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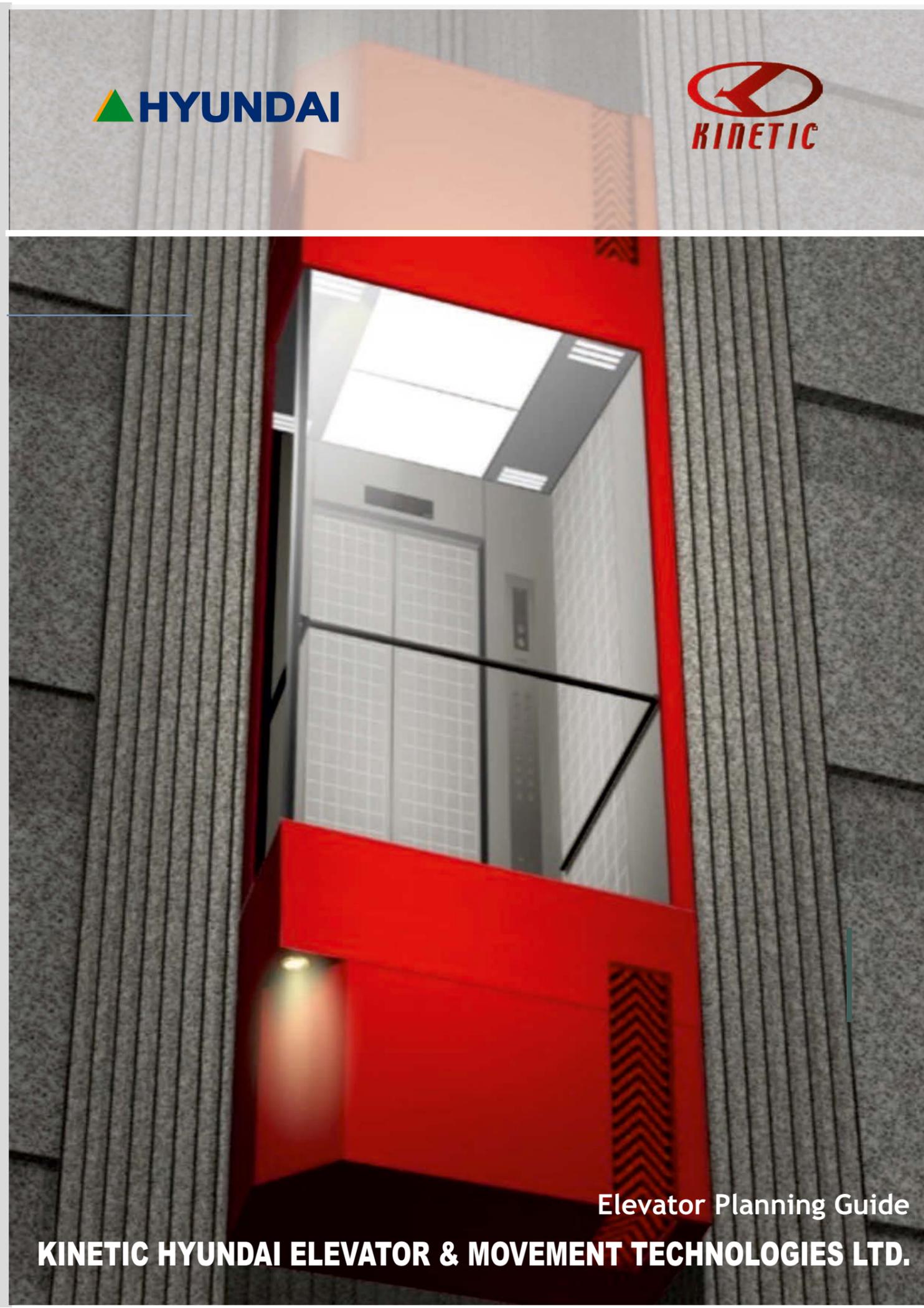
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| | | | | |
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Elevator Planning Guide

KINETIC HYUNDAI ELEVATOR & MOVEMENT TECHNOLOGIES LTD.

Disclaimer : Designs are subject to change. We reserve the right to change design and specifications for the product development without prior notice

Kinetic Hyundai Elevator & Movement Technologies Limited (KHEMTL) is a JV between Hyundai Elevator Co. Ltd, (HELCO) of Korea and the Kinetic Group of India.

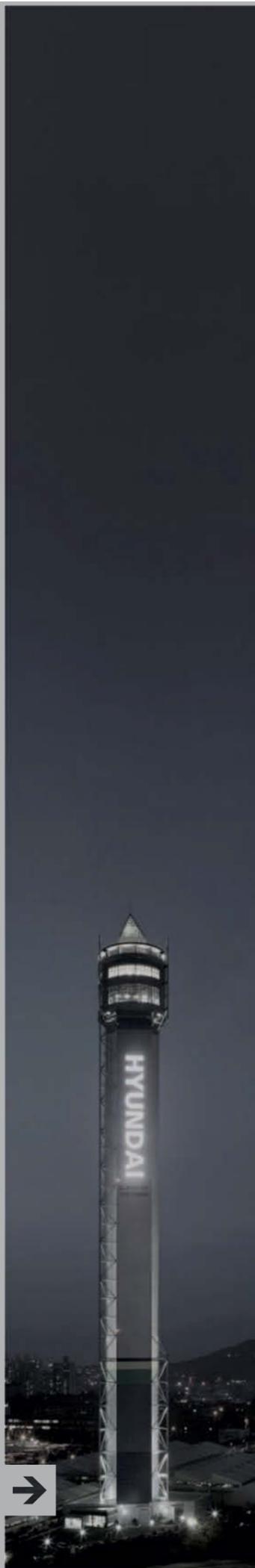
Kinetic Hyundai markets, installs and maintains state of the art elevators, escalators and travellers from Hyundai in India. Kinetic Hyundai also executes the group's business of indigenous multilevel mechanized car parking systems, pioneered by the Kinetic Group of India.

Hyundai Elevator Co. Ltd. is the number one company with the highest market share among Elevator companies in Korea and has become a major supplier of elevators & escalators in South East Asia, India, Middle East, Africa, USA, Japan and Europe.

Our Company offers a full line of moving systems meticulous in detail, bringing together some of the most advanced technology and progressive designs in the industry.

Hyundai's product range includes, in addition to elevators, escalators and travellers, parking systems, airport logistics (cargo and baggage handling) systems, automated warehousing systems and platform screen doors.

