



Moving solutions with safety, reliability and efficiency

Freight Elevators & Automobile Elevators

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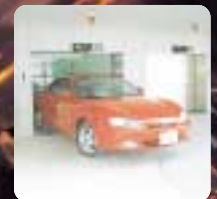
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www.hyundaelevator.co.kr



Single Automatic Operation

The car doesn't respond to the calls of other floors during the operation, enabling independent operation.



▲ Space 9 Building, Seoul, Korea



▲ National Museum of Korea, Seoul, Korea



▲ Hyundai Dept. Store, Gyeonggi-do, Korea.

▲ Space 9 Building, Seoul, Korea.

Car Operating Panel



Hall Buttons



1. Press CALL button at the lobby.

- The car door opens right away if the car is at the lobby floor.
- The call will not be registered when "IN USE" lamp on the hall indicator is already turned on.

2. Press car call button on car operating panel for the desired floor after getting on the car.

- After the door is closed, elevator moves up to the desired floor and the door opens automatically.

3. Be sure to press CLOSE button on hall position indicator after getting out.

- If you forget pressing CLOSE button, the car doors will be closed automatically within 30 seconds.

4. Use "D K O (Door Keep Open)" key switch when unloading heavy freight.

- Set "D K O (Door Keep Open)" key switch off after unloading all freight.

Note: The selective collective operating system is available.

Single Automatic Operation

The car doesn't respond to the calls of other floors during the operation, enabling independent operation.



▲ Shangup Building, Seoul, Korea



▲ Bundang Soonae Plaza, Gyeonggi-do, Korea

Car Operating Panel



Hall Buttons



1. Press CALL button at the lobby.

- The call will not be registered when "IN USE" lamp on the hall indicator is already turned on.

2. When door opens completely, drive your automobile slowly into the cage and stop/place it in the center. Press car call button on car operating panel for the desired floor after entry.

- After door is closed, elevator moves up to the desired floor and door opens automatically.

3. Be sure to press CLOSE button on hall position indicator after getting out.

- If you forget pressing CLOSE button, car doors will be closed automatically within 30 seconds.

Freight Elevators



Specifications

Ceiling	Painted steel sheet
Car Wall	Painted steel sheet
Flooring	Checkered steel sheet
Car Doors	Painted steel sheet
Lighting	Semi-indirect lighting

Automobile Elevators



Specifications

Ceiling	Painted steel sheet
Car Wall	Painted steel sheet
Flooring	Checkered steel sheet
Car Doors	-
Lighting	Semi-indirect lighting



Specifications

Entrance	Painted steel sheet
Jamb	Painted steel sheet
Hall Position Indicator	Square micro push button with position indicator(Dot Matrix Type)

Signal Provisions (Automobile Elevators)

1. Indicator lamp for entry (Green)

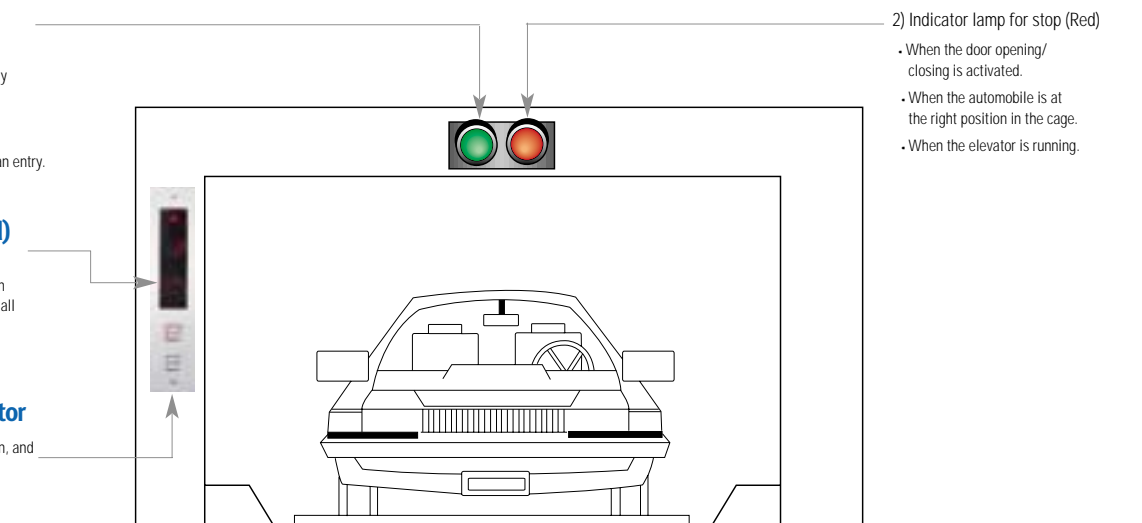
- 1) Indicator lamp for entry (Green)
- When the doors open completely but photo sensor in the cage doesn't detect the automobile, the green lamp is turned on to signal the automobile to make an entry.

2. "IN USE" lamp (Red)

- 2) "IN USE" lamp (Red)
- When the hall is registered: - Informing that the elevator is in use as "IN USE" lamp of the hall indicators is turned on.
- When the elevator is running

3. Hall position indicator

- 3) Hall position indicator
- Hall call button, door close button, and position indicators are available.

