



Moving solutions with safety, reliability and efficiency

Freight & Automobile Elevators

HYUNDAI ELEVATOR CO., LTD.

HEAD OFFICE & FACTORY

San 136-1, Ami-ri, Bubal-eup, Icheon-si, Gyeonggi-do 467-734, Korea
 Tel : 82-2-3670-0653/0665 Fax : 82-2-3672-8763-4
 www.hyundaelevator.co.kr

SEOUL OFFICE (INT'L SALES DIV.)

9F East Bldg, Hyundai Group Bldg., 1-7 Yeonji-dong Jongno-gu, Seoul 110-754, Korea
 Tel : 82-2-3670-0653/0665 Fax : 82-2-3672-8763-4

Freight & Automobile Elevators - We reserve the right to change designs and specifications for the product development without prior notice.
 Copyright © HYUNDAI ELEVATOR CO., LTD. All rights reserved. Printed in Korea.
 C-EPG-E0816 / 2012. 03 / Revision 8

 **HYUNDAI ELEVATOR**



Hyundai's Automobile and Freight elevators are designed using state-of-the-art technology

Hyundai Elevator Co., Ltd., an affiliate of Hyundai Business Group, has been designing and manufacturing a wide range of automobile and freight elevators, the reliability and sturdiness of which have been well proven through stringent test at the factory and decade-long experience of field engineering.

Automobile elevators are designed to give great convenience to the automobile drivers by reducing the time to find parking spaces which becomes less and less available in a crowded urban life. A wide range of models of freight elevators are designed to handle from lightweight cargoes to heavy loads such as forklifts.

Both automobile and freight elevators are designed with Hyundai's state-of-the-art technology such as inverter type Variable Voltage Variable Frequency (VVVF), and a hydraulic type by using hydraulic jack for elevator moving.



Contents

Freight Elevators

Car Design	04
Entrance Design	05
General Type (2S, 2U, 3U)	06
Hydraulic Type (2S, 2U, 3U)	08

Freight / Automobile Elevators

Signal Fixtures	09
-----------------	----

Automobile Elevators

Car Design	10
Entrance Design	11
General Type (2U, 3U)	12
Hydraulic Type (2U, 3U)	13

Typical Entrance Layouts

14

Electric Power Requirements (By others)

15

Specific Features

| General type |

- Accurate landing, smooth acceleration and deceleration, comfortable riding, low-noise operation
- 40% energy saving (compared to conventional AC control system)
- 40% reduction in building power requirements (compared to conventional AC control system)
- High reliability with enhanced operation in all respects (All functions are controlled by computer and frequency of machine breakdown rates minimized)
- Self-checking system built-in inside computer

| Hydraulic type |

- Smaller installation space than traction (rope) elevators requires
- Greater advantages for construction design (Because machine rooms can be made anywhere in the building except in the shaft)
- Accurate landing and comfortable riding
- High reliability (If power fails, the car moves down to the bottom floor automatically)
- Enhanced safety (Safety device cuts off the flow of oil when the descending speed of car exceeds the pre-determined speed)

FREIGHT ELEVATORS

Car Design

Entrance Design



FU-S



FU-S

FS-P



FU-S

Ceiling	CD100, Painted Steel (P021), Acryl
Wall	STS Hairline
Door	STS Hairline
OPB	OPP-D241B / STS Hairline
Flooring	Check Plate

FS-P

Ceiling	CD100, Painted Steel (P009), Acryl
Wall	Painted Steel (P009)
Door	Painted Steel (P009)
OPB	OPP-N241B / STS Hairline
Indicator	PI-D110
Flooring	Check Plate

FS-P



FU-S

Door	STS Hairline
Jamb	STS Hairline / 110 Type
Indicator	Dot Matrix Type

FSC-P



FSC-P

Ceiling	CD100, Painted Steel (P019), Acryl
Wall	Painted Steel (P019)
Door	Painted Steel (P019)
OPB	OPP-N241B / STS Hairline
Indicator	PI-D110
Flooring	Check Plate