The super high-speed elevator test tower at Icheon Headquarters in Korea is the world's tallest elevator test tower



- 02-07 Typical Car Designs**
- 08-11 Finishing Options**
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- 18-24 Glass & Observation Elevators**
- 25-28 Freight & Automobile Elevators**



| | |
|--|---|
| Car Walls | MS, Powder Coated (shade selectable) |
| Car Door | MS, Powder Coated (shade selectable) |
| Car Operating Panel & Indicator | Type OPP -N240A (Indicator PI -D601 separately in transom) |
| Buttons | Type A40 - Braille marked, rugged, self illuminated LED number and ring |
| False Ceiling | Flat acrylic in MS Powder Coated Frame |
| Flooring | Colored acrylic (standard grey acrylic or recess for flooring by others) |
| Handrail | HR-01A (Tubular, SS) |
| Fan | Axial Flow, Concealed |
| Lighting | Fluorescent, indirect |



| | |
|--|---|
| Car Walls | SS, Hairline Finish |
| Car Door | SS, Hairline Finish |
| Car Operating Panel & Indicator | Type OPP -N240A (indicator PI -D601 separately in transom) |
| Buttons | Type A40 - Braille marked, rugged, self illuminated LED number and ring |
| False Ceiling | Flat acrylic, type C-245AS (frame options MS Powder Coated and SS Hairline/ Mirror Finish) |
| Flooring | Colored acrylic (standard grey acrylic or recess for flooring by others) |
| Handrail | HR-01A (Tubular, SS, at rear only) |
| Fan | Axial Flow, Concealed |
| Lighting | Fluorescent, indirect |



| | |
|--|--|
| Car Walls | Side panels of each wall: SS, Hairline Finish Middle panels of each wall: SS, Mirror Etched |
| Car Door | SS, Mirror Etched |
| Car Operating Panel & Indicator | Type OPP-N240A (Indicator PI -D601 separately in transom) |
| Buttons | Type A40 - Braille marked, rugged, self illuminated LED number and ring |
| False Ceiling | Curved acrylic, type C-726A (frame options MS Powder Coated and SS Hairline/ Mirror Finish) |
| Flooring | Colored acrylic (standard grey acrylic or recess for flooring by others) |
| Handrail | HR-Bar (Flat Bar, SS - at rear only, not shown) |
| Fan | Axial Flow, Concealed |
| Lighting | Fluorescent, indirect, and halogen combination |



| | |
|--|--|
| Car Walls | Side panels of each wall: SS, Mirror Finish Middle panels of each wall: SS, Mirror Etched |
| Car Door | SS, Mirror Etched |
| Car Operating Panel & Indicator | Type OPP-D240B (indicator integral in car operating panel) |
| Buttons | Type A40 - Braille marked, rugged, self illuminated LED number and ring |
| False Ceiling | Flat acrylic, type CD289C (frame options SS Hairline/ Mirror Finish) |
| Flooring | Colo red acrylic (standard grey acrylic or recess for flooring by others) |
| Handrail | HR-01B (Tubular, SS, with PVC sleeve) |
| Fan | Axial Flow, Concealed |
| Lighting | Fluorescent, indirect |



| | |
|--|--|
| Car Walls | Side panels of each wall: SS, Hairline Finish Middle panels of each wall: SS, Mirror Etched |
| Car Door | SS, Mirror Etched |
| Car Operating Panel & Indicator | Swing Type (Full Height – Return panel as COP) (indicator PI-D601 separately in transom) |
| Buttons | Type A40 - Braille marked, rugged, self illuminated LED number and ring |
| False Ceiling | Curved aluminum, type CD519D |
| Flooring | Colored acrylic (standard grey acrylic or recess for flooring by others) |
| Handrail | HR-01A (Tubular, SS) |
| Fan | Axial Flow, Concealed |
| Lighting | Fluorescent, indirect |



**Wide Jamb with Transom
(Jamb Type: JP-200)**

For door in illustration:

- Door finish special SS hairline etched
- Jamb finish SS hairline
- Indicator in transom (type PI-D601)
- Hall button panel type HPB-240 (box type)
- Button Type A40 – Braille marked, rugged, self illuminated LED number and ring

Note:

Wide jamb with transom provided at main landing by default, unless otherwise specified.

**Narrow Jamb
(Jamb Type: JP-050)**

For door in illustration:

- Door finish special SS hairline etched
- Jamb finish SS hairline
- Indicator in architrave (type PI-D611) – Option integrated indicator and button panel
- Hall button panel type HPB-240 (box type)
- Button Type A40 – Braille marked, rugged, self illuminated LED number and ring

Note:

Narrow jamb provided at other landings by default, unless otherwise specified.



**Wide Jamb (without transom)
(Jamb Type: JP-100)**

For door in illustration:

- Door finish special SS hairline etched
- Jamb finish SS hairline
- Indicator integral with buttons
- Hall indicator and button panel type HIP-D442B (box-less)
- Button Type A40 – Braille marked, rugged, self illuminated LED number and ring

Note:

Wide jamb provided at top landing by default in MRL elevators (top landing front wall 280/ 340mm thick, to accommodate control panel).



Note: Price will change with change in jamb type from default. Special hairline etching finish doors shown above are illustrative and available as optional extras.

False Ceiling Options



Type: C245AS (Acrylic in Steel Frame)

Steel frame options:

- MS, powder coated finish
- SS, hairline finish
- SS, mirror finish

Note:

Available for capacity up to 15-persons (similar flat ceiling available for 13 to 24-persons capacity)



Type: C421A (Acrylic in Steel Frame)

Steel frame options:

- MS, powder coated finish
- SS, hairline finish
- SS, mirror finish

Note:

Available for capacity up to 15-persons



Type: C726A (Acrylic in Steel Frame)

Steel frame options:

- MS, powder coated finish
- SS, hairline finish
- SS, mirror finish

Note:

Available for capacity up to 15-persons only and not for deep car (availability for customized cars subject to fitment)



Type: C806A (Acrylic in Steel Frame)

Steel frame options:

- SS, hairline finish
- SS, mirror finish

Note:

Available for capacity up to 24-persons (availability for customized cars subject to fitment)



Type: C807A (Acrylic in Steel Frame)

Steel frame options:

- SS, hairline finish
- SS, mirror finish

Note:

Available for capacity up to 24-persons (availability for customized cars subject to fitment)



Type: CD519D (Aluminum)

Note:

Available for capacity up to 24-persons (availability for customized cars subject to fitment)

Indicator and Button Panels and Hall Lanterns

Car Operating Panels



OPP-D241B
(A41 Buttons;
Integral Indicator)



OPP-D221B
(A21 Buttons;
Integral Indicator)



OPP-D240B
(A40 Buttons;
Integral Indicator)



OPP-N240A
(A40 Buttons;
Indicator Separate)



OPP-N240W
(Handicapped Type;
A40 Buttons; Indicator Separate)



Indicator PI-D601
(Indicator in Car Transom with
Car Operating Panel Types
OPP-N240A & OPP-N240W)

Hall Indicator and Button Panels



HIP-D442B
(Hall Indicator &
Button Panel,
Box-less Type
A40 Buttons.)



HIP-D240A
(Hall Indicator &
Button Panel,
Box Type
A40 Buttons.)



HPB-442B
(Hall Button Panel,
Box-less Type
A40 Buttons.)



HPB-240
(Hall Button Panel,
Box Type
A40 Buttons.)



HIP-D240WA **HIP-D442WB**
(Box Type) (Boxless)



Indicator PI-D610
(Indicator in Landing Transom with
Hall Button Panel Types
HPB-442B & HPB-240)

Notes:

- Above hall indicator and hall button panels available with A41 and A21 buttons also.

Buttons



A -40



A -41



A -21

Notes:

All buttons are Braille marked and Buttons A-40 & A-41 have number and ring glowing on pressing.

Hall Lanterns



HLS - 760 **HLS - 770** **HLS - 640**

Notes:

Hall lantern is optional extra. Can be put at for all/ select floors.