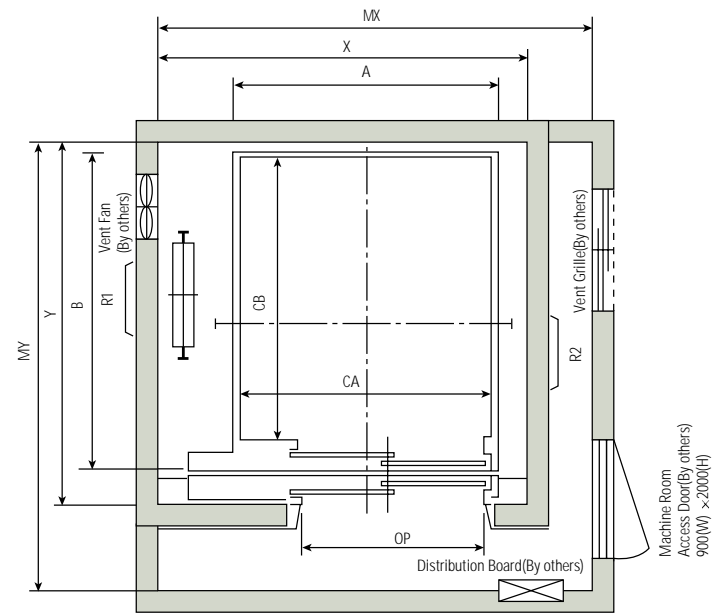


- 2) Indicator lamp for stop (Red)
- When the door opening/closing is activated.
- When the automobile is at the right position in the cage.
- When the elevator is running.

Freight Elevators

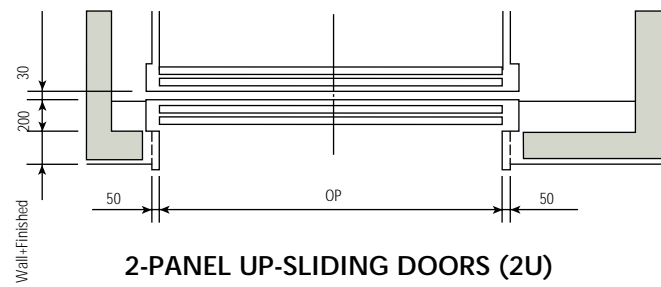
General Type (2S, 2U, 3U)

Plan of Hoistway & Machine Room



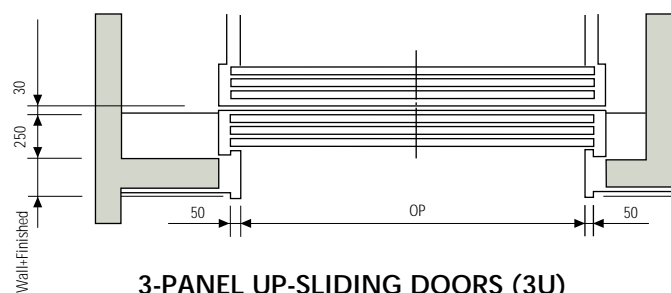
2-PANEL SIDE-OPENING DOORS (2S)

Note: Temperatures should be maintained below 40 °C, with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.



2-PANEL UP-SLIDING DOORS (2U)

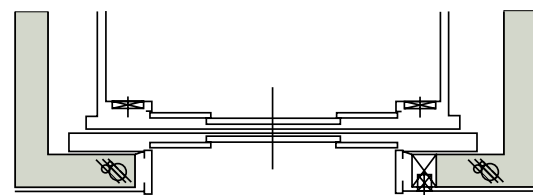
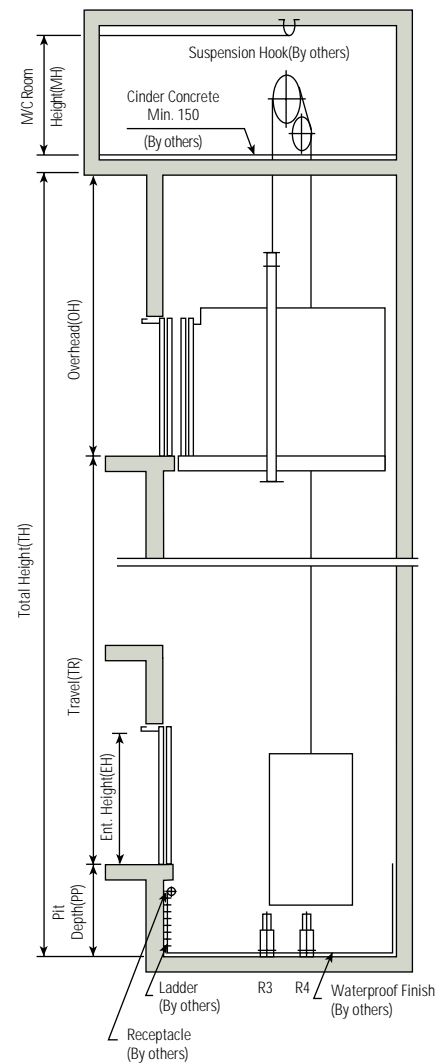
- Minimum floor height : Opening Height × 3/2 + 700mm
- Minimum entrance height : 2100mm



3-PANEL UP-SLIDING DOORS (3U)

