2900 × 3500	6180	3450	8700	7150
	12	900			900	1600 × 1500	2650 × 2100	1550	3300 × 3600	6930	3750	9700	7900
	13	1000			900	1600 × 1650	2650 × 2250	1550	3300 × 3750	7220	3950	10300	8300
	15	1150	1.5		1000	1800 × 1650	2850 × 2250	1700	3500 × 3750	9100	5450	13150	10900
	18	1350	1.75		1000	1800 × 1900	2850 × 2500	1800	3500 × 4000	9150	6750	14550	11850
	21	1600			1100	1800 × 2130	2850 × 2700	1800	3500 × 4200	10050	7200	16100	12900
	24	1800			1100	1800 × 2230	2850 × 2800	1800	3500 × 4300	10250	7350	16800	13400

▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, please contact us.
3. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
4. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

OVERHEAD & PIT DEPTH

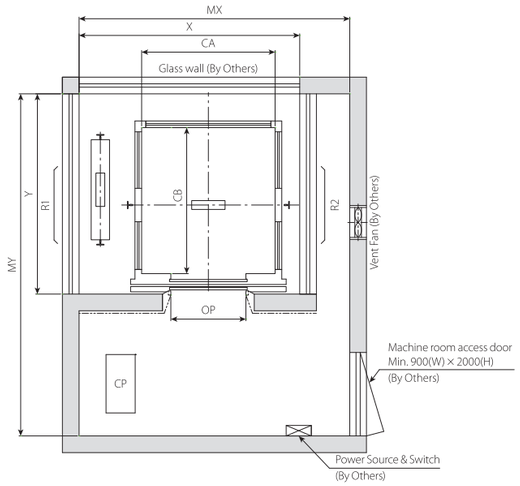
(Unit : mm)

Capacity (kg)	Speed (m/sec)	Overhead (OH)Note.2		Pit Depth (PP)	M/C Room Height (MH)
		EN81-1	EN81-20		
750 ~ 1800	1.0	CH+1850	CH+2150	2000	2300
	1.5	CH+2000	CH+2300	2100	2500
	1.75	CH+2050	CH+2350	2200	2500

* CH: (External) Car Height

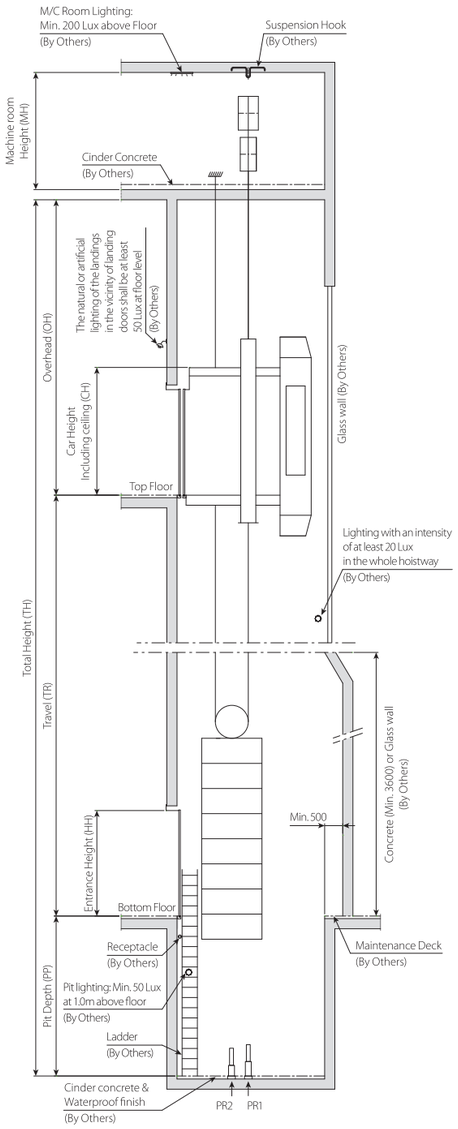
▲ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
   1). If applied air conditioner, the Overhead (OH) should be increased by 400mm.
   2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
   - EN81-1 : OH+400mm
   - EN81-20 : OH+200mm
3. M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
4. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
5. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

PLAN OF HOISTWAY



NUDE TYPE

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
	Persons	kg			OP	CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2
NUDE	7	550	1.0	1S-CO	800	1100 × 1300	2100 × 1800	2700 × 3300	5450	3050	7800	6700
	8	600(630)			800	1100 × 1400	2100 × 1900	2700 × 3400	5650	3150	8200	7000
	9	700			800	1250 × 1350	2250 × 1850	2850 × 3350	6000	3400	8750	7350
	10	750(800)			800	1300 × 1400	2300 × 1900	2900 × 3400	6200	3500	9300	7800
	12	900	1.5		900	1600 × 1350	2600 × 1850	3200 × 3350	6950	3800	10350	8550
	13	1000			900	1600 × 1400	2600 × 1900	3200 × 3400	7200	4000	11050	9050
	15	1150	1.75		1000	1800 × 1400	2800 × 1900	3400 × 3400	9100	5450	13650	11350
	18	1350			1000	1800 × 1600	2900 × 2100	3500 × 3600	9150	6750	15300	12600
	21	1600			1100	2000 × 1700	3100 × 2200	3700 × 3700	10000	7200	16800	13600
	24	1800			1100	2000 × 1800	3100 × 2300	3700 × 3800	10500	7300	17200	14800

▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, please contact us.
3. If apply through(180 degree) type, please consult with us.
4. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
5. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

OVERHEAD & PIT DEPTH

(Unit : mm)

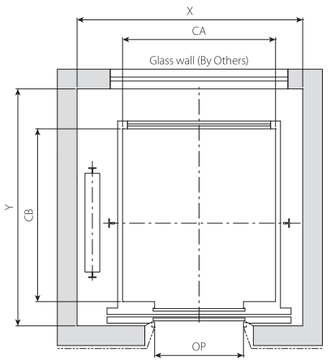
Capacity (kg)	Speed (m/sec)	Overhead (OH)[Note.2]		Pit Depth (PP)	M/C Room Height (MH)
		EN81-1	EN81-20		
550 ~ 1800	1.0	CH+1850	CH+2150	1450	2300
	1.5	CH+2000	CH+2300	1600	2500
	1.75	CH+2050	CH+2350	1900	2500

* CH: (External) Car Height

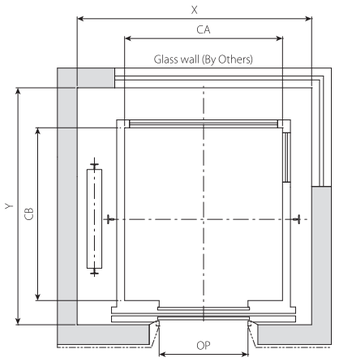
▲ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
   1) If applied air conditioner, the Overhead (OH) should be increased by 400mm.
   2) In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
      - EN81-1 : OH+400mm
      - EN81-20 : OH+200mm
3. M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
4. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
5. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

NEW YZER | OBSERVATION ELEVATORS
MRL (Machine Room Less) 1 SIDE / 2 SIDES TYPE

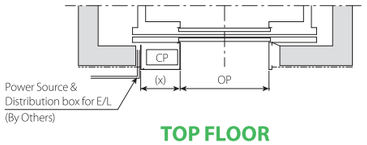
PLAN OF HOISTWAY



1 SIDE TYPE

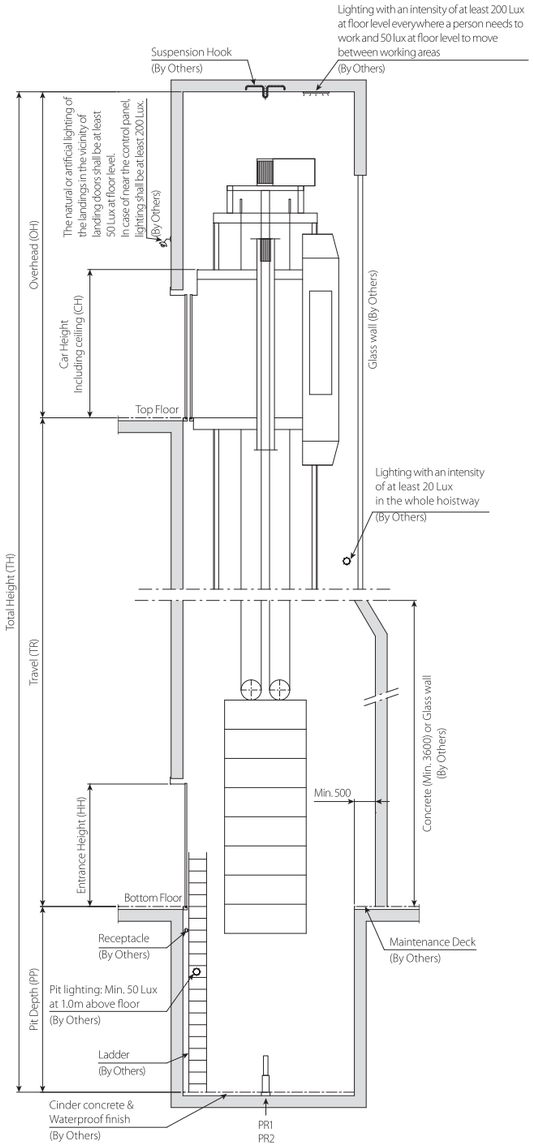


2 SIDES TYPE



TOP FLOOR

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall[Note.3]	Pit Reaction (kg)	
							CP on Hall	CP in Hoistway			
	Persons	kg			OP	CA × CB	X × Y	X × Y	CP	PR1	PR2
1 SIDE (REAR)	7	550	1.0[Note.4]	1S-CO	800	1100 × 1300	1800 × 1800	1800 × 1800	430	7500	6400
	8	600(630)			800	1100 × 1400	1800 × 1900	1800 × 1900	430	7800	6600
	9	700			800	1200 × 1400	1850 × 1900	1900 × 1900		8400	7000
	10	750(800)	1.0		800	1300 × 1400	1950 × 1900	2000 × 1900	1.0m/sec : 430	8700	7200
	12	900	1.5		900	1500 × 1400	2150 × 1900	2200 × 1900	1.5&1.75m/sec : 505	9750	7950
	13	1000			900	1600 × 1400	2200 × 1900	2300 × 1900		10300	8350
	15	1150	1.75		1000	1800 × 1400	2550 × 1900	2600 × 1900	505	13000	10700
	18	1350			1000	1800 × 1600	2550 × 2100	2700 × 2100	1.0m/sec : 505	14300	11600
	21	1600			1100	2000 × 1700	2750 × 2200	2900 × 2200	1.5&1.75m/sec : 605	15700	12500