FSC-P



FS-P

Door	Painted Steel (P009)
Jamb	Painted Steel (P009)
Indicator	Dot Matrix Type

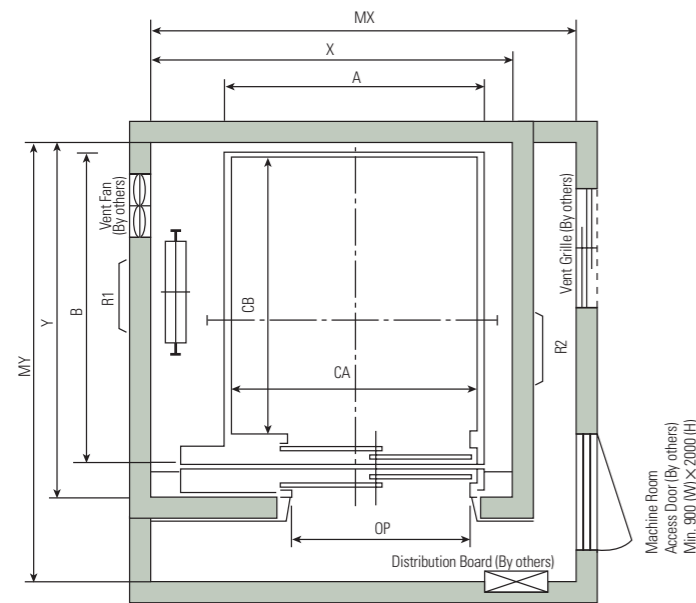
FSC-P

Door	Painted Steel (P019)
Jamb	Painted Steel (P019)
Indicator	Dot Matrix Type

FREIGHT ELEVATORS

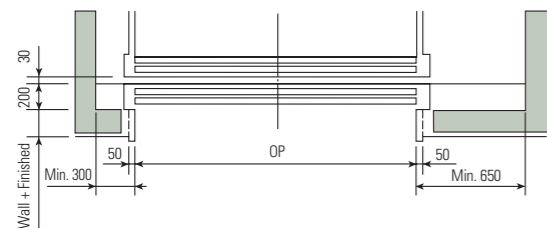
General Type (2S, 2U, 3U)

Plan of Hoistway & Machine Room



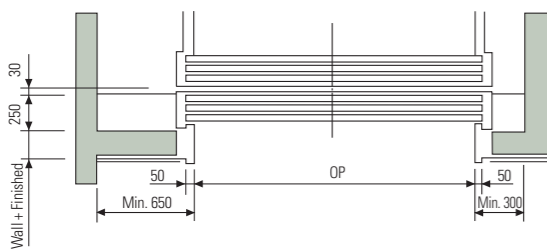
2-PANEL SIDE-OPENING DOORS (2S)

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 $\times 3/2 + 700\text{mm}$
- Minimum entrance height : 2100mm

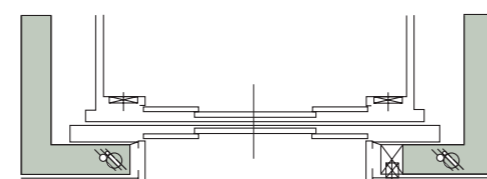
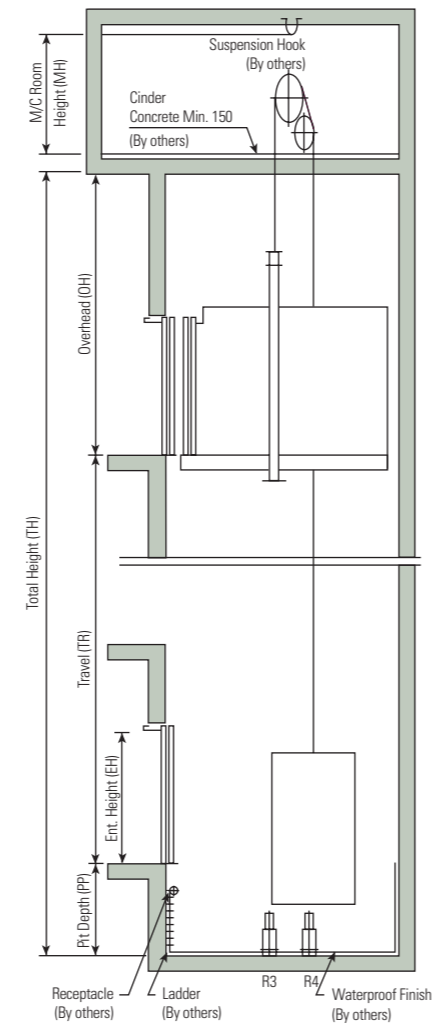


3-PANEL UP-SLIDING DOORS (3U)

- Minimum floor height : Opening height $\times 4/3 + 750\text{mm}$
- Minimum entrance height : 2100mm

Note : Consult Hyundai if the dimensions are less than the minimum.

Section of Hoistway



4-PANEL CENTER OPENING DOORS (2CO)

Standard Dimensions & Reactions

(Unit : mm)