- Minimum floor height : Opening Height × 4/3 + 750mm
- Minimum entrance height : 2100mm

Section of Hoistway



4-PANEL CENTER OPENING DOORS (2CO)

Standard Dimensions & Reactions

(Unit : mm)

Model	Speed (m/min)	Entrance		CAR		Hoistway		M/C Room (MX × MY)	M/C Room Reaction(kg)		Buffer Reaction (kg)		
		Door Opening Type	Width × Height (OP × EH)	Entrance Type	Internal CA × CB	External A × B	X × Y		Overhead (OH)	R1	R2	R3	R4
F0750-2S	30	2S	1100 × 2100	Standard	1700 × 1650	1800 × 1857	2500 × 2150	4800	2800 × 3200	6200	4100	5000	4300
	45			Double Entrance		1800 × 1989							
	60			Double Entrance		1800 × 1989							
F1000-2S	30	2S	1400 × 2100	Standard	1850 × 1850	1950 × 2078	2750 × 2400	4800	3200 × 3500	8500	5700	7100	6100
	45			Double Entrance		1950 × 2226							
	60			Double Entrance		1950 × 2226							
F1500-2S	30	2S	1700 × 2100	Standard	2100 × 2500	2200 × 2728	3000 × 3050	4800	3600 × 4000	10800	7100	9000	7500
	45			Double Entrance		2200 × 2876							
	60			Double Entrance		2200 × 2876							
F2000-2S	30	2S	1700 × 2100	Standard	2300 × 2700	2400 × 2928	3300 × 3250	4800	3800 × 4200	13300	8800	11400	9400
	45			Double Entrance		2400 × 3076							
	60			Double Entrance		2400 × 3076							
F2000-2U	30	2U	2300 × 2100	Standard	2300 × 2700	2400 × 2898	3300 × 3250	4600	3800 × 4200	13300	8800	11400	9400
	45			Double Entrance		2400 × 3016							
	60			Double Entrance		2400 × 3016							
F2500-2S	30	2S	1800 × 2100	Standard	2500 × 3000	2600 × 3228	3500 × 3600	4800	4000 × 4400	15100	10000	13200	10700
	45			Double Entrance		2600 × 3376							
	60			Double Entrance		2600 × 3376							
F2500-2U	30	2U	2500 × 2100	Standard	2500 × 3000	2600 × 3198	3500 × 3600	4600	4000 × 4400	15100	10000	13200	10700
	45			Double Entrance		2600 × 3316							
	60			Double Entrance		2600 × 3316							
F3000-2U	30	2U	2700 × 2300	Standard	2700 × 3300	2800 × 3498	3700 × 3900	4800	4200 × 4800	15200	10100	13500	10500
	45			Double Entrance		2800 × 3616							
	45			Double Entrance		2800 × 3616							
F3500-2U	30	2U	2800 × 2500	Standard	2800 × 3800	3020 × 3998	4050 × 4400	5000	4300 × 5200	21700	14500	19000	15500
	45			Double Entrance		3020 × 4116							
	45			Double Entrance		3020 × 4116							
F4000-3U	25	3U	3000 × 2800	Standard	3000 × 4500	3220 × 4758	4250 × 5250	5300	4500 × 5900	32500	21700	28700	23700
	30			Double Entrance		3220 × 4936							
	30			Double Entrance		3220 × 4936							
F5000-3U	25	3U	3200 × 3000	Standard	3200 × 5000	3420 × 5258	4450 × 5750	5500	4700 × 6400	36000	23000	31700	26700
	30			Double Entrance		3420 × 5436							
	30			Double Entrance		3420 × 5436							

- 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.

(Unit : mm)

Speed (m/min)	Pit (PP)	M/C Room Height (MH)
30, 45	1250	2400
60	1500	2600

- Notes:
1. Above is minimum size.
 2. Refer to standard dimensions & reactions for overhead height.

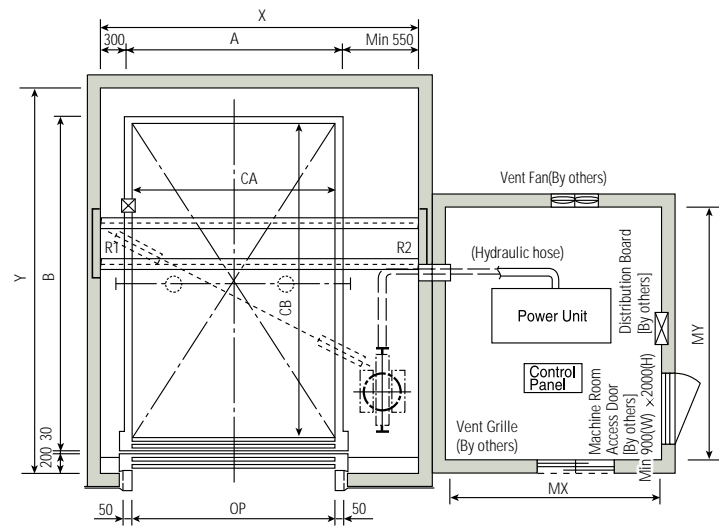
Freight Elevators

Hydraulic Type (2S, 2U, 3U)