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall[Note.3]	Pit Reaction (kg)	
							CP on Hall	CP in Hoistway			
	Persons	kg			OP	CA × CB	X × Y	X × Y	CP	PR1	PR2
Note.4 2 SIDES (REAR & 1 SIDE)	7	550	1.0[Note.5]	1S-CO	800	1100 × 1300	1900 × 1800	1900 × 1850	430	7700	6600
	8	600(630)			800	1100 × 1400	1900 × 1900	1900 × 1900	430	8000	6800
	9	700			800	1200 × 1400	1950 × 1900	2000 × 1900		8600	7200
	10	750(800)	1.0		800	1300 × 1400	2050 × 1900	2100 × 1900	1.0m/sec : 430	8900	7400
	12	900	1.5		900	1500 × 1400	2250 × 1900	2300 × 1900	1.5&1.75m/sec : 505	9950	8150
	13	1000			900	1600 × 1400	2350 × 1900	2400 × 1900		10550	8550
	15	1150	1.75		1000	1800 × 1400	2600 × 1900	2650 × 1900	505	13200	10900
	18	1350			1000	1800 × 1600	2600 × 2100	2800 × 2100	1.0m/sec : 505	14450	11800
	21	1600			1100	2000 × 1700	2800 × 2200	3000 × 2200	1.5&1.75m/sec : 605	15900	12700

▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, Hoistway Width(X) needed to add 100mm.
3. The control panel box size(CP) may varied depending on the type of control type as PWM (Power Regeneration function), please refer to layout drawing for exact size. In case of control panel box size 605mm in Hall side, Min. wall+finished thickness 405mm is needed.
4. It has limitted to applicable a view type. The SQ-119Z type only can be used which doesn't be applied exterior panel included lighting.
5. If capacity 550kg and speed 1.5 or 1.75m/sec, please consult with us.
6. If control panel is located in the hoistway, remote control box should be installed at hall side of top floor and box hole should be needed. Please refer to layout drawing for exact box hole size & location.
7. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height

OVERHEAD & PIT DEPTH

(Unit : mm)

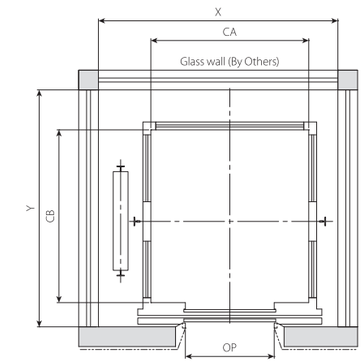
Capacity (kg)	Speed (m/sec)	Overhead (OH)[Note.2]		Pit Depth (PP)
		EN81-1	EN81-20	
550 ~ 1000	1.0	CH+1700	CH+2100	1750
	1.5	CH+1900	CH+2250	1800
	1.75	CH+2000	CH+2300	2000
1150	1.0	CH+1700	CH+2100	1800
	1.5	CH+1900	CH+2250	1900
	1.75	CH+2000	CH+2300	2000
1350 ~ 1600	1.0	CH+2100	CH+2400	1800
	1.5	CH+2300	CH+2800	1900
	1.75	CH+2400	CH+2800	2000

* CH: (External) Car Height

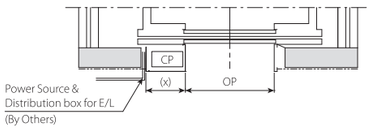
◂ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
   1). If applied air conditioner, the Overhead (OH) should be increased by 400mm.
   2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
   - EN81-1 : OH+400mm
   - EN81-20 : OH+200mm
3. If neccesary to reduce the overhead & Pit, shall be proposed with semi-observation type. It means that without exterior panel and lighting.
4. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

NEW YZER | OBSERVATION ELEVATORS
MRL (Machine Room Less) NUDE TYPE

PLAN OF HOISTWAY

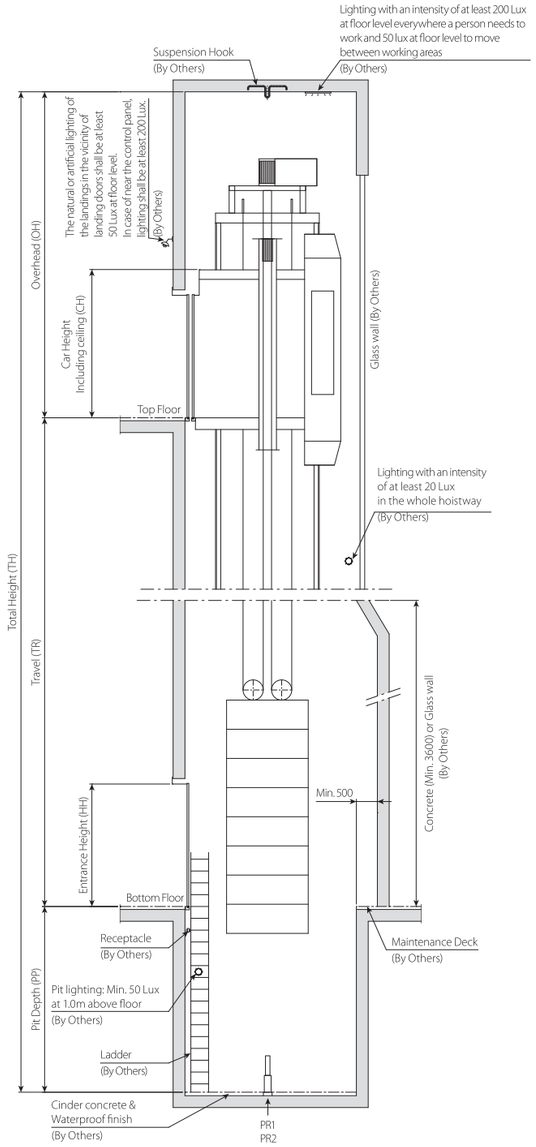


NUDE TYPE



TOP FLOOR

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall[Note.3]	Pit Reaction (kg)	
							CP on Hall	CP in Hoistway			
	Persons	kg			OP	CA × CB	X × Y	X × Y	CP	PR1	PR2
NUDE	7	550	1.0[Note.4]	1S-CO	800	1100 × 1300	1900 × 1800	1900 × 1850	430	8150	7050
	8	600(630)	1.0		800	1100 × 1400	1900 × 1900	1900 × 1900	430	8500	7300
	9	700			800	1200 × 1400	1950 × 1900	2000 × 1900	1.0m/sec : 430 1.5&1.75m/sec : 505	9050	7650
	10	750(800)			800	1300 × 1400	2050 × 1900	2100 × 1900		9450	7950
	12	900	1.5		900	1500 × 1400	2250 × 1900	2300 × 1900		10500	8700
	13	1000	1.75		900	1600 × 1400	2350 × 1900	2400 × 1900		11150	9150
	15	1150			1000	1800 × 1400	2600 × 1900	2650 × 1900	505	13750	11450
	18	1350			1000	1800 × 1600	2600 × 2100	2800 × 2100	1.0m/sec : 505 1.5&1.75m/sec : 605	15650	12950
	21	1600	1.0[Note.5]		1100	2000 × 1700	2800 × 2200	3000 × 2200		16850	13650

▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, Hoistway Width(X) needed to add 100mm.
3. The control panel box size(CP) may varied depending on the type of control type as PWM (Power Regeneration function), please refer to layout drawing for exact size. In case of control panel box size 605mm in Hall side, Min. wall+finished thickness 405mm is needed.
4. If capacity 550kg and speed 1.5 or 1.75m/sec, please consult with us.
5. If capacity 1600kg and speed 1.5 or 1.75m/sec, please consult with us.
6. If control panel is located in the hoistway, remote control box should be installed at hall side of top floor and box hole should be needed. Please refer to layout drawing for exact box hole size & location.
7. If apply through(180 degree) type, please consult with us.
8. The Hoistway dimensions width & depth are based on clear dimension ±20mm horizontal tolerances over the total hoistway height.