NOTES:

1. Lift price will vary with the type of ceiling
2. Default ceiling is of flat acrylic in MS powder coated frame (not shown above)
3. In case of dedicated freight elevators or (service elevators of capacity above 1600 KG), only flat MS powder coated car top is offered as ceiling.

Handrail Options



Handrail Type HR-01A
(SS, Hairline Finish)

Handrail Type HR-BAR
(SS, Hairline Finish)

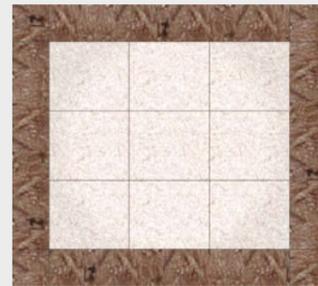


Handrail Type HR-01B
(SS, Hairline Finish with PVC Sleeve)

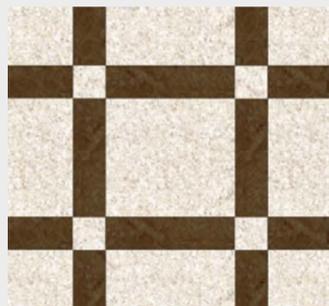
PVC Flooring Options



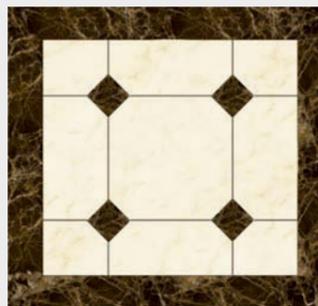
Type FP-08 (Grey)



Type FH-01 (Colored)



Type FH-03 (Colored)



Type FH-03 (Colored)

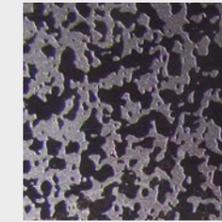
Some SS Etching Patterns Offered



BB-10



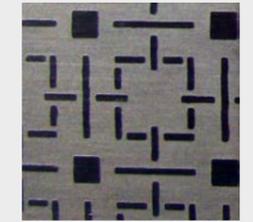
BB-13



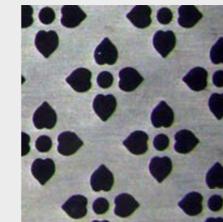
BB-16



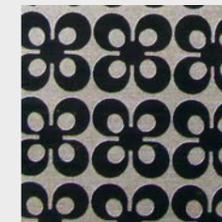
BG-02



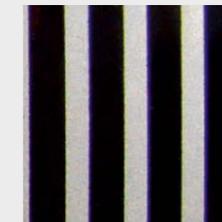
BG-28



BG-30



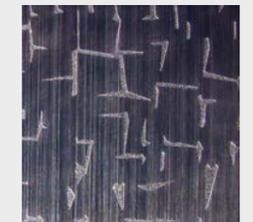
BG-41



BG-12



KJ-62



SE1184

NOTES:

- Some photos above are of etching on SS hairline finish base and some of etching on SS mirror finish base. Any pattern can be etched on hairline or mirror finish base.
- Above samples can be physically shown at the time of final selection.
- The above are some of the etching patterns already available. Any other etching pattern required can be developed at extra price.

MS Powder Coating Shades Offered



P-003



P-005



P-017



P-002



P-006



P-007



P-020 (Gold)



P-021 (Silver)

NOTES:

- P-003, P-005, P-017, P-002, P-006 & P-007 are standard or default shades. Any of these can be selected.
- P-020 Gold & P-021 Silver are metallic colors and can be provided at extra price.
- Actual color shades may look different from the illustrations above. Physical samples can be shown at the time of final selection.

Machine Room Type Elevators - Geared Drive

| Speed M/Sec | Capacity | | Standard Size (mm) | | Hoist-way Required HW x HD | Machine Room Size (mm) * |
|----------------|----------|-------------|----------------------------|-----------------------|----------------------------------|-----------------------------|
| | Persons | KG | Car Internal CW x CD | Door Opening DW | | |
| 1.0 | 6 | 408 | 1400 x 850 | 800 | 1800 x 1480 | 3000 x 3480 |
| 1.5 | 8 | 544 | 1400 x 1030 | 800 | 1800 x 1660 | 3000 x 3660 |
| | 9 | 612 | 1400 x 1100 | 800 | 1800 x 1730 | 3000 x 3730 |
| | 10 | 680 | 1400 x 1250 | 800 | 1800 x 1880 | 3000 x 3880 |
| | 11 | 748 | 1400 x 1350 | 800 | 1800 x 2000 | 3000 x 4000 |
| | 13 | 884 | 1600 x 1350 | 900 | 2050 x 2000 | 3250 x 4000 |
| | 15 | 1020 | 1600 x 1500 | 900 | 2050 x 2150 | 3250 x 4150 |
| | 17 | 1156 | 1800 x 1500 | 1000 | 2350 x 2280 | 3550 x 4280 |
| | 20 | 1360 | 1800 x 1700 | 1000 | 2350 x 2480 | 3550 x 4480 |
| 24 | 1632 | 2000 x 1750 | 1100 | 2550 x 2530 | 3750 x 4530 | |

Maximum travel 60M at 1.0 MPS and 70M at 1.5 MPS.