Automobile Elevators

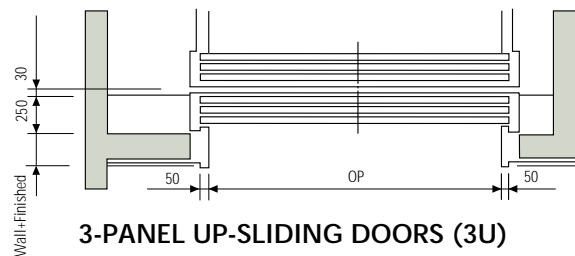
General Type (2U, 3U)

Plan of Hoistway & Machine Room



2-PANEL UP-SLIDING DOORS (2U)

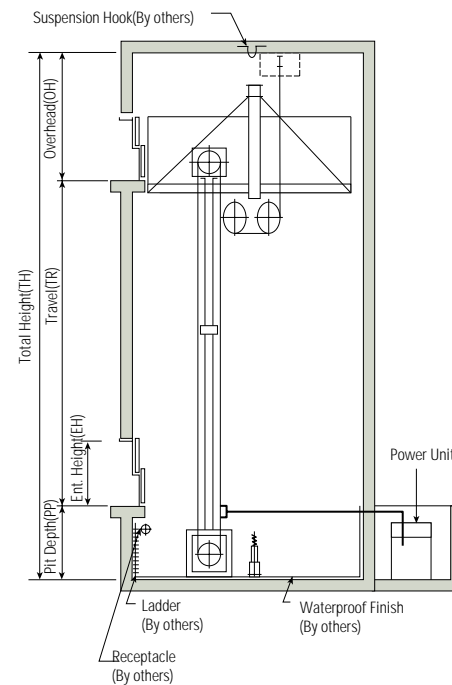
- Minimum floor height : Opening Height \times 3/2+700mm
- Minimum entrance height : 2100mm



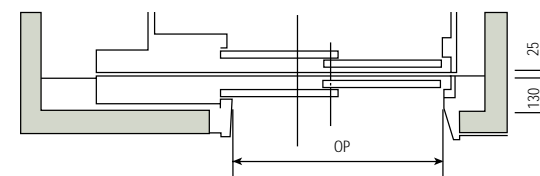
3-PANEL UP-SLIDING DOORS (3U)

- Minimum floor height : Opening Height \times 4/3+750mm
- Minimum entrance height : 2100mm

Section of Hoistway



2-PANEL SIDE-OPENING DOORS (2S)



- (Unit : mm) Notes : 1. Temperatures should be maintained below 40 ℃, with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.
 2. The above are minimum size.
 3. The overhead height can be varied in line with entrance height and door type.
 4. Consult Hyundai if the travel height is 20m or more.

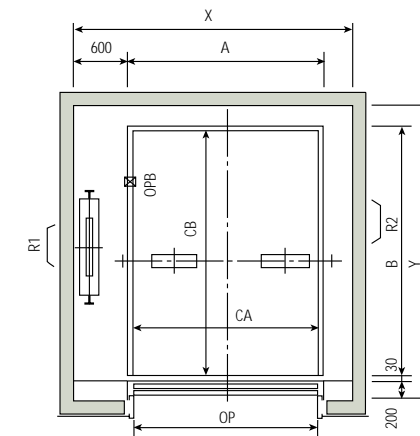
Speed(m/min)	Ent. Height(EH)	Overhead(OH)	Pit(PP)	M/C Room Height (MH)	Travel(TR)
20, 30, 45	2100	4100	1400	2000	20m

Standard Dimensions & Reactions

Model	Speed (m/min)	Clear Opening	Entrance Height	Car		Hoistway	M/C Room	Hitch Beam Reaction (kg)	
				Internal	External			R1	R2
HF1500-2U	20/30/45	2100	2100	2100 \times 2500	2200 \times 2698	3050 \times 3100	2500 \times 2800	4200	400
HF2000-2U	20/30/45	2300	2100	2300 \times 2700	2400 \times 2898	3250 \times 3300	2500 \times 2800	4800	400
HF2500-2U	20/30/45	2500	2100	2500 \times 3000	2600 \times 3198	3450 \times 3600	2500 \times 2800	5400	400
HF3000-2U	20/30/45	2700	2300	2700 \times 3300	2800 \times 3498	3650 \times 3900	2500 \times 2800	6000	450
HF3500-2U	20/30	2800	2500	2800 \times 3800	2900 \times 3998	4000 \times 4450	2800 \times 3200	7900	750
HF4000-3U	20/30	3000	2800	3000 \times 4500	3100 \times 4758	4200 \times 5250	2800 \times 4200	8800	900
HF5000-3U	20/30	3200	3000	3200 \times 5000	3300 \times 5258	4400 \times 5750	2800 \times 4200	10500	1050

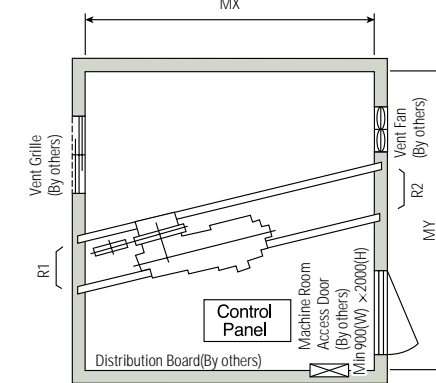
- Notes : 1. Please consult Hyundai when the loading capacity is over 5000kg or the car is non-standard size.
 2. The loading capacity should be over 250kg/m² minimally.
 3. The actual reaction may slightly differ from above dimensions in line with machine beam position.
 4. Above dimensions are based on up-sliding door available for 2-panel side-opening(2S) doors of same capacity.