Model	Speed (m/min)	Door Opening Type	Entrance Width \times Height (OP \times EH)	Entrance Type	Car		Hoistway X \times Y	Overhead (OH)	M/C Room (MX \times MY)	M/C Room Reaction (kg)		Buffer Reaction (kg)				
					Internal CA \times CB	External A \times B				R1	R2	R3	R4			
F0750-2S	30	2S	1100 \times 2100	Standard	1700 \times 1650	1800 \times 1857	2500 \times 2150	4800	2800 \times 3200	6200	4100	5000	4300			
	45													Double Entrance	1800 \times 1989	2500 \times 2320
	60														1800 \times 1989	2500 \times 2320
F1000-2S	30	2S	1400 \times 2100	Standard	1850 \times 1850	1950 \times 2078	2750 \times 2400	4800	3200 \times 3500	8500	5700	7100	6100			
	45													Double Entrance	1950 \times 2226	2750 \times 2600
	60														1950 \times 2226	2750 \times 2600
F1500-2S	30	2S	1700 \times 2100	Standard	2100 \times 2500	2200 \times 2728	3000 \times 3050	4800	3600 \times 4000	10800	7100	9000	7500			
	45													Double Entrance	2200 \times 2876	3000 \times 3250
	60														2200 \times 2876	3000 \times 3250
F2000-2S	30	2S	1700 \times 2100	Standard	2300 \times 2700	2400 \times 2928	3300 \times 3250	4800	3800 \times 4200	13300	8800	11400	9400			
	45													Double Entrance	2400 \times 3076	3300 \times 3450
	60														2400 \times 3076	3300 \times 3450
F2000-2U	30	2U	2300 \times 2100	Standard	2300 \times 2700	2400 \times 2898	3300 \times 3250	4600	3800 \times 4200	13300	8800	11400	9400			
	45													Double Entrance	2400 \times 3016	3300 \times 3490
	60														2400 \times 3016	3300 \times 3490
F2500-2S	30	2S	1800 \times 2100	Standard	2500 \times 3000	2600 \times 3228	3500 \times 3600	4800	4000 \times 4400	15100	10000	13200	10700			
	45													Double Entrance	2600 \times 3376	3500 \times 3750
	60														2600 \times 3376	3500 \times 3750
F2500-2U	30	2U	2500 \times 2100	Standard	2500 \times 3000	2600 \times 3198	3500 \times 3600	4600	4000 \times 4400	15100	10000	13200	10700			
	45													Double Entrance	2600 \times 3316	3500 \times 3800
	60														2600 \times 3316	3500 \times 3800
F3000-2U	30	2U	2700 \times 2300	Standard	2700 \times 3300	2800 \times 3498	3700 \times 3900	4800	4200 \times 4800	15200	10100	13500	10500			
	45													Double Entrance	2800 \times 3616	3700 \times 4100
	60														2800 \times 3616	3700 \times 4100
F3500-2U	30	2U	2800 \times 2500	Standard	2800 \times 3800	3020 \times 3998	4050 \times 4400	5000	4300 \times 5200	21700	14500	19000	15500			
	45													Double Entrance	3020 \times 4116	4050 \times 4600
	60														3020 \times 4116	4050 \times 4600
F4000-3U	25	3U	3000 \times 2800	Standard	3000 \times 4500	3220 \times 4758	4250 \times 5250	5300	4500 \times 5900	32500	21700	28700	23700			
	30													Double Entrance	3220 \times 4936	4250 \times 5520
	60														3220 \times 4936	4250 \times 5520
F5000-3U	25	3U	3200 \times 3000	Standard	3200 \times 5000	3420 \times 5258	4450 \times 5750	5500	4700 \times 6400	36000	23000	31700	26700			
	30													Double Entrance	3420 \times 5436	4450 \times 6020
	60														3420 \times 5436	4450 \times 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.

(Unit : mm)

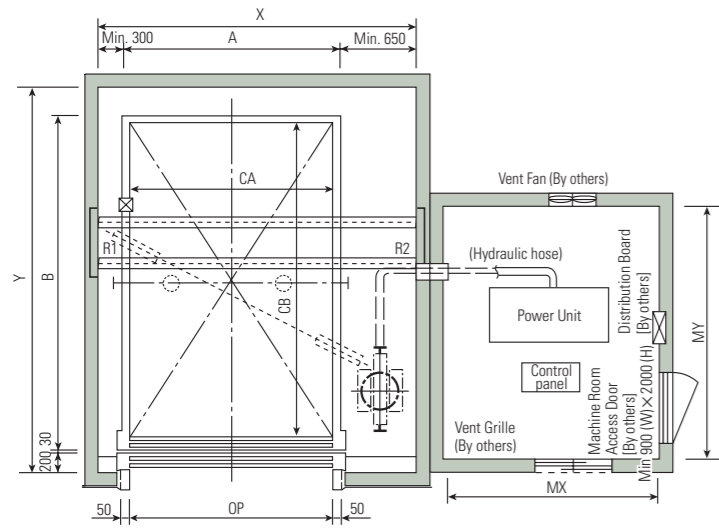
Speed (m/min)	Pit (PP)	M/C Room Height (MH)
30 / 45	1250	2400
60	1500	2600

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

FREIGHT ELEVATORS

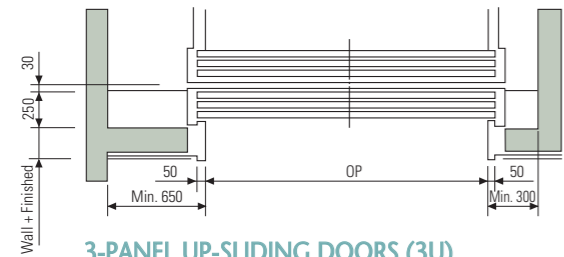
Hydraulic Type (2S, 2U, 3U)