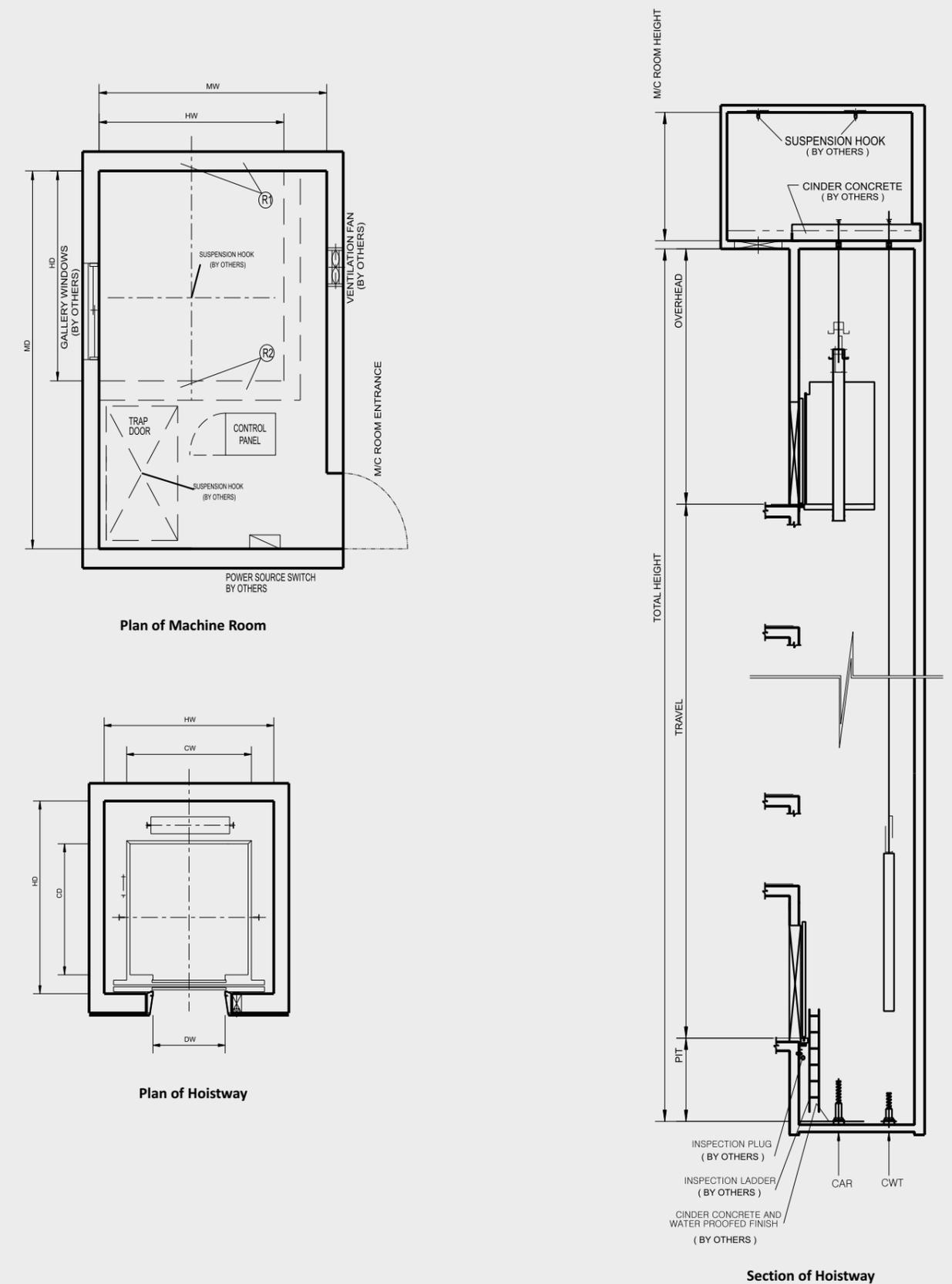
(*) Machine room size shown above is for speed 1.0 MPS. It has to be increased by 500mm in width as well as depth for speed 1.5 MPS. Machine room height recommended is 2500mm.

Overhead & Pit Depth Required

| Speed (M/Sec) | Overhead (mm) | Pit Depth (mm) |
|------------------|------------------|-------------------|
| 1.0 | 4450 | 1500 |
| 1.5 | 5000 | 1600 |

Above mentioned overhead is applicable to Hyundai's standard car height of 2500mm and door height of 2100mm

Illustrative Hoist-way Layout - Machine Room Type Elevators



Planning Guide

Machine Room Type Elevators - Gearless PMSM Drive

| Speed | Capacity | | Standard Size (mm) | | Hoist-way Required | Machine Room Size (mm) * |
|-------|----------|------|--------------------|--------------|--------------------|--------------------------|
| | | | Car Internal | Door Opening | | |
| M/Sec | Persons | KG | CW x CD | DW | HW x HD | MW x MD |
| 1.0 | 8 | 544 | 1400 x 1030 | 800 | 1800 x 1660 | 3000 x 3660 |
| 1.5 | 9 | 612 | 1400 x 1100 | 800 | 1800 x 1730 | 3000 x 3730 |
| 1.0 | 10 | 680 | 1400 x 1250 | 800 | 1800 x 1880 | 3000 x 3880 |
| 1.5 | 11 | 748 | 1400 x 1350 | 800 | 1800 x 2000 | 3000 x 4000 |
| 1.75 | 13 | 884 | 1600 x 1350 | 900 | 2050 x 2000 | 3250 x 4000 |
| | 15 | 1020 | 1600 x 1500 | 900 | 2050 x 2150 | 3250 x 4150 |
| | 17 | 1156 | 1800 x 1500 | 1000 | 2350 x 2280 | 3550 x 4280 |
| | 20 | 1360 | 1800 x 1700 | 1000 | 2350 x 2480 | 3550 x 4480 |
| | 24 | 1632 | 2000 x 1750 | 1100 | 2550 x 2530 | 3750 x 4530 |
| 2.0 | 13 | 884 | 1600 x 1350 | 900 | 2300 x 2200 | 3800 x 4700 |
| 2.5 | 15 | 1020 | 1600 x 1500 | 900 | 2300 x 2350 | 3800 x 4850 |
| | 17 | 1156 | 1800 x 1500 | 1000 | 2500 x 2350 | 4000 x 4850 |
| | 20 | 1360 | 1800 x 1700 | 1000 | 2500 x 2550 | 4000 x 5050 |
| | 24 | 1632 | 2000 x 1750 | 1100 | 2700 x 2600 | 4200 x 5100 |

Maximum travel 60M at 1.0 MPS, 70M at 1.5 MPS, 95M at 1.75 MPS and 120M at 2.0 & 2.5 MPS.

(*) Machine room width and depth shown above for speeds' group 1.0, 1.5 & 1.75 MPS are for speeds 1.0 & 1.5 respectively. Machine room width and depth has to be increased by 500mm respectively for speeds 1.5 & 1.75 MPS (over that shown above for speed 1.0 MPS). Machine room height recommended is 2500mm.

Overhead & Pit Depth Required (mm)

| Speed (M/Sec) | Overhead (mm) | Pit Depth (mm) |
|---------------|---------------|----------------|
| 1.0 | 4450 | 1500 |
| 1.5 | 5000 | 1600 |
| 1.75 | 5000 | 2150 |
| 2.0 | 5400 | 2200 |
| 2.5 | 5600 | 2500 |

Planning Guide

Machine Room Less (MRL) Elevators - Gearless PMSM Drive

| Capacity | | Speed Options | Standard Size (mm) | | Hoist-way Required | Top Floor Front Wall Thickness (mm) * |
|----------|------|---------------|--------------------|--------------|--------------------|---------------------------------------|
| | | | Car Internal | Door Opening | | |
| Persons | KG | M/Sec | CW x CD | DW | HW x HD | (mm) * |
| 4 | 272 | 1.0 | 900 x 1000 | 800 (SO) | 1500 x 1500 | 280 |
| 5 | 340 | 1.0 | 1000 x 1100 | 800 (SO) | 1600 x 1500 | 280 |
| 6 | 408 | 1.0 | 1100 x 1150 | 800 (SO) | 1700 x 1550 | 280 |
| 8 | 544 | 1.0 | 1200 x 1250 | 800 (CO) | 1900 x 1650 | 280 |
| 9 | 612 | 1.0 | 1100 x 1400 | 800 (CO) | 1950 x 1800 | 280 |
| 11 | 748 | 1.0 | 1200 x 1575 | 800 (CO) | 2000 x 1975 | 280 |
| | | 1.5 | | | | 280 |
| | | 1.75 | | | | 280 |
| 15 | 1020 | 1.0 | 1500 x 1600 | 900 (CO) | 2300 x 2000 | 280 |
| | | 1.5 | | | | 280 |
| | | 1.75 | | | | 280 |
| 17 | 1156 | 1.0 | 1650 x 1650 | 1000 (CO) | 2500 x 2050 | 280 |
| | | 1.5 | | | | 280 |
| | | 1.75 | | | | 340 |
| 20 | 1360 | 1.0 | 1700 x 1800 | 1000 (CO) | 2600 x 2300 | 280 |
| | | 1.5 | | | | 340 |
| | | 1.75 | | | | 340 |
| 24 | 1632 | 1.0 | 1800 x 2000 | 1100 (CO) | 2700 x 2500 | 340 |
| | | 1.5 | | | | 340 |
| | | 1.75 | | | | 340 |