Plan of Hoistway & Machine Room



2-PANEL UP-SLIDING DOORS (2U)

- Minimum floor height : Opening Height \times 3/2+700mm
- Minimum entrance height : 1800mm



- Notes : 1. Temperatures should be maintained below 40 ℃, with ventilating fan and/or air conditioner (if necessary) and humidity below 90%.
 2. The specification of car doors are optional.

(Unit : mm)

Speed (m/min)	Overhead (OH)	Pit (PP)	M/C Room Height (MH)
30, 45	4400	1200	2400

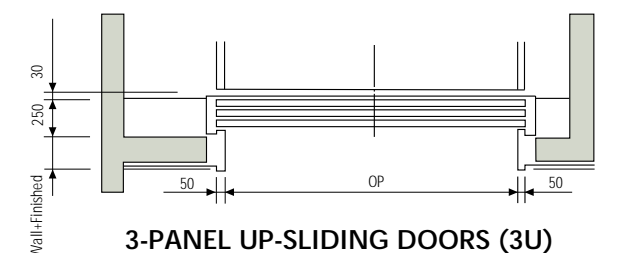
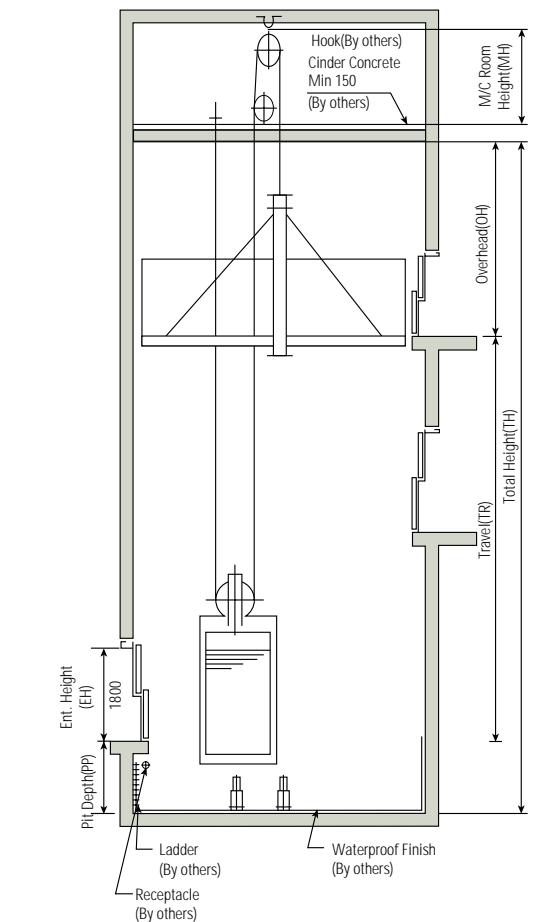
Note : The above are minimum size.

Standard Dimensions & Reactions

Type	Model	Speed (m/min)	Clear Opening	Car		Hoistway	M/C Room	M/C Room Reaction(kg)	
				Internal	External			R1	R2
Standard Type	A2000-2U	30, 45	2350	2350 \times 5300	2450 \times 5350	3300 \times 5800	3300 \times 5800	17500	12000
	A2500-2U	30, 45	2750	2750 \times 6300	2850 \times 6350	3700 \times 6800	3850 \times 6800	22500	12500
	A2000-3U	30, 45	2350	2350 \times 5300	2450 \times 5350	3300 \times 5800	3300 \times 5800	17500	12000
	A2500-3U	30, 45	2750	2750 \times 6300	2850 \times 6350	3700 \times 6800	3850 \times 6800	22500	12500
Double Entrance Type	A2000-2UD	30, 45	2350	2350 \times 5300	2450 \times 5300	3300 \times 5800	3300 \times 5800	17500	12000
	A2500-2UD	30, 45	2750	2750 \times 6300	2850 \times 6300	3700 \times 6800	3850 \times 6800	22500	12500
	A2000-3UD	30, 45	2350	2350 \times 5300	2450 \times 5300	3300 \times 5800	3300 \times 5800	17500	12000
	A2500-3UD	30, 45	2750	2750 \times 6300	2850 \times 6300	3700 \times 6800	3850 \times 6800	22500	12500

- Notes : 1. The car external size can be varied in line with entrance type.
 2. When non-standard capacities and dimensions are required, consult Hyundai.