OVERHEAD & PIT DEPTH

(Unit : mm)

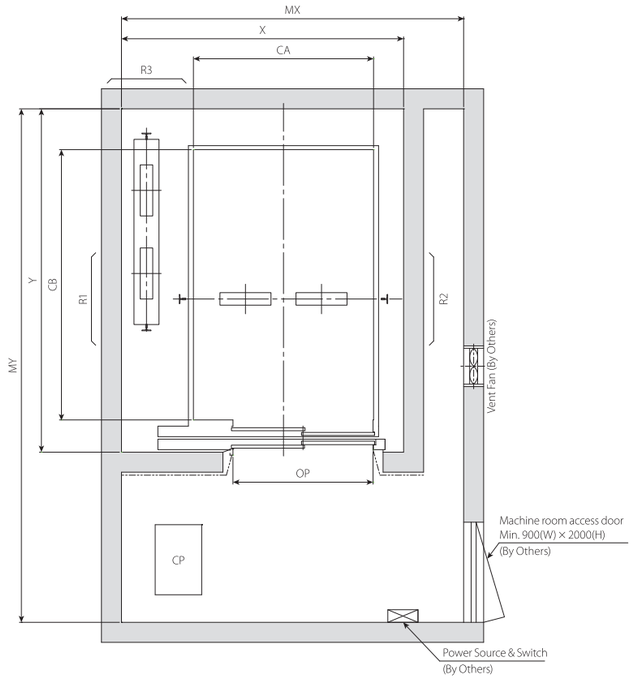
Capacity (kg)	Speed (m/sec)	Overhead (OH)[Note.2]		Pit Depth (PP)
		EN81-1	EN81-20	
550 ~ 1000	1.0	CH+1700	CH+2000	1500
	1.5	CH+1900	CH+2100	1800
	1.75	CH+2000	CH+2200	2000
1150	1.0	CH+1700	CH+2000	1600
	1.5	CH+1900	CH+2100	1800
	1.75	CH+2000	CH+2200	2000
1350	1.0	CH+2100	CH+2650	1600
	1.5	CH+2300	CH+2800	1800
	1.75	CH+2400	CH+2800	2100
1600	1.0	CH+2100	CH+2650	1600

* CH: (External) Car Height

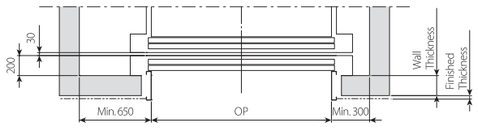
◀ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
   1). If applied air conditioner, the Overhead (OH) should be increased by 400mm.
   2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
   - EN81-1 : OH+400mm
   - EN81-20 : OH+200mm
3. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

FREIGHT ELEVATOR | GENERAL TYPE
2S, 2U, 3U

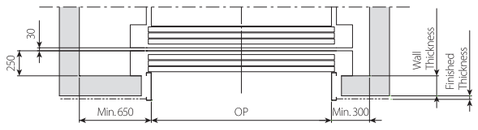
PLAN OF HOISTWAY



2S-SO

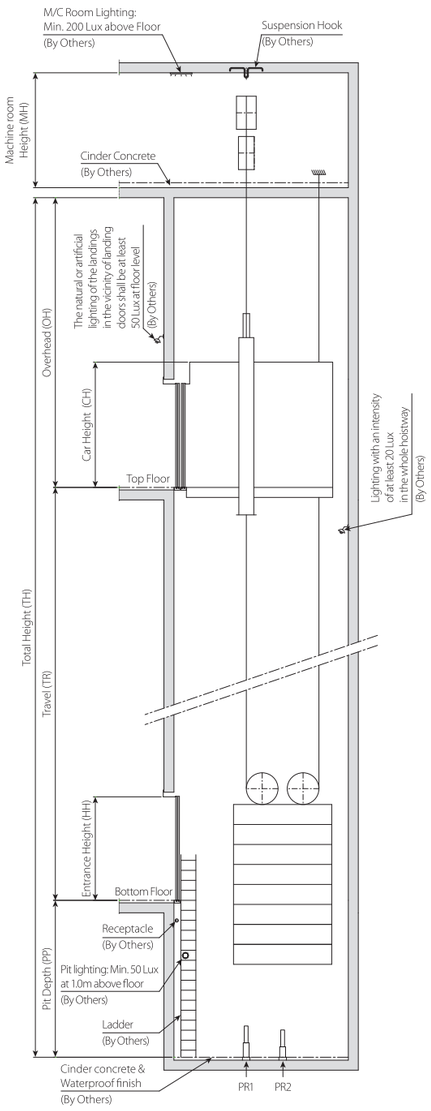


2-UP



3-UP

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

(Unit : mm)

Model	Speed (m/sec)	Entrance			Car Insize (mm)	Hoistway		M/C Room	M/C Room Reaction (kg)		Buffer Reaction (kg)	
		Door Opening Type	Width × Height (OP × EH)	Entrance Type	CA × CB	X × Y	Overhead (OH)	MX × MY	R1	R2	PR1	PR2
F0750-2S	0.5 0.75 1.0	2S	1100 × 2100	Standard	1700 × 1650	2500 × 2150	4800	2800 × 3200	6200	4100	5000	4300
				Double Entrance		2500 × 2320						
F1000-2S	0.5 0.75 1.0	2S	1400 × 2100	Standard	1850 × 1850	2750 × 2400	4800	3200 × 3500	8500	5700	7100	6100
				Double Entrance		2750 × 2600						
F1500-2S	0.5 0.75 1.0	2S	1700 × 2100	Standard	2100 × 2500	3000 × 3050	4800	3600 × 4000	10800	7100	9000	7500
				Double Entrance		3000 × 3250						
F2000-2S	0.5 0.75 1.0	2S	1700 × 2100	Standard	2300 × 2700	3300 × 3250	4800	3800 × 4200	13300	8800	11400	9400
				Double Entrance		3300 × 3450						
F2000-2U	0.5 0.75 1.0	2U	2300 × 2100	Standard		3300 × 3250	4600	3800 × 4200	13300	8800	11400	9400
				Double Entrance		3300 × 3490						
F2500-2S	0.5 0.75 (1.0)	2S	1800 × 2100	Standard	2500 × 3000	3500 × 3600	4800	4000 × 4400	15100	10000	13200	10700
				Double Entrance		3500 × 3750						
F2500-2U	0.5 0.75 (1.0)	2U	2500 × 2100	Standard		3500 × 3600	4600	4000 × 4400	15100	10000	13200	10700
				Double Entrance		3500 × 3800						
F3000-2U	0.5 0.75	2U	2700 × 2300	Standard	2700 × 3300	3700 × 3900	4800	4200 × 4800	15200	10100	13500	10500
				Double Entrance		3700 × 4100						
F3500-2U	0.5 0.75	2U	2800 × 2500	Standard	2800 × 3800	4050 × 4400	5000	4300 × 5200	21700	14500	19000	15500
				Double Entrance		4050 × 4600						
F4000-3U	0.4 0.5	3U	3000 × 2800	Standard	3000 × 4500	4250 × 5250	5300	4500 × 5900	32500	21700	28700	23700
				Double Entrance		4250 × 5520						
F5000-3U	0.4 0.5	3U	3200 × 3000	Standard	3200 × 5000	4450 × 5750	5500	4700 × 6400	36000	23000	31700	26700
				Double Entrance		4450 × 6020						

▲ **Notes:** 1. Please consult Hyundai when the loading capacity is over 5000kg or the car is non-standard size.
2. The loading capacity should be over 250kg/m² minimally.
3. The actual reaction may slightly differ from above dimensions in line with machine beam position.

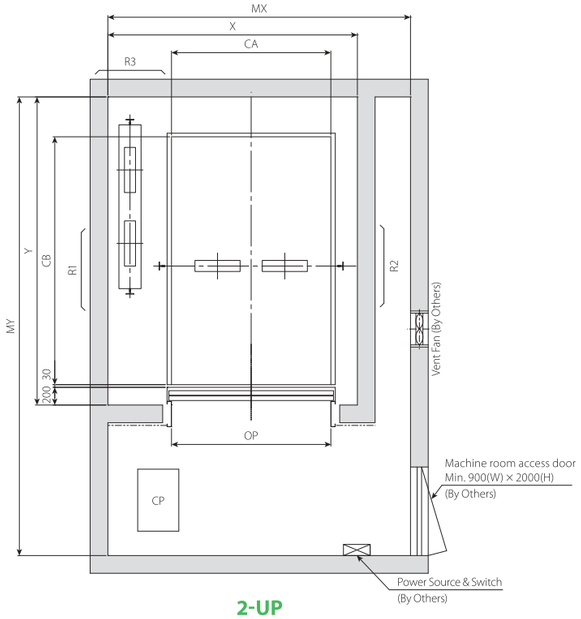
PIT DEPTH & M/C ROOM HEIGHT

(Unit : mm)

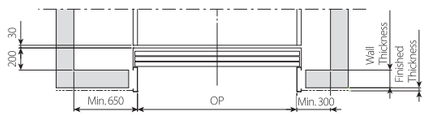
Speed (m/sec)	Pit Depth (PP)	CAPA (kg)	M/C Room Height (MH)
0.5	1600	≤5000	2600
0.75	1600	≤2500	2600
	1650	≤3000	
1.0	1750	≤5000	

AUTOMOBILE ELEVATOR | GENERAL TYPE 2U, 3U

PLAN OF HOISTWAY

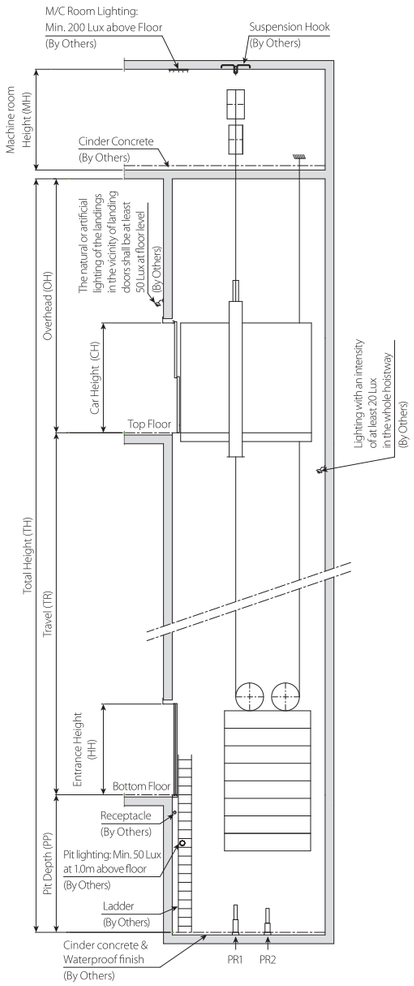


2-UP



3-UP

SECTION OF HOISTWAY



OVERHEAD & PIT DEPTH

(Unit : mm)

Speed (m/sec)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)
0.5 / 0.75	4400	1500	2400

▲ **Note:** The above are minimum size.