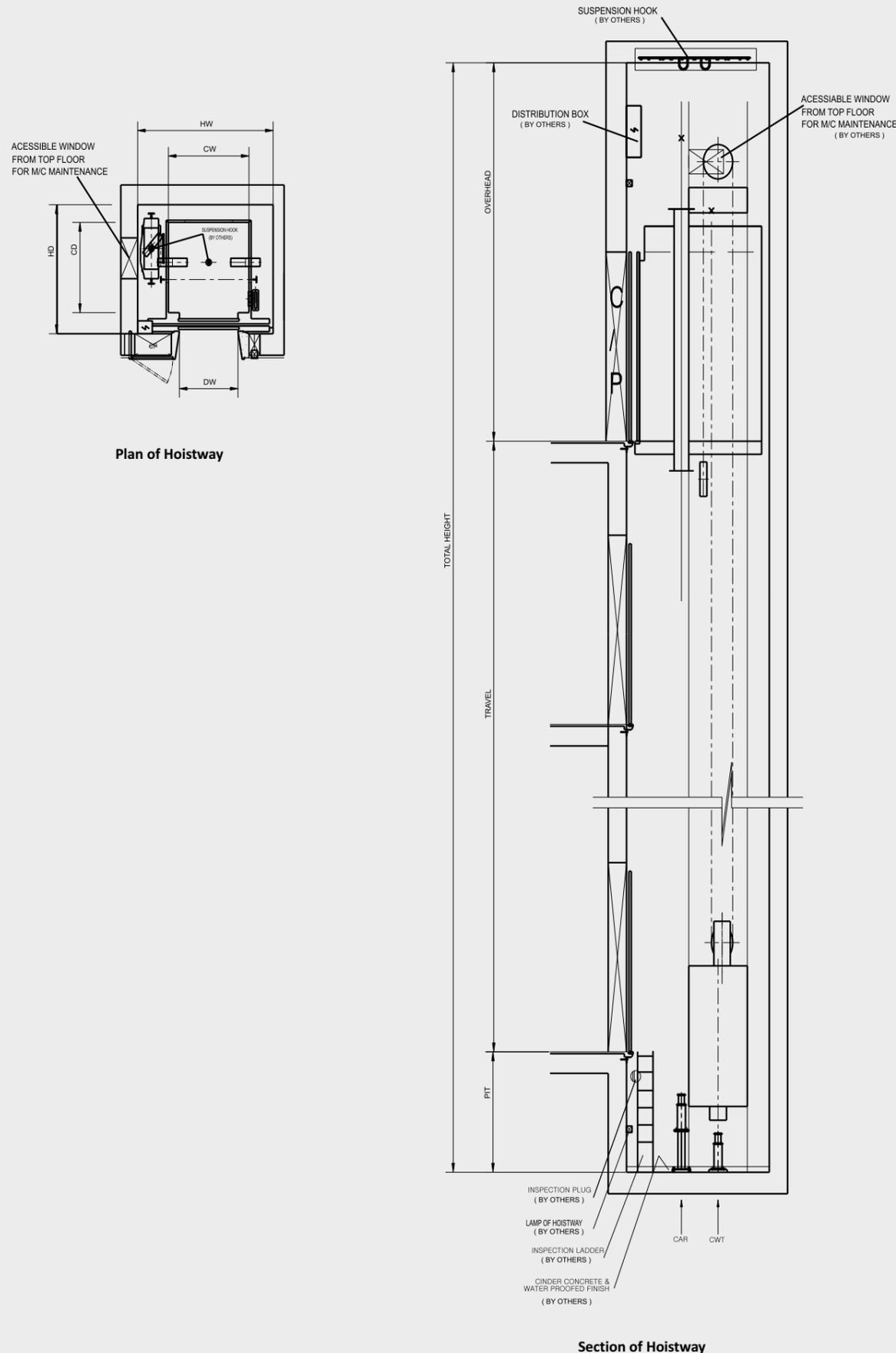
Maximum travel 60M at 1.0 MPS, 70M at 1.5 MPS and 95M at 1.75 MPS.

(*) Front wall thickness shown is the minimum required at top floor since control panel is located in top floor front wall, beside the landing door.

Overhead & Pit Depth Required (mm)

| Speed (M/Sec) | Overhead (mm) | Pit Depth (mm) |
|---------------|---------------|----------------|
| 1.0 | 4450 | 1500 |
| 1.5 | 5000 | 1600 |
| 1.75 | 5000 | 2150 |

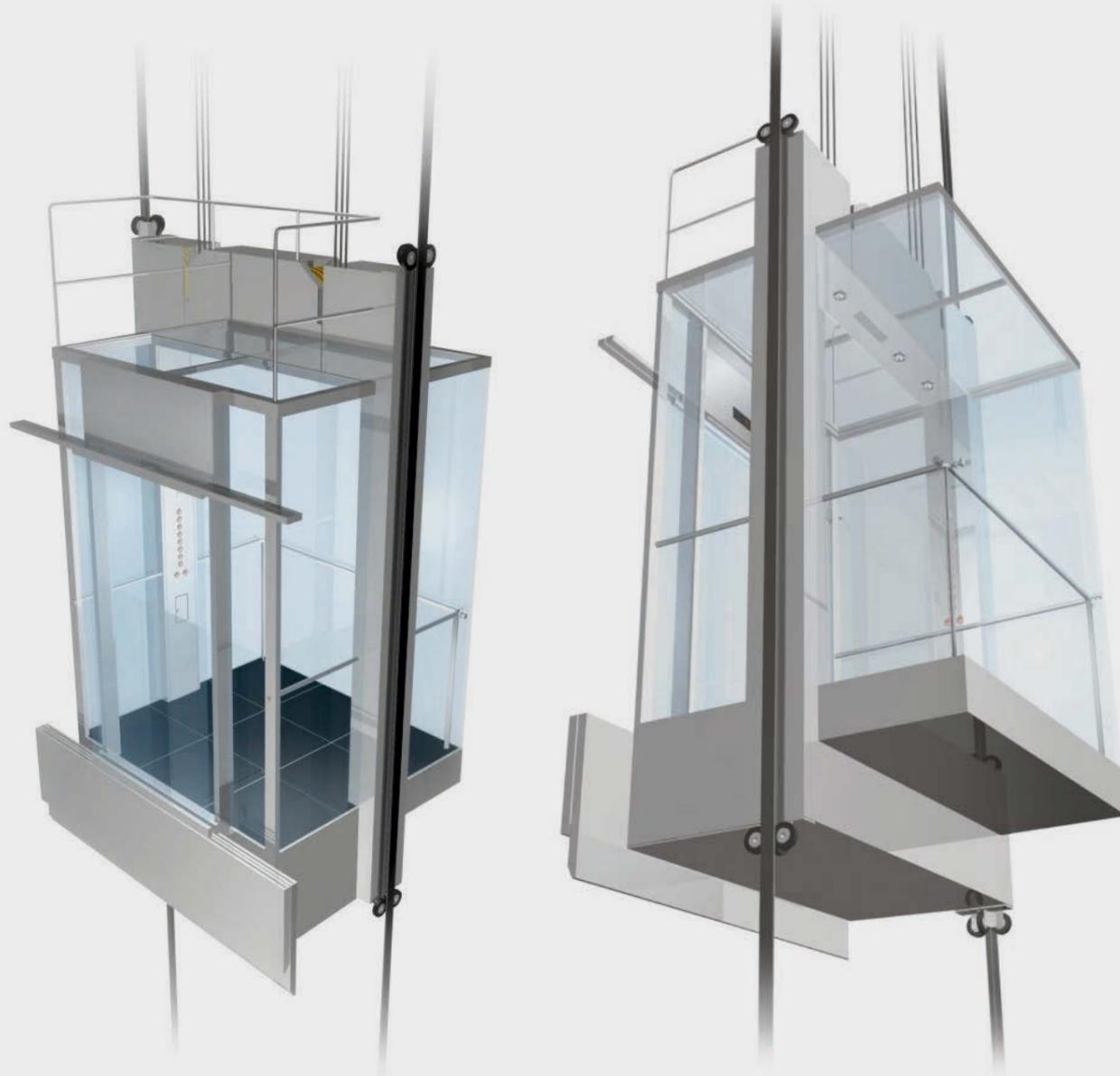
Illustrative Hoist-way Layout - MRL Elevators