Section of Hoistway



3-PANEL UP-SLIDING DOORS (3U)

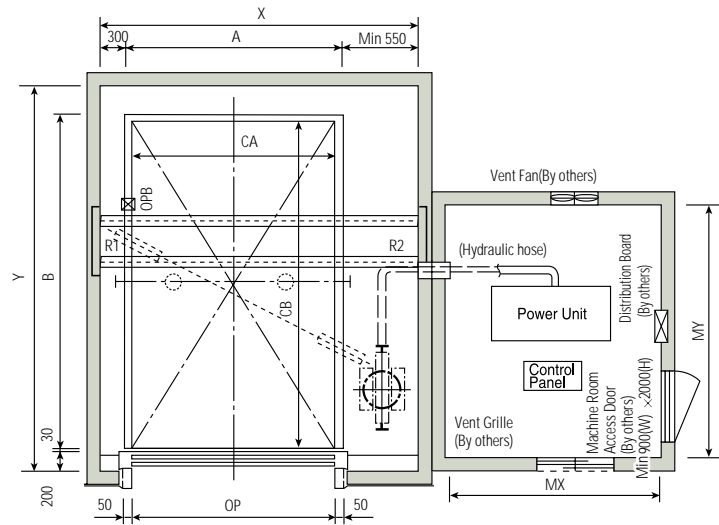
- Minimum floor height : Opening Height \times 4/3+750mm
- Minimum entrance height : 1800mm

Automobile Elevators

Hydraulic Type(2U, 3U)

Typical Entrance Layouts

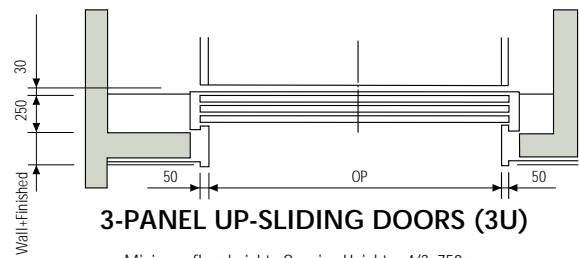
Plan of Hoistway & Machine Room



2-PANEL UP-SLIDING DOORS (2U)

- Minimum floor height : Opening Height $\times 3/2 + 700\text{mm}$
- Minimum entrance height : 1800mm

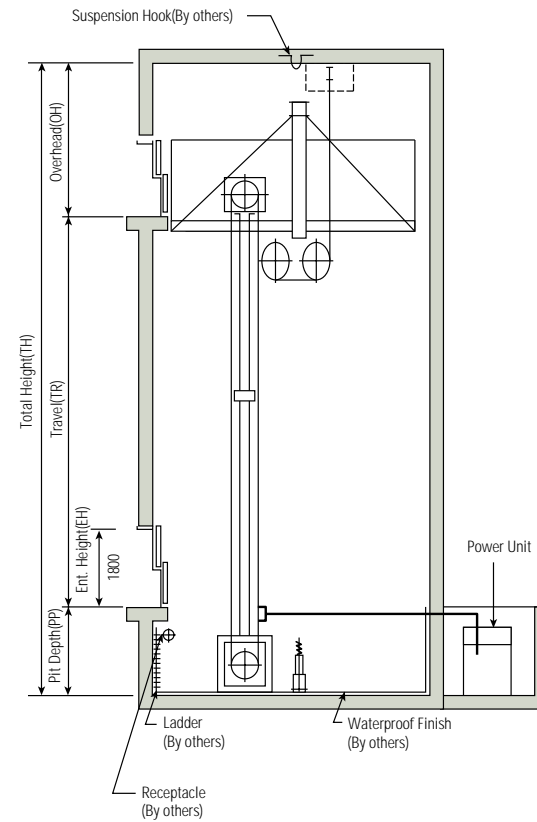
Notes: 1. Temperatures should be maintained below 40 °C; with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
2. The specification of car doors are optional.



3-PANEL UP-SLIDING DOORS (3U)

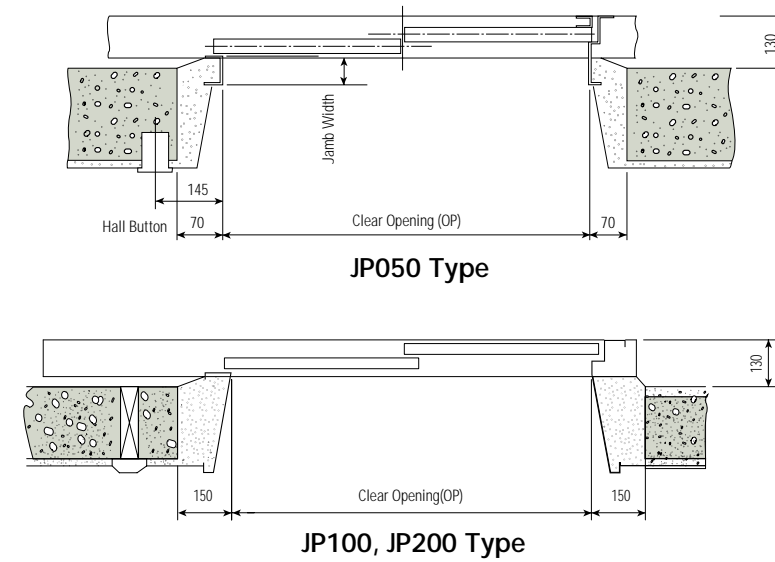
- Minimum floor height : Opening Height $\times 4/3 + 750\text{mm}$
- Minimum entrance height : 1800mm