STANDARD DIMENSIONS & REACTIONS

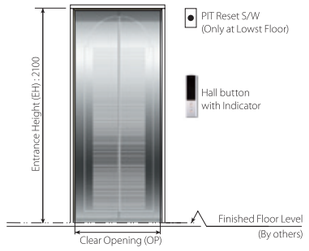
(Unit : mm)

Type	Model	Speed (m/sec)	Clear Opening	Car Insize (mm)	Hoistway	M/C Room	Hitch Beam Reaction (kg)	
			OP	CA × CB	X × Y	MX × MY	R1	R2
Standard Type	A2000-2U	0.5	2350	2350 × 5300	3300 × 6000	3300 × 6000	17500	12000
	A2500-2U		2500	2500 × 6300	3450 × 7000	3450 × 7000	22500	12500
	A2000-3U		2350	2350 × 5300	3300 × 6050	3300 × 6050	17500	12000
	A2500-3U		2500	2500 × 6300	3450 × 7050	3450 × 7050	22500	12500
Double Entrance Type	A2000-2U	0.75	2350	2350 × 5300	3300 × 6100	3300 × 6100	17500	12000
	A2500-2U		2500	2500 × 6300	3450 × 7100	3450 × 7100	22500	12500
	A2000-3U		2350	2350 × 5300	3450 × 6350	3300 × 6350	17500	12000
	A2500-3U		2500	2500 × 6300	3450 × 7350	3450 × 7350	22500	12500

▲ **Note:** The car external size can be varied in line with entrance type.

ENTRANCE LAYOUT | GENERAL TYPE JP050, JP100, JP200

ENTRANCE DESIGN

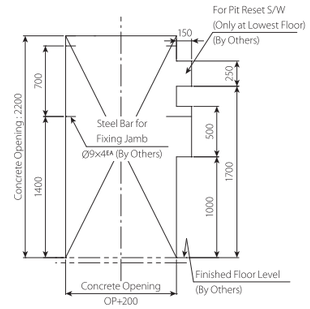


JP050 TYPE (STANDARD)

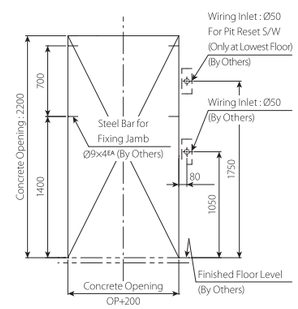
JP100 TYPE (OPTIONAL)

JP200 TYPE (OPTIONAL)

STRUCTURAL OPENING OF ENTRANCE



BOX TYPE



BOXLESS TYPE

BOX TYPE

BOXLESS TYPE

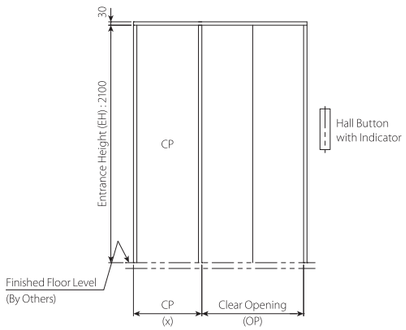
BOX TYPE

BOXLESS TYPE

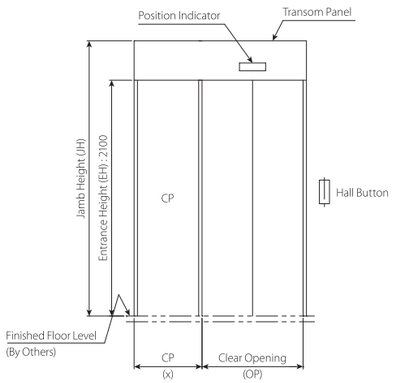
▲ **Note:** Pit Reset S/W is only applied EN81-20.

ENTRANCE LAYOUT | ONLY FOR TOP FLOOR OF THE MACHINE-ROOM-LESS ELEVATORS
CP110, CP210, CP in hoistway

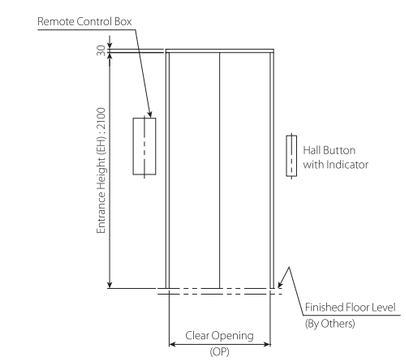
ENTRANCE DESIGN



CP110 TYPE (STANDARD)

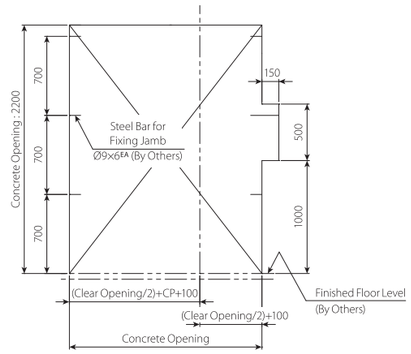


CP210 TYPE (OPTIONAL)

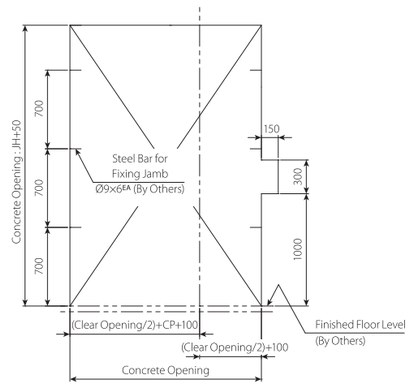


JP050 TYPE WITH INSTALLED CP IN HOISTWAY

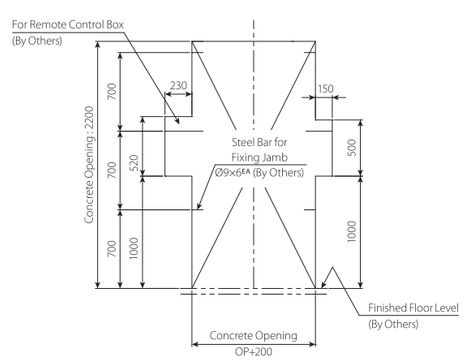
STRUCTURAL OPENING OF ENTRANCE



CP110 TYPE (STANDARD)



CP210 TYPE (OPTIONAL)

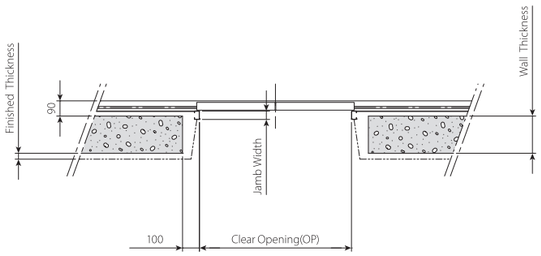


JP050 TYPE WITH INSTALLED CP IN HOISTWAY

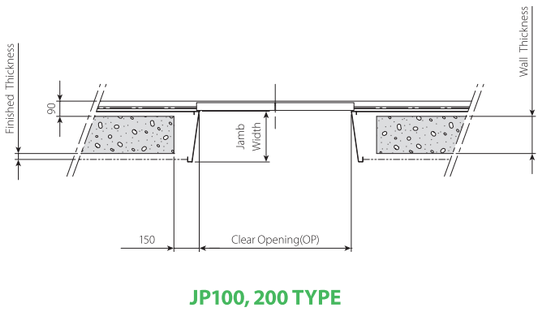
▲ **Notes:** 1. The Control Panel size shall be followed the standard dimension table of Machine-Room-Less Elevators.
2. In case of E050 type with installed CP in hoistway, remote control size is based on EN81-20. If EN81-1 is applied, please consult with us.