Notes on Planning Guide

- Hyundai's gearless drive is Permanent Magnet Synchronous Motor (PMSM) type and is offered with all steel rope suspension only, in case of machine room type as well as MRL elevators.
- Car and machine room sizes and pit depth and overhead requirements shown are based on IS norms as applied in India (linked to speed and car height) and may differ from those appearing in some Hyundai catalogues.
- Car and required hoist-way sizes shown for machine room type elevators are with counter-weight at rear. Motor as well as counterweight come on a side in the hoist-way in case of MRL elevators.
- Car size can be customized as long as car internal area to capacity ratio and the differences between car internal width and hoist-way width and car internal depth and hoist-way depth respectively are maintained. Car internal width variation is offered in multiples of 100mm.
- Door opening widths shown are all centre opening in case of machine room type elevators and side opening or telescopic (SO) or centre opening (CO) as shown in the planning table in case of MRL elevators.
- Standard car internal sizes shown yield area slightly more than permitted in IS in case of some smaller capacity MRL elevators. Effective area will be reduced by handrail.
- Standard minimum MRL lift capacity is 11 persons at speeds 1.5 and 1.75 MPS. Requirement of a lower capacity elevator at either of these speeds will entail using the drive and related parts meant for 11 person capacity. Hoist-way size required will be determined by the differences between car internal width and hoist-way width for 11 person capacity.
- Capacities in between Hyundai's standard capacities (viz. 12 persons, 16 persons or 22 persons) can be offered by using the drive and related parts meant for the next higher capacity. Car size will be altered so as to not violate the permitted car internal area to capacity norm. Hoist-way size required will be determined by the differences between car internal width and hoist-way width and car internal depth and hoist-way depth respectively for the next higher capacity. However, the hoist-way width required for the next higher capacity will be required to provide door opening width shown for the next higher capacity.
- Please refer to Kinetic Hyundai for sizes for machine room type elevators with counterweight on a side (such as in service elevators with deep car).
- Pit depth 1600mm mandated in IS is acceptable but 1800mm is recommended at speed at 1.5 MPS.
- Counterweight safety application is mandatory in case of floating pit (void left below the pits bottom in case of lift starting from floor other than the lowest). This makes pit depth requirement 400-450mm more. In addition, an additional concrete slab is required below and at least 300mm below the pit's bottom.
- Above overhead requirements are with Hyundai's standard lift door height, 2100mm and will be higher for taller doors. Requirement of taller (2200mm or 2400mm high) doors, hence taller car, may entail use of drive and related parts meant for a higher capacity due the increased dead load of car (please see point no. 14 below).
- Above machine room sizes are for single elevators. Overall size of a combined machine room for a number of elevators in a group can be slightly lower than the sum of the individual machine room sizes. Please consult Kinetic Hyundai for the same.
- Standard finishing allowance is 10% of the rated capacity. This is sufficient for marble/ granite flooring in 20mm recess. Higher finishing allowance requirement (or requirement of taller doors, hence taller car) may entail use of drive and related parts meant for a higher capacity. In such case, hoist-way clearances (differences between car internal width and hoist-way width and car internal depth and hoist-way depth respectively) will also be required as applicable to the higher capacity. Taller doors or higher finishing allowance are not offered for MRL elevators with rated capacity 24 persons. Requirement of 24 person rated capacity machine room type elevators with taller doors or higher finishing allowance may be referred to Kinetic Hyundai.

(All Sides Glass in SS Frame)



Capsule Type: SHGQ015

| | |
|---------------------|--|
| Glass Window | 3 Piece Safety Glass |
| Outer Domes | SS, Hairline Finish |
| Car Walls | SS, Hairline Finish (Options SS Mirror Finish / Etched and Mild Steel Powder Coated) |
| Flooring | Grey PVC Tiles / 20mm Recess for Flooring by Others |
| Ceiling | Acrylic in SS hairline Finish Frame with Decorative Punching Pattern Lighting |

Notes:
 Capacity Minimum 11 persons (748 KG), Maximum 20 persons (1360 KG)
 Speed - Maximum 1.75 MPS

- All sides of glass in SS frame
- Doors too of glass in SS frame (optional)
- SS frame of mirror finish or hairline finish
- Offered with Machine Room (geared as well as gearless drive) as well MRL drive
- Maximum capacity offered 20-persons (1360 KG). *Higher capacity (upto 24-persons) available as special product.*

Planning Guide for Capsule SQGQ015

| Speed | Capacity | | Standard Size (mm) | | Hoist-way Required # | | Machine Room Size (mm) * |
|--|----------|------|--------------------|--------------|----------------------|----------------------------|--------------------------|
| | | | Mean Car Internal | Door Opening | Overall | RCC Part for Counterweight | |
| M/Sec | Persons | KG | CW x CD | DW | HW x HD | SW x SD | MW x MD |
| Machine Room Type (Geared /Gearless PMSM Drive) | | | | | | | |
| 1.0 | 11 | 748 | 1100 x 1500 | 800 (CO) | 2450 x 2300 | 550 x 1100 | 3650 x 4300 |
| 1.5 | 15 | 1020 | 1200 x 1800 | 900 (CO) | 2650 x 2450 | 550 x 1250 | 3850 x 4450 |
| 1.75 | 20 | 1360 | 1400 x 2000 | 1000 (CO) | 2850 x 2700 | 550 x 1350 | 4050 x 4700 |

Maximum travel 60M at 1.0 MPS, 70M at 1.5 MPS and 95M at 1.75 MPS.

Overhead & Pit Depth Required (mm)

| Speed (M/Sec) | Overhead (mm) | Pit Depth (mm) |
|---------------|---------------|----------------|
| 1.0 | 4900 | 2000 |
| 1.5 | 5050 | 2200 |
| 1.75 | 5200 | 2200 |

Notes:
 1. (#) Overall hoist-way size including glass cladding at rear.
 2. (*) Please see footnote on page no.14 on increase in machine room depth requirement with speed.
 3. Please see Notes on Planning Guide on page no.17.