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 : 2100mm

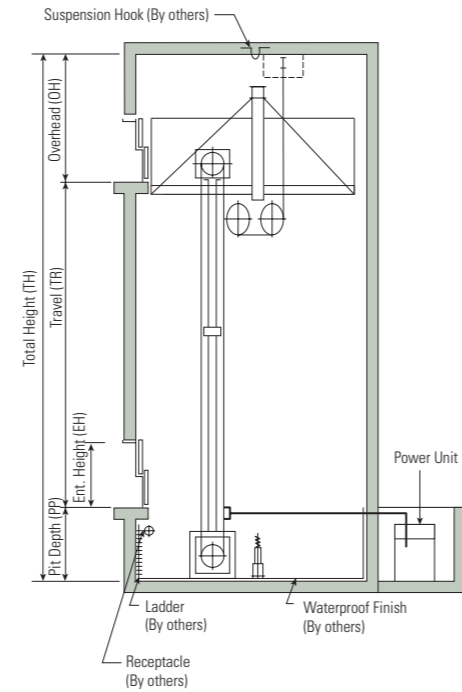


3-PANEL UP-SLIDING DOORS (3U)

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

- Notes :
1. Consult Hyundai if the actual size is less than the above minimum floor height.
 2. The left and right minimum size should be 650mm and 300mm respectively for the installation of driving part.

Section of Hoistway



2-PANEL SIDE-OPENING DOORS (2S)

(Unit : mm)

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

- Notes :
1. Temperatures should be maintained below 40°C 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.

Standard Dimensions & Reactions

(Unit : mm)

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

FREIGHT / AUTOMOBILE ELEVATORS

Signal Fixtures

OPB



OPP-D240B

Note : Door switch is optional.

Indicator



PI-D110

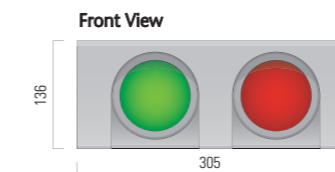


HIP-D240

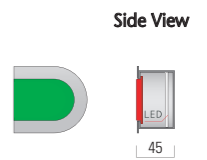
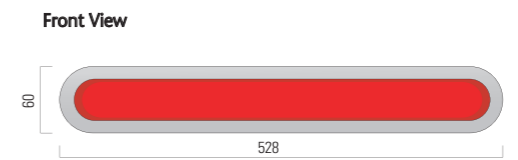