ENTRANCE LAYOUT | 2-PANEL CENTER-OPENING DOORS
1S-CO

PLAN OF ENTRANCE

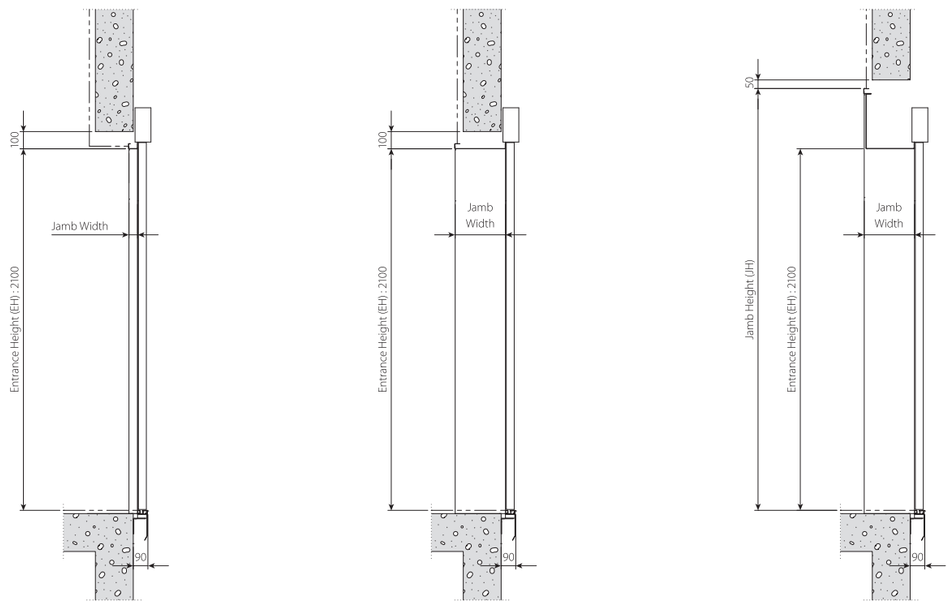


JP050 TYPE



JP100, 200 TYPE

SECTION OF ENTRANCE

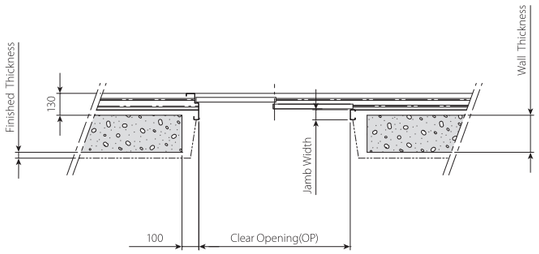


JP050 TYPE **JP100 TYPE** **JP200 TYPE**

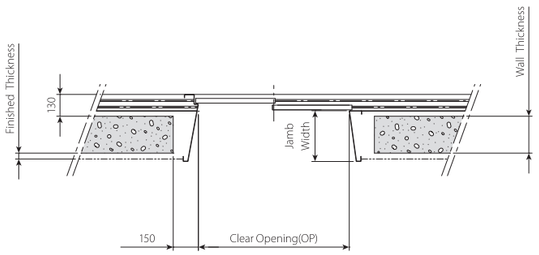
ENTRANCE LAYOUT | 2-PANEL SIDE-OPENING DOORS 2S-SO

PLAN OF ENTRANCE

Building Structure (*By others)



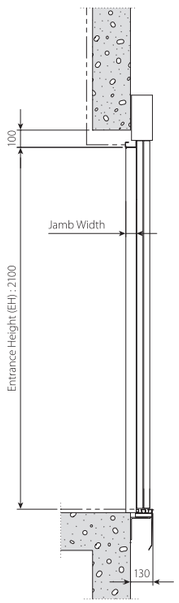
JP050 TYPE



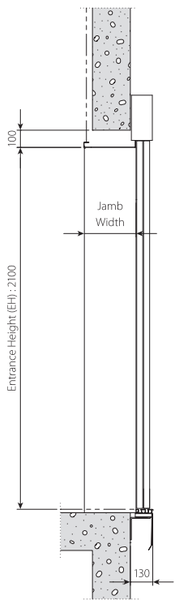
JP100, 200 TYPE

SECTION OF ENTRANCE

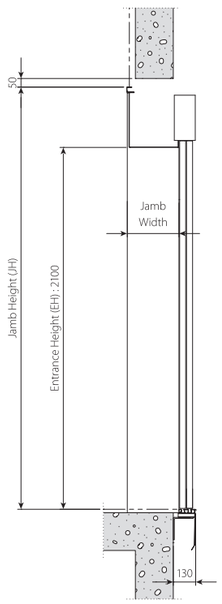
Building Structure (*By others)



JP050 TYPE



JP100 TYPE

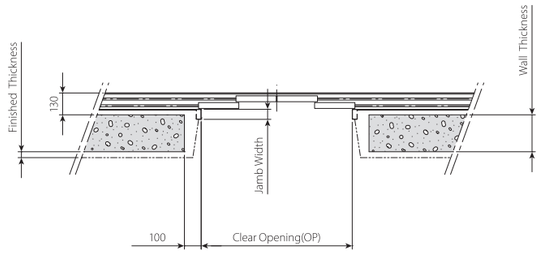


JP200 TYPE

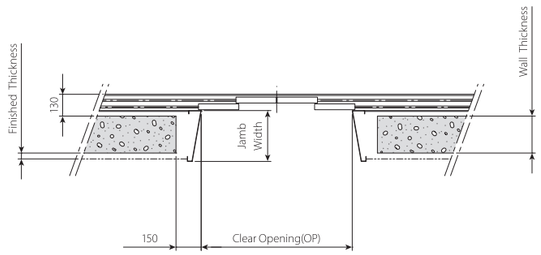
ENTRANCE LAYOUT | 4-PANEL CENTER-OPENING DOORS 2S-CO

PLAN OF ENTRANCE

Building Structure (*By others)



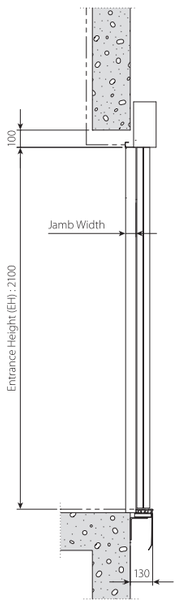
JP050 TYPE



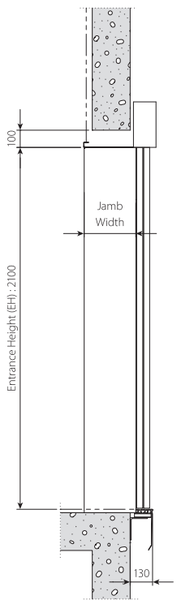
JP100, 200 TYPE

SECTION OF ENTRANCE

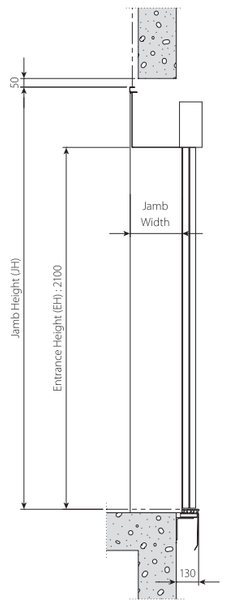
Building Structure (*By others)



JP050 TYPE



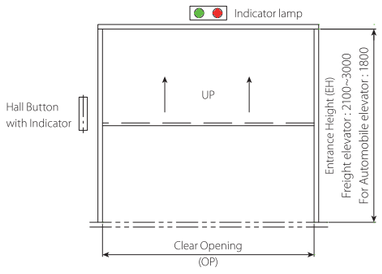
JP100 TYPE



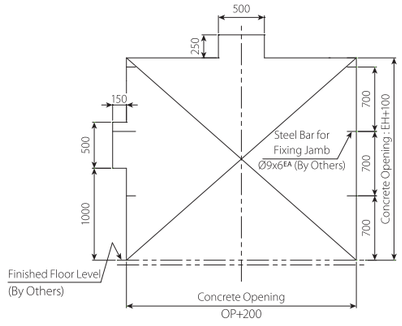
JP200 TYPE

ENTRANCE LAYOUT | 2-PANEL / 3-PANEL UP-SLIDING DOORS
2U / 3U

ENTRANCE DESIGN (2U)

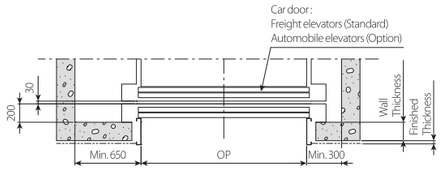


STRUCTURAL OPENING OF ENTRANCE (2U)



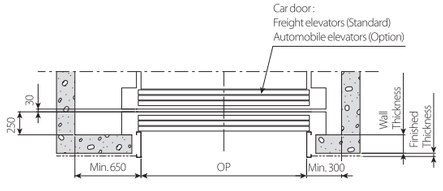
PLAN OF ENTRANCE (2U)

Building Structure (*By others)



2-UP

Minimum floor height : Opening×3/2+700mm
Minimum entrance height : 2100mm for freight elevator
Minimum entrance height : 1800mm for automobile elevator

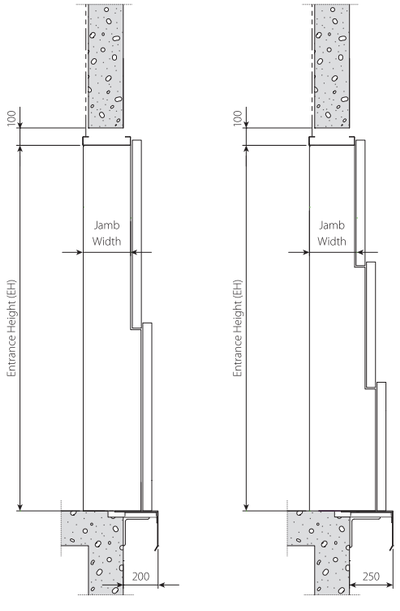


3-UP

Minimum floor height : Opening×4/3+750mm
Minimum entrance height : 2100mm for freight elevator
Minimum entrance height : 1800mm for automobile elevator

SECTION OF ENTRANCE

Building Structure (*By others)



2-UP　　3-UP

▲ **Notes:** 1. The standard location of Hall button with indicator for automobile elevators is on left well. But, it is on the right wall for freight elevators. Please check the location and inform us in advance.
2. In case of automobile elevators, car door is optional. If car door is needed, please inform us in advance.