Section of Hoistway



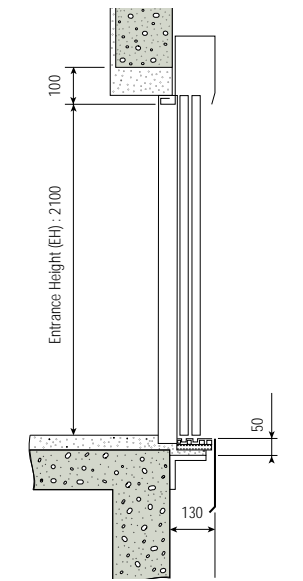
<2-PANEL SIDE-OPENING DOORS (2S)>

Plan of Entrance



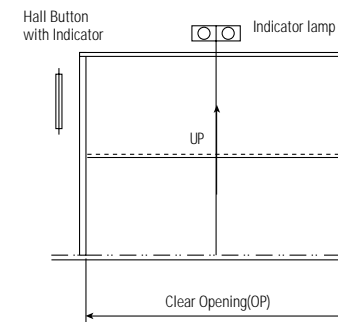
※ The above layout is for left side opening. Right side opening doors are available, if requested.

Section Entrance

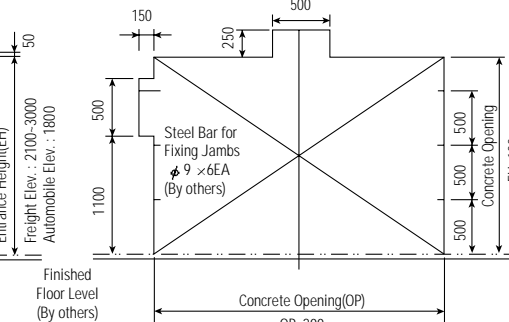


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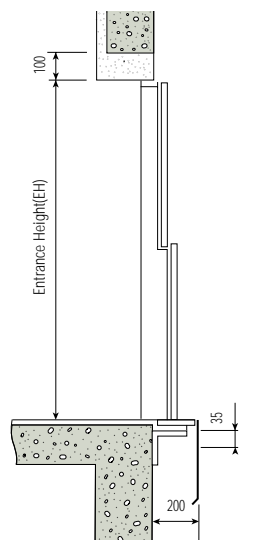
Entrance Design



Structural Opening of Entrance



Section of Entrance



Speed (m/min)	Overhead (OH)	Pit (PP)	M/C Room Height (MH)	Travel (TR)
20, 30, 45	3600	1200	2000	20m

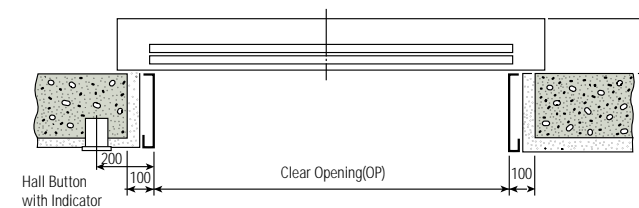
Notes: 1. The above are minimum size.
2. Consult Hyundai if the travel height is 20m or more.

Standard Dimensions & Reactions

Type	Model	Speed (m/min)	Clear Opening OP	Car		Hoistway X x Y	M/C Room MX x MY	M/C Room Reaction(kg)	
				Internal CA x CB	External A x B			R1	R2
Standard Type	HA2000-2U	20,30,45	2350	2350 x 5300	2450 x 5350	3300 x 5800	2500 x 2800	5500	250
	HA2500-2U	20,30,45	2750	2750 x 6300	2850 x 6350	3700 x 6800	2500 x 2800	6400	300
	HA2000-3U	20,30,45	2350	2350 x 5300	2450 x 5350	3300 x 5800	2500 x 2800	5500	250
	HA2500-3U	20,30,45	2750	2750 x 6300	2850 x 6350	3700 x 6800	2500 x 2800	6400	300
Double Entrance Type	HA2000-2UD	20,30,45	2350	2350 x 5300	2450 x 5300	3300 x 5800	2500 x 2800	5500	250
	HA2500-2UD	20,30,45	2750	2750 x 6300	2850 x 6300	3700 x 6800	2500 x 2800	6400	300
	HA2000-3UD	20,30,45	2350	2350 x 5300	2450 x 5300	3300 x 5900	2500 x 2800	5500	250
	HA2500-3UD	20,30,45	2750	2750 x 6300	2850 x 6300	3700 x 6900	2500 x 2800	6400	300

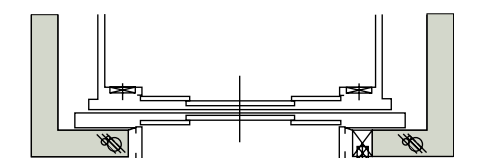
Notes: 1. The car external size can be varied in line with entrance type.
2. When non-standard capacities and dimensions are required, consult Hyundai.

Plan of Entrance



<4-PANEL CENTER OPENING DOORS (2CO)>

Note: The standard location of Hall Button with Indicator for automobile elevators is on left wall but it is on the right wall for freight elevators.
• Minimum floor height : Opening Height $\times 3/2 + 700\text{mm}$
• Minimum entrance height : 1800mm



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 applicable codes and regulations. The reference rules shown are from ANSI A17.1 Code.