HIP-D240F

Indicator Lamp



Standard Type



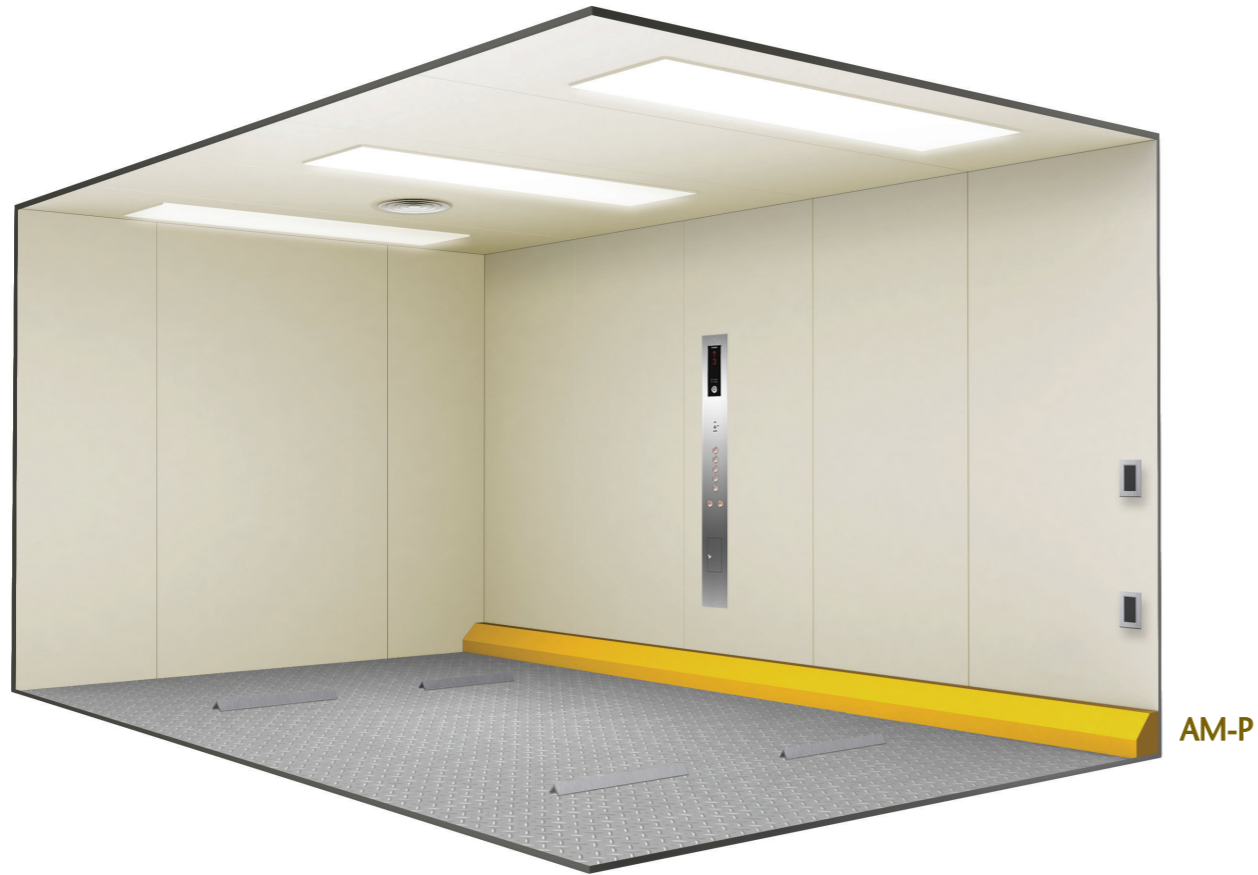
Optional Type

Note : Indicator lamp is for automobile elevators.

Color Chip



Note : Finished product may vary slightly from these prints.

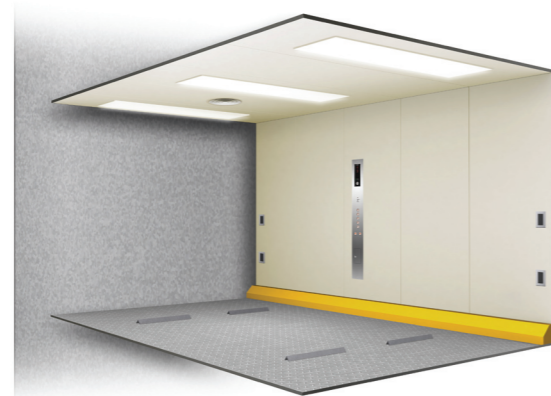


AM-P

AM-P

Ceiling	CD100, Painted Steel (P017), Acryl
Wall	Painted Steel (P017)
OPB	OPP-D241B / STS Hairline
Flooring	Check Plate

Door	Painted Steel (P017)
Jamb	Painted Steel (P017) / 110 Type
Indicator	Dot Matrix Type
Signal Fixtures	STS Hairline, Acryl



Rear door type



Signal Provisions

1. Indicator lamp

- 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.

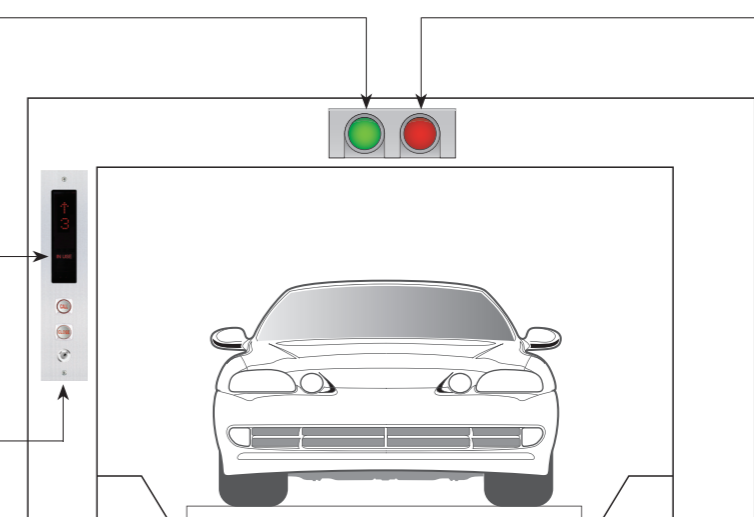
- 2) Indicator lamp for stop (Red)
- When the door opening / closing is activated.
 - When the automobile is at the right position in the cage.
 - When the elevator is running.

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

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

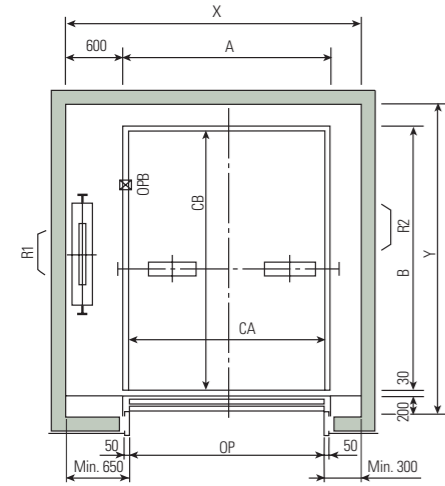


AUTOMOBILE ELEVATORS

General Type (2U, 3U)