ELECTRIC POWER REQUIREMENTS | ELEVATOR (By Others)

MR (Machine Room) ELEVATOR (1.0~2.5 m/sec)

[380V]

Load (kg)	Speed (m/sec)	Motor Capacity (kW)	MCCB Capacity of Building (A)		Power Supply Capacity (kVA)		Power Cable Size (mm^2)		Earth Wire Size (mm^2)	
			1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars
450	1.0	2.8	20	20	6	11	4	4	4	4
	1.5	4.2	20	30	7	14	4	6	4	6
	1.8	4.9	20	30	9	18	4	6	4	6
550	1.0	3.4	20	20	7	13	4	4	4	4
	1.5	5.1	20	30	9	18	4	6	4	6
	1.8	5.9	20	40	11	21	4	10	4	10
600	1.0	3.7	20	20	7	13	4	4	4	4
	1.5	5.6	20	30	10	19	4	6	4	6
	1.8	6.5	20	40	12	23	4	10	4	10
700	1.0	4.3	20	30	7	14	4	6	4	6
	1.5	6.5	20	40	12	23	4	10	4	10
	1.8	7.5	20	40	13	26	4	10	4	10
750	1.0	4.6	20	30	8	16	4	6	4	6
	1.5	6.9	20	40	12	24	4	10	4	10
	1.8	8.1	30	50	14	28	6	16	6	16
	2.0	9.2	30	50	16	31	6	16	6	16
900	1.0	5.6	20	30	10	19	4	6	4	6
	1.5	8.3	30	50	14	28	6	16	6	16
	1.8	9.7	30	60	17	34	6	16	6	16
	2.0	11.1	30	60	20	39	6	16	6	16
	2.5	13.8	50	100	25	50	16	35	16	16
1000	1.0	6.2	20	40	11	21	4	10	4	10
	1.5	9.2	30	50	16	31	6	16	6	16
	1.8	10.8	30	60	19	37	6	16	6	16
	2.0	12.3	40	75	21	42	10	25	10	16
	2.5	16.4	50	100	30	59	16	35	16	16
1150	1.0	7.1	20	40	12	24	4	10	4	10
	1.5	10.6	30	60	19	37	6	16	6	16
	1.8	12.4	40	75	21	42	10	25	10	16
	2.0	14.1	40	75	25	49	10	25	10	16
	2.5	18.8	60	125	35	69	16	50	16	25
1350	1.0	8.9	30	50	16	31	6	16	6	16
	1.5	13.3	40	75	24	47	10	25	10	16
	1.8	15.5	50	100	27	54	16	35	16	16
	2.0	17.7	50	100	31	61	16	35	16	16
	2.5	22.1	75	150	41	81	25	70	16	35
1600	1.0	10.5	30	60	19	37	6	16	6	16
	1.5	15.7	50	100	28	55	16	35	16	16
	1.8	18.3	50	100	32	63	16	35	16	16
	2.0	21	60	125	38	75	16	50	16	25
	2.5	26.2	75	150	42	83	25	70	16	35
1800	1.0	11	30	75	20	42	6	25	6	16
	1.5	16.6	50	100	30	60	16	35	16	16
	1.8	19.3	60	125	35	70	16	50	16	25
	2.0	22.1	60	125	40	80	16	50	16	25
	2.5	27.6	75	150	44	88	25	70	16	35
2000	1.0	13.1	40	75	24	47	10	25	10	16
	1.5	19.7	60	125	35	69	16	50	16	25
	1.8	22.9	75	125	40	79	25	50	16	25
	2.0	26.2	75	125	41	81	25	50	16	25
	2.5	31	100	175	49	97	35	95	16	50

▲ **Notes:** 1. The above table is for lengths of electric wire to 50 meters from the machine room to the building transformer.
2. If the cable lengths above 50meters, the following formula should be applied:

$$\text{Power Feeder size } (mm^2) = \frac{\text{Power feeder length(m)}}{50} \times \text{size in the above } (mm^2)$$

3. The above power feeder thickness are based on copper wires use and metalic tubing.
4. It is recommended a larger diameter earth wire be used.
5. Please consult us if you need electric power requirements for 220V or 440V Class.
6. For installing several elevators, apply the following formula
Transformer Capacitiy[kVA] = Number of elevator × Diversity factor

Number of Elevator	1	2	3	4	5
Deversity Factor	1.00	0.91	0.85	0.8	0.76

MR (Machine Room) ELEVATOR (3.0~10.0 m/sec)

[380V]

Load (kg)	Speed (m/sec)	Motor Capacity (kW)	MCCB Capacity of Building (A)		Power Supply Capacity (kVA)		Power Cable Size (mm^2)		Earth Wire Size (mm^2)	
			1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars
900	3.0	16.6	50	100	30	59	16	35	16	16
1000	3.0	18.4	60	125	32	64	16	50	16	25
	3.5	21.5	75	125	38	76	25	50	16	25
	4.0	24.6	100	150	44	87	35	70	16	35
1150	3.0	21.2	75	125	38	76	25	50	16	25
	3.5	24.7	75	150	44	87	25	70	16	35
	4.0	28.2	100	175	50	99	35	95	16	50
	5.0	36	125	225	58	106	50	95	25	50
	6.0	43	125	250	69	126	50	120	25	70
	7.0	50	150	300	80	146	70	150	35	95
	8.0	57	175	350	91	166	95	150	50	95
1350	3.0	24.9	75	150	44	87	25	70	16	35
	3.5	29	100	175	51	102	35	95	16	50
	4.0	34	125	200	58	115	50	95	25	50
	5.0	42	125	250	68	124	50	120	25	70
	6.0	50	150	300	81	147	70	150	35	95
	7.0	58	175	350	93	169	95	150	50	95
	8.0	67	200	400	106	193	95	150	50	95
	9.0	75	225	500	118	215	95	240	50	120
	10.0	83	250	500	131	238	120	240	70	120
1600	3.0	29.5	100	175	52	104	35	95	16	50
	3.5	35	125	200	60	120	50	95	25	50
	4.0	40	125	225	69	138	50	95	25	50
	5.0	50	150	300	79	144	70	150	35	95
	6.0	59	175	350	94	171	95	150	50	95
	7.0	69	200	400	110	200	95	150	50	95
	8.0	79	225	500	125	228	95	240	50	120
	9.0	89	250	500	140	255	120	240	70	120
	10.0	99	300	600	155	282	150	300	95	150
1800	3.0	34	100	200	58	115	35	95	16	50
	3.5	39	125	225	68	135	50	95	25	50
	4.0	45	125	250	77	153	50	120	25	70
	5.0	56	175	350	89	162	95	150	50	95
	6.0	67	200	400	106	193	95	150	50	95
	7.0	78	225	500	123	224	95	240	50	120
	8.0	89	250	500	140	255	120	240	70	120
	9.0	100	300	600	157	286	150	300	95	150
	10.0	111	350	700	174	317	185	400	120	240
2000	3.0	37	100	200	58	106	35	95	16	50
	3.5	43	125	225	68	124	50	95	25	50
	4.0	50	125	250	77	141	50	120	25	70
	5.0	62	175	350	98	178	95	150	50	95
	6.0	74	225	500	117	213	95	240	50	120
	7.0	86	250	500	136	248	120	240	70	120
	8.0	99	300	600	155	282	150	300	95	150
	9.0	111	350	700	174	317	150	400	95	240
	10.0	123	350	700	193	351	150	400	95	240

▲ **Notes:** 1. The above table is for lengths of electric wire to 50 meters from the machine room to the building transformer.
2. If the cable lengths above 50meters, the following formula should be applied:

$$\text{Power Feeder size } (mm^2) = \frac{\text{Power feeder length(m)}}{50} \times \text{size in the above } (mm^2)$$

3. The above power feeder thickness are based on copper wires use and metalic tubing.
4. It is recommended a larger diameter earth wire be used.
5. Please consult us if you need electric power requirements for 220V or 440V Class.
6. For installing several elevators, apply the following formula
Transformer Capacitiy[kVA] = Number of elevator × Diversity factor

Number of Elevator	1	2	3	4	5
Deversity Factor	1.00	0.91	0.85	0.8	0.76

ELECTRIC POWER REQUIREMENTS | ELEVATOR (By Others)

MRL (Machine Room Less) ELEVATOR (1.0~2.5 m/sec)

[380V]