Capsule Type: SHGQ004

| | |
|---------------------|--|
| Glass Window | 3 Piece Safety Glass |
| Outer Domes | MS Powder Coated with Punching Pattern Lighting (Option SS Hairline Finish) |
| Car Walls | SS, Hairline Finish (Options SS Mirror Finish / Etched and Mild Steel Powder Coated) |
| Flooring | Grey PVC Tiles / 20mm Recess for Flooring by Others |
| Ceiling | Milky White Acrylic in MS Powder Coated Frame with Decorative Lighting |



Capsule Type: SHGQ007

| | |
|---------------------|--|
| Glass Window | 3 Piece Safety Glass |
| Outer Domes | Milky White Acrylic |
| Car Walls | SS, Hairline Finish (Options SS Mirror Finish / Etched and Mild Steel Powder Coated) |
| Flooring | Grey PVC Tiles / 20mm Recess for Flooring by Others |
| Ceiling | Milky White Acrylic in MS Powder Coated Frame with Decorative Lighting |



Capsule Type: SC-846A

| | |
|---------------------|--|
| Glass Window | 3 Piece Safety Glass |
| Outer Domes | Milky White Acrylic |
| Car Walls | SS, Hairline Finish (Options SS Mirror Finish / Etched and Mild Steel Powder Coated) |
| Flooring | Grey PVC Tiles / 20mm Recess for Flooring by Others |
| Ceiling | Acrylic in MS Powder Coated Frame with Decorative Lens Lighting |



Capsule Type: SHGQ008

| | |
|---------------------|--|
| Glass Window | 3 Piece Safety Glass |
| Outer Domes | SS, Hairline Finish, With Lights |
| Car Walls | SS, Hairline Finish (Options SS Mirror Finish / Etched and Mild Steel Powder Coated) |
| Flooring | Grey PVC Tiles / 20mm Recess for Flooring by Others |
| Ceiling | Milky White Acrylic in MS Powder Coated Frame with Decorative Lighting |

Notes:

- Capacity (Machine Room Type)
- Capacity (MRL) -
- Speed -

Minimum 11 persons (748 KG), Maximum 20 persons (1360 KG)
 Minimum 11 persons (748 KG), Maximum 15 persons (1020 KG)
 Maximum 1.75 MPS

Notes:

- Capacity (Machine Room Type)
- Capacity (MRL) -
- Speed -

Minimum 11 persons (748 KG), Maximum 20 persons (1360 KG)
 Minimum 11 persons (748 KG), Maximum 15 persons (1020 KG)
 Maximum 1.75 MPS

Planning Guide for Capsules
SHGQ004, SHGQ007, SHGQ008 & SC-846A

| Speed | Capacity | | Standard Size (mm) | | Hoist-way Required # | | Machine Room Size (mm) * |
|--|----------|------|--------------------|--------------|----------------------|----------------------------|--------------------------|
| | | | Mean Car Internal | Door Opening | Overall | RCC Part for Counterweight | |
| M/Sec | Persons | KG | CW x CD | DW | HW x HD | SW x SD | MW x MD |
| Machine Room Type (Geared /Gearless PMSM Drive) | | | | | | | |
| 1.0 | 11 | 748 | 1400 x 1500 | 800 (CO) | 2500 x 2100 | 550 x 1200 | 3700 x 4100 |
| 1.5 | 15 | 1020 | 1500 x 1750 | 900 (CO) | 2600 x 2350 | 550 x 1350 | 3800 x 4350 |
| 1.75 | 20 | 1360 | 1700 x 1980 | 1000 (CO) | 2850 x 2550 | 550 x 1500 | 4050 x 4550 |
| MRL (Gearless PMSM Drive) | | | | | | | |
| 1.0 | 11 | 748 | 1300 x 1710 | 800 (CO) | 2200 x 2250 | 440 x 1250 | NA |
| 1.5 | 15 | 1020 | 1350 x 1900 | 900 (CO) | 2350 x 2450 | 390 x 1325 | NA |

Maximum travel 60M at 1.0 MPS, 70M at 1.5 MPS and 95M at 1.75 MPS.

Planning Guide for Capsules
SHGQ-F02 & SHGQ002

| Speed | Capacity | | Standard Size (mm) | | Hoist-way Required # | | Machine Room Size (mm) * |
|--|----------|------|--------------------|--------------|----------------------|----------------------------|--------------------------|
| | | | Mean Car Internal | Door Opening | Overall | RCC Part for Counterweight | |
| M/Sec | Persons | KG | CW x CD | DW | HW x HD | SW x SD | MW x MD |
| Machine Room Type (Geared /Gearless PMSM Drive) | | | | | | | |
| 1.0 | 11 | 748 | 1400 x 1350 | 800 (CO) | 2350 x 1950 | 550 x 1200 | 3550 x 3950 |
| 1.5 | 15 | 1020 | 1600 x 1500 | 900 (CO) | 2600 x 2100 | 550 x 1350 | 3800 x 4100 |
| 1.75 | 20 | 1360 | 1800 x 1700 | 1000 (CO) | 2900 x 2300 | 550 x 1500 | 4100 x 4300 |
| MRL (Gearless PMSM Drive) | | | | | | | |
| 1.0 | 9 | 630 | 1100 x 1400 | 800 (CO) | 1950 x 1950 | Full H'way Depth | NA |
| 1.5 | 11 | 750 | 1300 x 1470 | 800 (CO) | 2050 x 2000 | Full H'way Depth | NA |
| 1.75 | 15 | 1020 | 1400 x 1550 | 900 (CO) | 2250 x 2100 | Full H'way Depth | NA |

Maximum travel 60M at 1.0 MPS, 70M at 1.5 MPS and 95M at 1.75 MPS.

Overhead & Pit Depth Required (mm)

| Speed (M/Sec) | Overhead (mm) | Pit Depth (mm) |
|---------------|---------------|----------------|
| 1.0 | 4900 | 2000 |
| 1.5 | 5050 | 2200 |
| 1.75 | 5200 | 2200 |

Notes:

- (#) Overall hoist-way size including glass cladding at rear.
- (*) Please see footnote on page no.14 on increase in machine room depth requirement with speed.
- Please see table on page no.15 for top floor front wall thickness requirement for MRL elevators.
- Please see Notes on Planning Guide on page no.17.