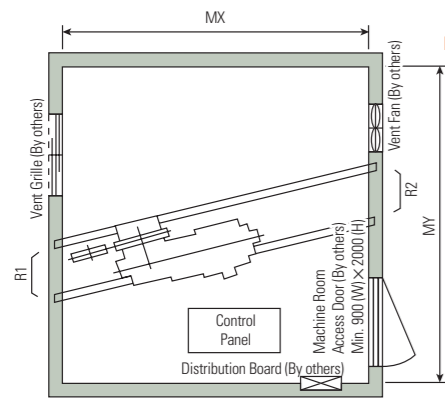
Hydraulic Type (2U, 3U)

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



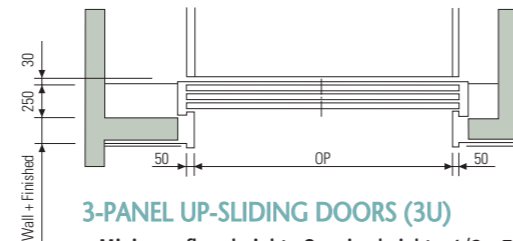
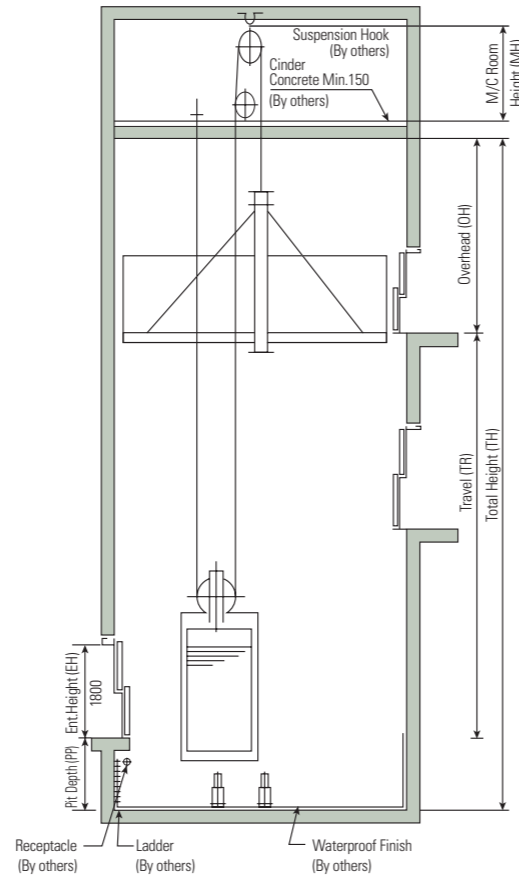
- Notes :
- Temperatures should be maintained below 40°C with ventilating fan and / or air conditioner (if necessary) and humidity below 90%.
 - The specification of car doors are optional.

(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.

Section of Hoistway

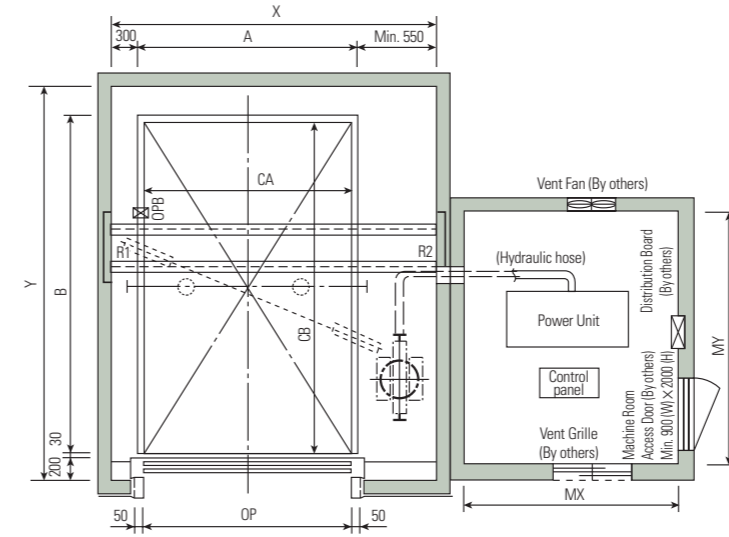


3-PANEL UP-SLIDING DOORS (3U)

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

Note : Consult Hyundai if the dimensions are less than the minimum.

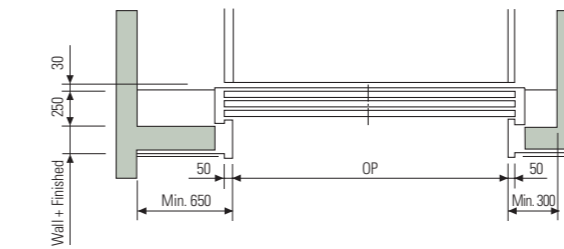
Plan of Hoistway & Machine Room



2-PANEL UP-SLIDING DOORS (2U)