Load (kg)	Speed (m/sec)	Motor Capacity (kW)	MCCB Capacity of Building (A)		Power Supply Capacity (kVA)		Power Cable Size (mm^2)		Earth Wire Size (mm^2)	
			1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars
450	1.0	3	20	20	6	11	4	4	4	4
	1.5	4.5	20	30	8	16	4	6	4	6
	1.75	5.2	20	30	10	19	4	6	4	6
550	1.0	3.6	20	20	7	13	4	4	4	4
	1.5	5.4	20	30	10	19	4	6	4	6
	1.75	6.3	20	40	12	23	4	10	4	10
600	1.0	3.9	20	30	8	15	4	6	4	6
	1.5	5.9	20	40	11	21	4	10	4	10
	1.75	6.9	20	40	13	25	4	10	4	10
700	1.0	4.6	20	30	9	17	4	6	4	6
	1.5	6.9	20	40	13	25	4	10	4	10
	1.75	8.1	30	50	15	29	6	16	6	16
750	1.0	4.9	20	30	9	18	4	6	4	6
	1.5	7.4	20	40	13	26	4	10	4	10
	1.75	8.6	30	50	15	30	6	16	6	16
900	1.0	5.9	20	40	11	21	4	10	4	10
	1.5	8.9	30	50	16	31	6	16	6	16
	1.75	10.3	30	60	19	37	6	16	6	16
	2	11.8	40	75	21	42	10	25	10	16
	2.5	14.8	50	100	28	55	16	35	16	16
1000	1.0	6.6	20	40	12	23	4	10	4	10
	1.5	9.8	30	60	18	36	6	16	6	16
	1.75	11.5	40	75	21	41	10	25	10	16
	2	12.9	40	75	24	47	10	25	10	16
	2.5	16.4	50	100	30	59	16	35	16	16
1150	1.0	7.5	20	40	14	27	4	10	4	10
	1.5	11.3	40	75	21	41	10	25	10	16
	1.75	13.2	40	75	24	47	10	25	10	16
	2	15	50	100	27	54	16	35	16	16
	2.5	18.8	60	125	35	69	16	50	16	25
1350	1.0	8.9	30	50	16	31	6	16	6	16
	1.5	13.3	40	75	24	47	10	25	10	16
	1.75	15.5	50	100	27	54	16	35	16	16
	2	17.7	50	100	31	62	16	35	16	16
	2.5	22.1	75	150	41	81	25	70	16	35
1600	1.0	10.5	30	60	19	37	6	16	6	16
	1.5	15.7	50	100	28	56	16	35	16	16
	1.75	18.3	50	100	32	64	16	35	16	16
	2	21	60	125	38	75	16	50	16	25
	2.5	26.2	75	150	42	83	25	70	16	35
1800	1.0	11.8	40	75	21	42	10	25	10	16
	1.5	17.7	50	100	31	62	16	35	16	16
	1.75	20.6	60	125	37	74	16	50	16	25
	2	23.6	75	150	42	84	25	70	16	35
	2.5	29.5	75	150	48	95	25	70	16	35
2000	1.0	13.1	40	75	24	47	10	25	10	16
	1.5	19.7	60	125	35	70	16	50	16	25
	1.75	22.9	75	125	40	80	25	50	16	25
	2	26.2	75	125	41	81	25	50	16	25
	2.5	33	100	175	52	103	35	95	16	50
2500	1.0	16.4	50	100	29	57	16	35	16	16
	1.5	24.6	60	125	40	79	16	50	16	25
	1.75	28.6	75	150	45	90	25	70	16	35
	2	33	100	175	51	101	35	95	16	50
	2.5	41	100	200	66	131	35	95	16	50

▲ **Notes:** 1. The above table is for lengths of electric wire to 50 meters from the machine room to the building transformer.
2. If the cable lengths above 50meters, the following formula should be applied:

$$\text{Power Feeder size } (mm^2) = \frac{\text{Power feeder length(m)}}{50} \times \text{size in the above } (mm^2)$$

3. The above power feeder thickness are based on copper wires use and metalic tubing.
4. It is recommended a larger diameter earth wire be used.
5. Please consult us if you need electric power requirements for 220V or 440V Class.
6. For installing several elevators, apply the following formula
Transformer Capacitiy[kVA] = Number of elevator × Diversity factor

Number of Elevator	1	2	3	4	5
Deversity Factor	1.00	0.91	0.85	0.8	0.76

ELECTRIC POWER REQUIREMENTS | ELEVATOR (By Others)

FREIGHT / AUTOMOBILE ELEVATOR (0.4~1.0 m/sec)

[380V]

Capacity (kg)	Speed (m/sec)	Motor Capacity (kW)	N.F.B Rated Current (A)	Transformer Capacity (kVA)	Power Feeder (mm^2)	Earth Wire Size (mm^2)
			1 Car	1 Car	1 Car	1 Car
1500	0.5	7.5	30	8	6	4
	0.75	11	30	12	6	4
	1.0	15	40	15	10	6
2000	0.5	11	30	10	6	4
	0.75	15	40	15	10	6
	1.0	22	60	21	16	10
2500	0.5	15	40	13	10	6
	0.75	18.5	50	19	16	6
3000	0.5	15	40	15	10	6
	0.75	22	60	23	16	10
3500	0.5	18.5	50	18	16	6
	0.75	30	75	27	25	10
4000	0.4	22	60	17	16	10
	0.5	22	60	21	16	10
5000	0.4	30	75	21	25	10
	0.5	30	75	26	25	10

▲ **Notes:** 1. The above power feeder sizes are based on its maximum length 50m.
In case the feeder length from the transformer to the elevator machine room exceeds 50m, apply the following formular.
2. The feeder sizes are based on using copper conductors and metallic conduit.

$$\text{Power Feeder size } (mm^2) = \frac{\text{Power feeder length(m)}}{50} \times \text{size in the above } (mm^2)$$

3. For power requirements of 2 cars or more, consult Hyundai.
4. The heat emission and ventilation of machine room on above dimensions may vary slightly with the machine room size and peripheral environment.
5. Consult Hyundai if you need electric power requirements for 220V.

WORK TO BE DONE BY OTHER CONSTRUCTIONS

Following construction and electric works are not included in our supply scope for elevators, escalators, and moving walks. These should be carried out by the building construction companies. (Note : For elevators without machine room, please contact us.)

ELEVATOR

CONSTRUCTION WORK

Hoistway

1. Forming holes on the wall surrounding the entrance on each floor. (entrance, hall button, hall lantern, etc.), and finishing the walls and floors after installation of the elevator. (including mortar filling)
2. Installation of steel frame to fix the left/right jambs on the entrance.
3. Installation of ladder for pit inspection where there the pit depth not exceeding 2.5m.
4. Installation of Pit access door where the pit depth exceeds 2.5m.
   - Access door size : Min. 600mm(W) × Min. 2000mm(H)
5. Waterproofing work inside the pit and finishing work after installation of the buffer.
6. Installation of hoistway partitions or separating beams (If necessary)
7. Removing various tie pins and molds.
8. Others. (items indicated on the layout plan)
9. Construction of concrete structures (thickness of 150mm or above) or steel structures to fix the rail brackets.
10. Supplying storage for construction tools and materials free of charge.
11. Destruction and finishing of concrete structures that are not constructed as indicated on the layout plan.
12. Installation of lifting beam or hook that is designed to lift the machine to the top of hoistway.

Machine Room

1. Forming holes for machines and ropes on the floor, finishing on cinder concrete, and installation of those indicated on the layout plan.
2. Installation of lifting beam or hook on the top of machine room.
3. Installation of reinforcement beam on the machine room floor. (If necessary)
4. Supplying water used for construction free of charge.
5. Supplying storage for construction tools and materials free of charge.

ELECTRIC WORK

Hoistway

1. The natural or artificial lighting of the landings in the vicinity of landing doors shall be at least 50 lux at floor level.
2. Lighting with an intensity of at least 50 lux at 1.0m above the pit floor everywhere a person can stand and 1.0m above the car roof within its vertical projection.
3. Lighting with an intensity of at least 20 lux in the whole hoistway.
4. Piping and wiring work from monitoring panel to hoistway when monitoring panel is installed. (Wire specifications: UTP 0.5mm × 4P per each elevator)
5. Piping and wiring work when CCTV is installed.
6. Others. (items indicated on the layout plan)
7. Wiring work on power system within the hoistway for supplying power and lighting. (Refer to the layout plan for electrical power requirements.)
8. Installation of distribution box for elevator (including N.F.B) on electrical room. (Install near the hoistway. Refer to the layout plan for electrical power requirements.)
9. Construction for power supply to maintain the voltage regulation of distribution source within ± 5% to and lighting within ± 2%.
10. Piping and wiring work on lighting outlet for pit inspection.
11. Supplying power needed during installation and commissioning free of charge.
12. Piping and wiring work on emergency communication device between elevator control panel and central control room. (Wire specifications: UTP 0.5 mm × 3P per each elevator)
    1) Communication device that connects the inside and outside of the elevator should be installed redundantly on the area where the managing personnel is stationed (security office, electric room, and central control room). In case of the facility where the managing personnel is stationed in only one place, only one communication device may be installed.
    2) Also, a communication device that automatically requests for help to maintenance company or self-inspector should be installed in order to deal with the situation where the internal communication is not established.
    3) In order to implement the above functions, the provided communication devices shall be replaced with devices that match the local communication lines and them provided by local.

Machine Room (MR)

1. Piping and wiring work outside the hoistway for the installation of emergency call equipment (intercom) in a place other than the machine room.
2. Construction of lighting and lighting outlets for inspection in machine room.
3. Supplying power needed during installation and commissioning free of charge.
4. Installation of lighting for power system and cage, and construction of machine room incoming panel and its wiring for emergency power.
5. Lighting with an intensity of at least 200 lux at floor level everywhere a person needs to work and 50 lux at floor level to move between working areas.

Machine Room Less (MRL)

1. Power supply(Including piping and wiring work) to the control panel and per-manently installed lighting with an intensity of at least 200 Lux from the bottom of the control panel.