Building Work ①

Hoistway

1. Clear plumb hoistway with fire resistant hatch walls as required by the governing code(Rule 100. 1a).
2. 75° bevel guards on all projections, recesses or setbacks over 50mm except on side used for loading or unloading(Rule 100. 6).
3. Venting of the hoistway as required by the governing code or authority(Rule 100. 4).
4. Supports for rail brackets at each floor, roof, and machine room(Rule200. 9).
Maximum allowable vertical spacing of rail supports without backing (Rule 200. 4 and 301. 1)
Divide beams 100mm between hoistway at each floor and roof for guide rail bracket supports.(Rule 200. 4. 200. 9 and 301. 1)
5. Recess supports and patching as required to accommodate hall button boxes, signal fixtures, etc.
6. All barricades either outside elevator hoistways or between elevators inside hoistway as required.
7. Dry pit reinforced to sustain normal vertical forces from rails and buffers. (Rules 106.1b and 109)
Consult Hyundai Elevator Company for rail forces and buffer impacts.
Where there is space below the pit floor which 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.
8. 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)
9. 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. Sill supports 64mm minimum floor recesses full hoistway width for entrance sills with grouting after sills are set in place.
11. For application as indoor or outdoor observation elevator, a minimum 3.6m high glass enclosure above bottom landing is recommended for safety. For application as outdoor observation elevator, full height glass enclosure is required.

Machine Room

12. Enclosed and protected machine room(Rule 101. 1).
13. Access to the machine room and machinery space as required by the governing code or authority(Rule 101. 3).
14. Reinforce 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 the Hyundai Elevator's shop drawings.
(For Hydraulic Elevator)

15. Hoisting beams, trap doors and other means of access to machine room for maintenance and equipment removal purposes(Rule 101. 3d).
16. Cable guards in the machine room or secondary level.(Rule 104. 1)
17. 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 ②

Hoistway

1. Light outlet for each elevator in center of hoistway (or in machine room) as indicated by Hyundai Elevator Company.
2. Convenience outlet and light fixture in pit with switch located adjacent to the access door(Rule 106. 1e).
3. Wiring and piping work of emergency bell, interphone, etc. outside the hoistway and the machine room.

Machine Room

4. Lighting, convenience outlets, ventilation, heating of machine room, and machinery space.(Rule 101. 5)
5. Temperature should be maintained below 40 °C with ventilating fan and/or air conditioner. If necessary, and humidity below 90%.
6. A fused disconnect switch or circuit breaker for each elevator and light switch located per the governing code and where practicable located adjacent to the door of the machine room.(Rule 210. 5 and 306.7)
7. Feeder and branch wiring to the controller, including main-line switch and convenience outlets.
8. Suitable power feeder and branch wiring circuits as required for elevators with power operated doors including disconnect switch or circuit breaker.

Emergency Provisions

9. 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.

Heat Emission of Machine Room

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

W: Capacity(kg) N: Number of cars

V : Speed(m/min) F : Factor(1/40 : VVVF)

General Type

50/60Hz, AC 380V

Capacity(kg)	Motor (kW)	N.F.B. Rated Current (A)	Transformer Capacity (kVA)	Power Feeder (mm ²)	Earth Wire (mm ²)
1500-5000	5.5	30	12	6	6
	7.5	30	15	6	6
	11.0	50	20	10	6
	15.0	50	25	16	6
	18.5	75	31	25	6
	22.0	75	37	25	16
	30.0	100	50	35	16

Hydraulic Type

50/60Hz, AC 380V

	Capacity (kg)	Speed (m/min)	Motor (kW)	N.F.B. Rated Current(A)		Transformer Capacity(kVA)		Power Feeder (mm ²)		Earth Wire (mm ²)		Heat Emission of M/C Room(kcal/h)		Ventilation of Machine Room(m ³ /h)	
				1car	2cars	1car	2cars	1car	2cars	1car	2cars	1car	2cars	1car	2cars
Freight	1500	20	30	100	175	49	90	25	70	6	10	5500	11000	1900	3800
		30	44	150	250	72	130	35	120	10	25	8500	17000	2900	5800
		45	59	200	350	94	171	70	185	10	25	10900	21800	4100	8200
	2000	20	30	100	175	49	90	25	70	6	10	5500	11000	1900	3800
		30	44	150	250	72	130	35	120	10	25	8500	17000	2900	5800
		45	59	200	350	94	171	70	185	10	25	10900	21800	4100	8200
	2500	20	37	125	225	62	113	35	95	6	10	6900	13800	2300	4600
		30	52	175	300	81	148	50	150	10	25	9700	19400	3500	7000
	3000	20	52	175	300	81	148	50	150	10	25	9700	19400	3500	7000
		30	59	200	350	94	171	70	185	10	25	10900	21800	4100	8200
	3500	20	52	175	300	81	148	50	95	10	25	9700	19400	3500	7000
		30	74	225	400	107	193	95	185	16	25	13800	27600	4600	9200
Auto-mobile	2000	20	30	100	175	49	90	25	70	6	10	5500	11000	1900	3800
		30	44	150	250	72	130	35	120	10	25	8500	17000	2900	5800
	2500	20	37	125	225	62	113	35	95	6	10	6900	13800	2300	4600
		30	52	175	300	81	148	50	150	10	25	9700	19400	3500	7000

- 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 formula.
 2. The feeder sizes are based on using copper conductors and metallic conduit. $\text{Feeder Size(mm}^2\text{)} = \frac{\text{Feeder Length (m)}}{50} \times \text{size shown above}$
 3. For power requirements of 3 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.