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

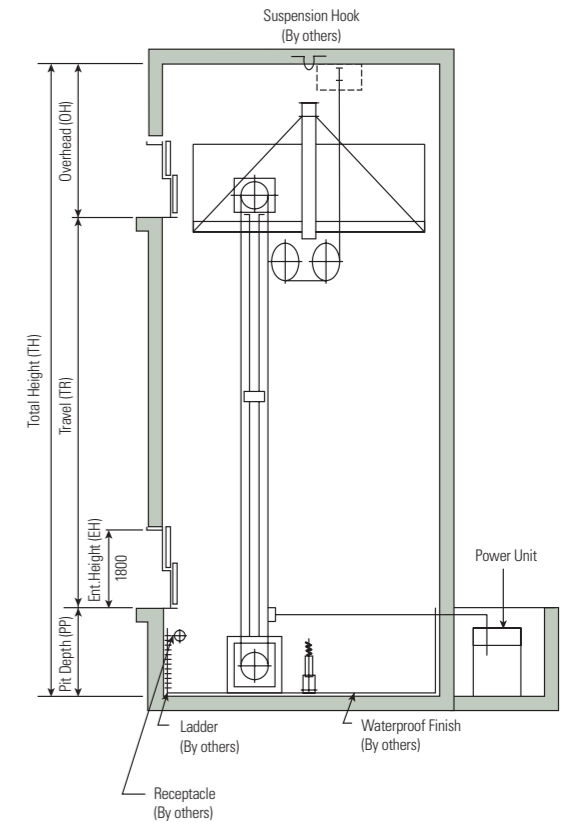
- Notes :
- Temperatures should be maintained below 40°C with ventilating fan and / or air conditioner (if necessary) and humidity below 90%.
 - The specification of car doors is optional.



3-PANEL UP-SLIDING DOORS (3U)

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

Section of Hoistway



(Unit : mm)

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

- Notes :
- The above are minimum size.
 - Consult Hyundai if the travel height is 20m or more.
 - Consult Hyundai if the dimensions are less than the minimum.

Standard Dimensions & Reactions

(Unit : mm)

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 x 5300	2450 x 5350	3300 x 5800	3300 x 5800	17500	12000
	A2500-2U		2750	2750 x 6300	2850 x 6350	3700 x 6800	3850 x 6800	22500	12500
	A2000-3U		2350	2350 x 5300	2450 x 5350	3300 x 5800	3300 x 5800	17500	12000
	A2500-3U		2750	2750 x 6300	2850 x 6350	3700 x 6800	3850 x 6800	22500	12500
	A2000-2UD		2350	2350 x 5300	2450 x 5300	3300 x 5800	3300 x 5800	17500	12000
Double Entrance Type	A2500-2UD	30 / 45	2750	2750 x 6300	2850 x 6300	3700 x 6800	3850 x 6800	22500	12500
	A2000-3UD		2350	2350 x 5300	2450 x 5300	3300 x 5800	3300 x 5800	17500	12000
	A2500-3UD		2750	2750 x 6300	2850 x 6300	3700 x 6800	3850 x 6800	22500	12500

- Notes :
- The car external size can be varied in line with entrance type.
 - When non-standard capacities and dimensions are required, consult Hyundai.
 - The car door is applied in BS code region.

Standard Dimensions & Reactions

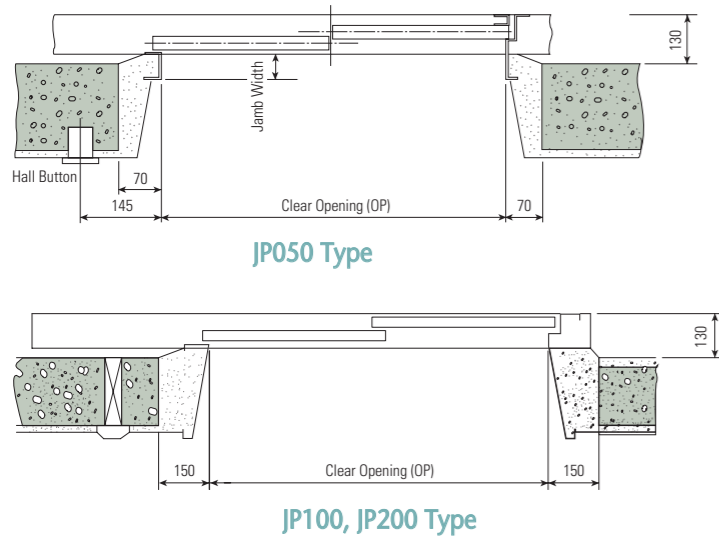
(Unit : mm)

Type	Model	Speed (m/min)	Clear Opening	Car		Hoistway	M/C Room	M/C Room Reaction (kg)	
				Internal	External			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		2750	2750 x 6300	2850 x 6350	3700 x 6800	2500 x 2800	6400	300
	HA2000-3U		2350	2350 x 5300	2450 x 5350	3300 x 5800	2500 x 2800	5500	250
	HA2500-3U		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		2750	2750 x 6300	2850 x 6300	3700 x 6800	2500 x 2800	6400	300
	HA2000-3UD		2350	2350 x 5300	2450 x 5300	3300 x 5900	2500 x 2800	5500	250
	HA2500-3UD		2750	2750 x 6300	2850 x 6300	3700 x 6900	2500 x 2800	6400	300