MATTERS TO NOTE

1. Exit for machine room should be made of fire-proof material and should be installed in a structure that does not lead to other places.
2. Do not install ducts or pipes for other purposes (electricity, water, gas, hydrant) on the hoistway and walls inside the machine room.
3. Lower part of pit should not be used as residence, pathway, or for other purposes.
4. Power and voltage regulation should be within +5 % to -5 %.
5. Temperature in machine room should be 40℃ and humidity should be 90 % or below. Be sure to install the entilation window, ventilator, or other air-conditioning facilities to prevent generation of dust or poisonous gas inside the machine room.

※ When you wish to build the hoistway in steel frame, please contact us. (Steel frame construction for hoistway is excluded from our supply scope.)

※ Construction errors : Inner hoistway size that is indicated on the blueprint of this catalog is the minimum size that is designed to fit the size of the elevator interior. So, the construction error limit for hoistway width and overall height is ±30 mm.

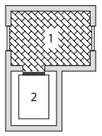
※ Calculation equation for heat generation in machine room (based on one elevator)
Q : (kcal/H) = W × V × F × N V : Rated speed (m/min)
W : Loading capacity (kg) F : Coefficient based on control type (1/42 : VVVF)
N : Number of elevators

REQUIREMENTS FOR FIREFIGHTERS LIFTS (EN81-72)

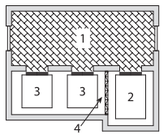
BUILDER REQUIREMENTS

1. It is the responsibility of national/local regulations to determine the required levels of fire resistance, and other building requirements. The related walls and doors, fire shutters, machine rooms, etc. shall apply to the level of fire resistance.
2. A suitable fire resistant structure of the building, safe areas, fire detection and extinguisher systems are provided.
3. The firefighters lift is located in a well with a safe area in front of every landing door. In front of every landing door a safe area, a fire shutter or a fire door shall be provided.
4. If there are other lifts in the same well, then the entire common well shall fulfil the fire resistance requirements of firefighters lift wells. Where there is no intermediate fire wall to separate the firefighters Lift from other lifts in a common lift well, then all lifts and their electrical equipment have the same fire protection as the firefighters Lift.
5. Any compartment containing the lift machine and its associated equipment shall be provided with at least the same degree of fire protection as is given to the lift well.
6. The locations of the lift main switch, emergency and testing panel or machine room should be included in a label at the fire service access level.
7. The firefighters lift well and machinery spaces shall not contain sprinklers.

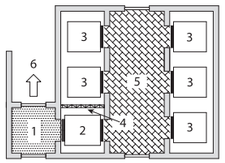
1. Safe area	3. Normal lift	5. Safe area
2. Firefighters lift	4. Intermediate fire wall	6. To escape route



Case 1
Basic layout of a single firefighters lift and safe area



Case 2
Basic layout of a firefighters lift in a multiple well and safe area



Case 3
Basic layout of a dual entry car in a multiple well and safe areas

8. Providing arrangements to minimize water ingress
   (1) Measures to address the ingress of water into the lift well (Strongly recommended)
   - Provision of drainage channels in front of every lift landing entrance and drainpipes
   - Raising or ramping of the floor in front of every lift landing entrance
   (2) Measures to address the accumulation of water in the lift pit (If 8.(1) is not provided)
   - Drains which prevent the water level in the lift pit from reaching defined level
   - The use of permanently installed drainage pumps, outside the lift well with a secondary power supply
9. Electrical equipment outside of the well shall be protected from malfunction caused by water.
10. The lift electrical power supply cable(s) from building to distribution box shall be fire protected.
11. Reliability of power supplies and circuitry is essential to the operation of the fire-fighters lift.
12. Independence between primary and secondary supplies shall be provided. Also, there shall be separated from other power supplies.
13. A secondary power supply with automatic switching gear should be provided, and located in a fire-protected area and it should have sufficient capacity to operate the firefighters lift for a suitable above 2 hours. Also, lighting of lift well & machine room should be provided by secondary power supply. When the power supply is re-established the lift shall become available for service within 1 min.
14. When the distance between consecutive landing door sills exceeds 7 m, intermediate emergency doors shall be provided.
15. The firefighter lift should be serve all floors as defined by building design.

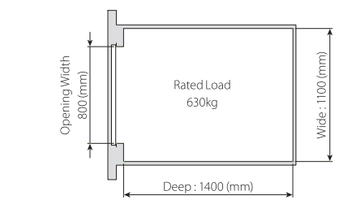
※ Safe area((refuge area, fire protected lobby)
- Area, provided with a safe route to the lift and safe exit

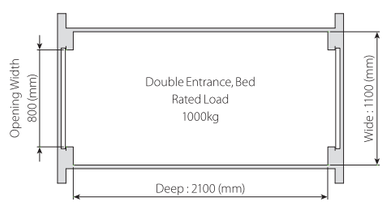
※ Fire service access level
- Entry level in the building intended to be used by firefighters to gain access to the firefighters lift.

※ Water level in the pit : It will not rise above the level of the fully compressed car buffer.

ELEVATOR MANUFACTURER REQUIREMENTS

1. The minimum size of the firefighters lift:
   1100mm(W) × 1400mm(D) with a rated load of 630kg & 800mm of entrance width.
2. Where the intended use of the firefighters lift is to include evacuation, to accommodate such items as a stretcher or bed, then the minimum size is as below.
   1100mm(W) × 2100mm(D) with a rated load of 1000kg & 800mm of entrance width.
3. The firefighters lift shall be able to reach the highest landing to be served in firefighters operations from the fire service access level within 60 s, from after the closing of the lift doors. (If higher travel than 200 m, this time to reach the highest landing may be increased by 1 s for each 3 m additional travel height.)
4. An emergency trap door shall be fitted to the car roof
   Minimum clear opening size : 0.5m × 0.7m (In case of 630kg : 0.4m × 0.5m)
5. Additional ladders(Inside & outside of car) are provided to facilitate escape from the lift car.
6. Firefighters lift switch with pictogram shall be located at the fire service access level. The switch shall be located within 2 m horizontally from the firefighters lift, at a height between 1.4 m and 2 m above floor level.
7. Fire service access level shall have a position indicator.





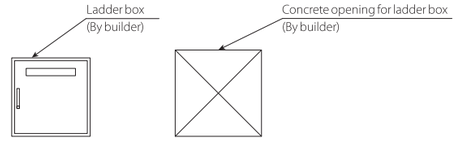
PROVISION OF LADDER MATERIAL AND INSTALLATION (BY BUILDER)

1) Under A) or B) with ladder box and Considering C)
2) Considering D)

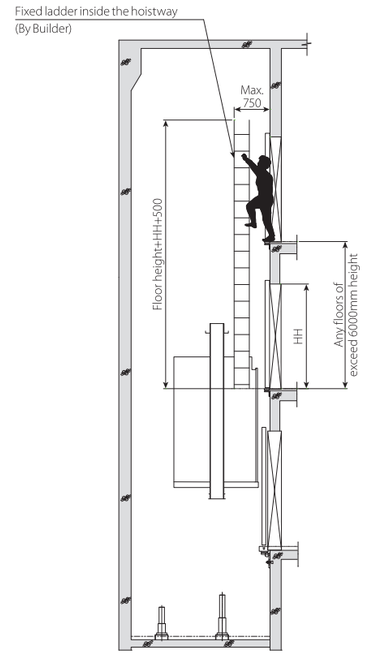
[Rescue from outside the car]

A) Portable Ladders ;

B) Safety rope systems, where safe fixing points for the rescue means are provided in the vicinity of each landing ;
NOTE : However, all such means come under the responsibility of the Local Authorities and not the lift manufacturer.
[Example of installation for ladder box (By builder)]
(1) Arranged the ladder box on main entry level
(ex, Around mailbox or Fire extinguisher box)
(2) Firefighters should be able to recognize the location of the ladder box easily at the lift landing entrance.
(3) Providing one ladder box per one elevator
(4) A) or B) must be in each ladder box



C) Fixed ladder inside the hoistway
(In case of any floors of exceed 6000mm height)
(Length(mm) : Refer to the picture 1)



Picture 1. Rescue from outside the car

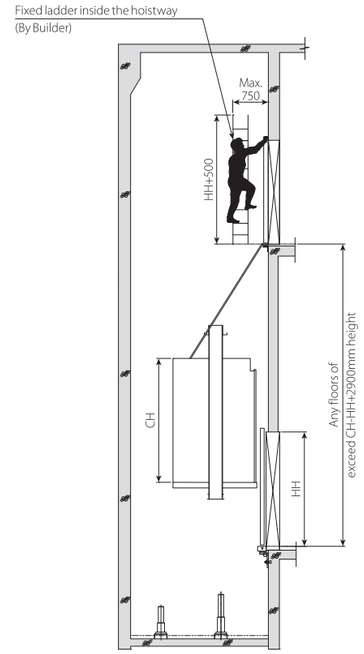
[Self-rescue from inside the car]

To enable the firefighter to release the landing door lock device of the next floor,

D) Fixed ladder inside the hoistway
(In case of any floors of exceed CH-HH+2900mm height)
(Length(mm) : Refer to the picture 2)

If the floor height is not exceed CH-HH+2900mm, it is available to use the ladder attached outside of car.

※ CH : Car height including ceiling
※ HH : Door height
※ Fixed ladder : There shall be at least one hand hold within easy reach at the top end of the ladder and located within 0.75 m from the sill of the landing entrance above.



Picture 2. Self-rescue from inside the car

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