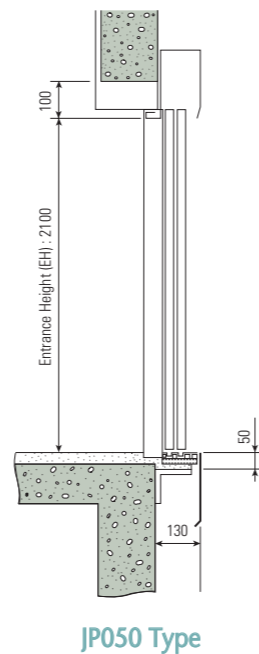
- Notes :
- The car external size can be varied in line with entrance type.
 - When non-standard capacities and dimensions are required, consult Hyundai.

2-PANEL SIDE-OPENING DOORS (2S)

Plan of Entrance



Section Entrance



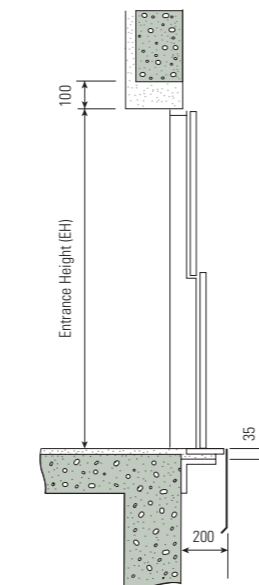
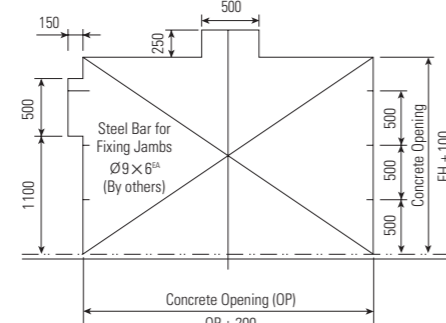
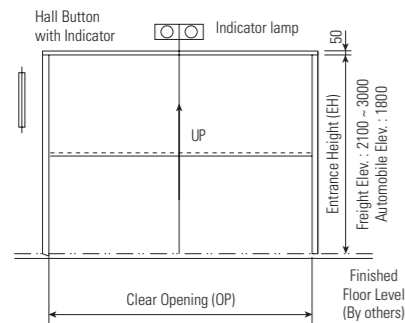
Note : The above layout is for left side opening. Right side opening doors are available, if requested.

2-PANEL UP-SLIDING DOORS (2U)

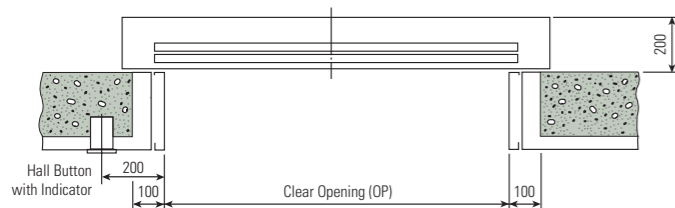
Entrance Design

Structural Opening of Entrance

Section of Entrance

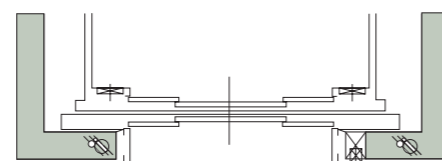


Plan of Entrance



4-PANEL CENTER OPENING DOORS (2C0)

Plan of Entrance



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

- Notes :
- 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.
 - Consult Hyundai if the demensions are less than the minimum.

General 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)	
			1car	2cars	1car	2cars	1car	2cars	1car	2cars
1500	30	7.5	30	50	8	14	6	16	4	6
	45	11	30	60	12	21	6	16	4	10
	60	15	40	100	15	28	10	35	6	10
2000	30	11	30	60	10	19	6	16	4	10
	45	15	40	100	15	28	10	35	6	10
	60	22	60	125	21	37	16	50	10	16
2500	30	15	40	75	13	23	10	25	6	10
	45	18.5	50	100	19	35	16	35	6	10
3000	30	15	40	100	15	28	10	35	6	10
	45	22	60	125	23	42	16	50	10	16
3500	30	18.5	50	100	18	33	16	35	6	10
	45	30	75	125	27	49	25	50	10	16
4000	25	22	60	100	17	31	16	35	10	10
	30	22	60	125	21	37	16	50	10	16
5000	25	30	75	125	21	39	25	50	10	16
	30	30	75	125	26	46	25	50	10	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-moblie	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 formular.

$$\text{Feeder Size (mm}^2\text{)} = \frac{\text{Feeder Length (m)}}{50} \times \text{size shown above}$$

- The feeder sizes are based on using copper conductors and metallic conduit.
- For power requirements of 3 cars or more, consult Hyundai.
- The heat emission and ventilation of machine room on above dimensions may vary slightly with the machine room size and peripheral environment.
- Consult Hyundai if you need electric power requirements for 220V.