Capsule Type: SHGQ-F02

| | |
|------------------|--|
| Glass Window | Rear Wall of Safety Glass (Corner to Corner) |
| Outer Rear Panel | MS Powder Coated |
| Car Walls | SS, Hairline Finish (Options SS Mirror Finish / Etched and Mild Steel Powder Coated) |
| Flooring | Grey PVC Tiles / 20mm Recess for Flooring by Others |
| Ceiling | Acrylic in MS Powder Coated Frame with Decorative Lighting |



Capsule Type: SHGQ002

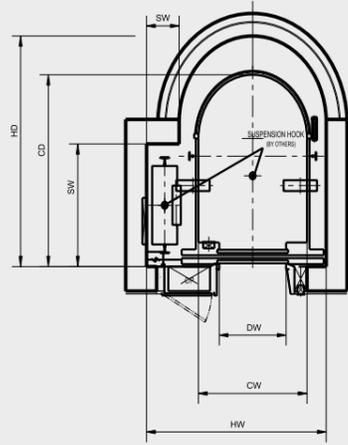
| | |
|------------------|--|
| Glass Window | Rear Wall of Safety Glass (End to End) |
| Outer Rear Panel | MS Powder Coated |
| Car Walls | SS, Hairline Finish (Options SS Mirror Finish / Etched and Mild Steel Powder Coated) |
| Flooring | Grey PVC Tiles / 20mm Recess for Flooring by Others |
| Ceiling | Milky White Acrylic in MS Powder Coated Frame with Decorative Lighting |

Notes:

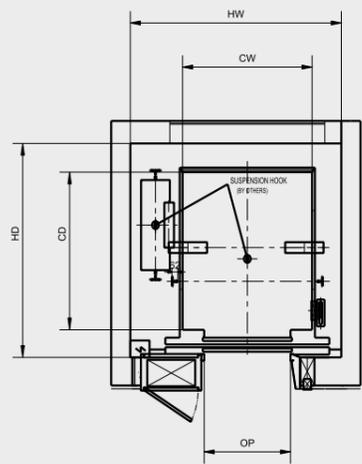
Capacity (Machine Room Type)
Capacity (MRL) -
Speed -

Minimum 11 persons (748 KG), Maximum 20 persons (1360 KG)
Minimum 11 persons (748 KG), Maximum 15 persons (1020 KG)
Maximum 1.75 MPS

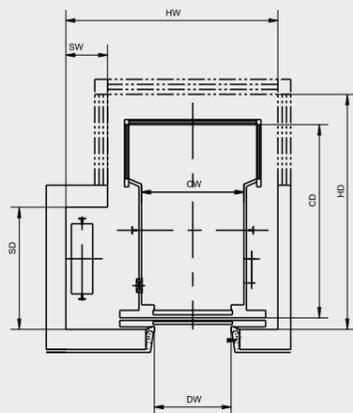
Illustrative Hoist-way Layout - Observation Elevators



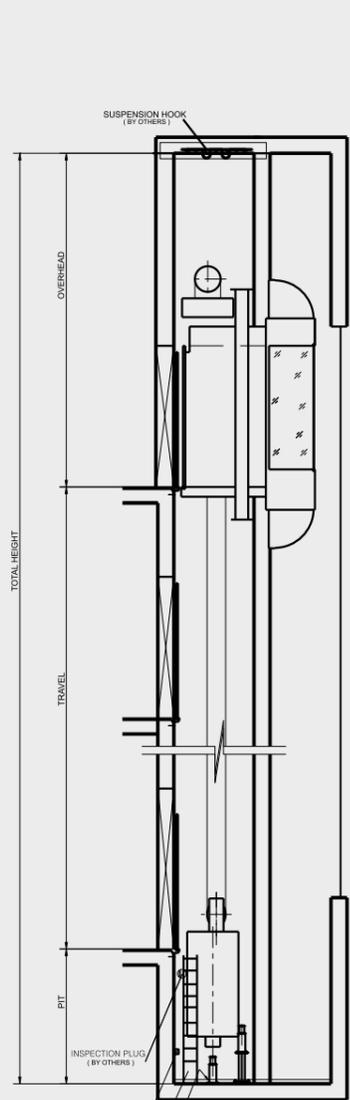
Plan of Hoistway Capsules SHGQ004, SHGQ007, SHGQ008 & SC-846A



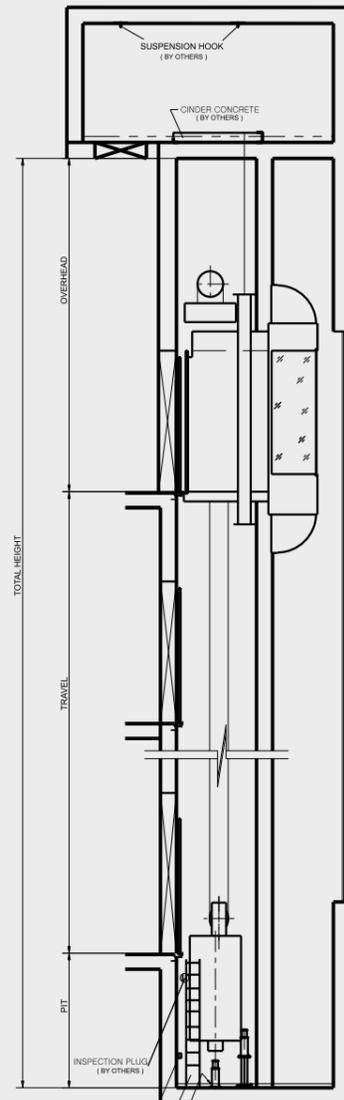
Plan of Hoistway Capsules SHGQ-F02, SHGQ002



Plan of Hoistway Capsule SHGQ015



Section of Hoistway - MRL



Section of Hoistway - Machine Room Type

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

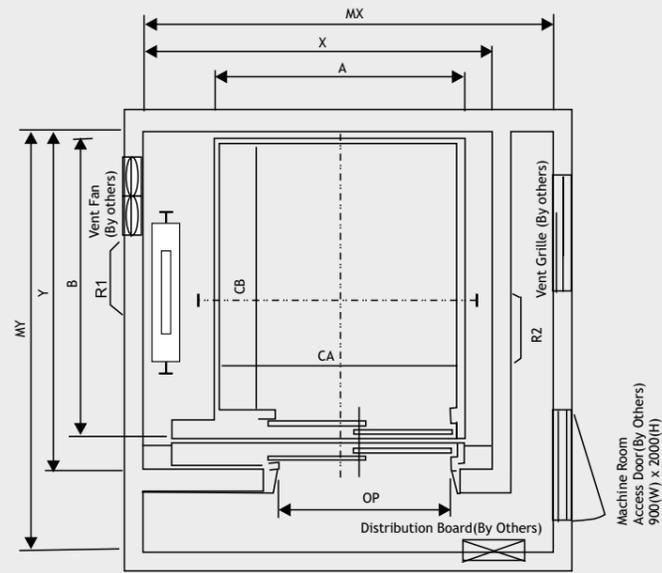
| | |
|-----------|------------------------|
| Ceiling | Painted steel sheet |
| Car Wall | Painted steel sheet |
| Flooring | Checkered steel sheet |
| Car Doors | - |
| Lighting | Semi-indirect lighting |

Freight Elevators - Planning Guide

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

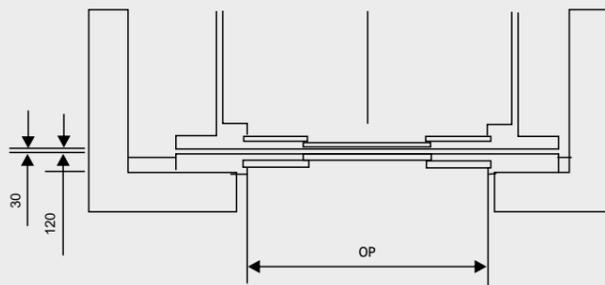
Freight Elevators - Planning Guide

Plan of Hoistway & Machine Room

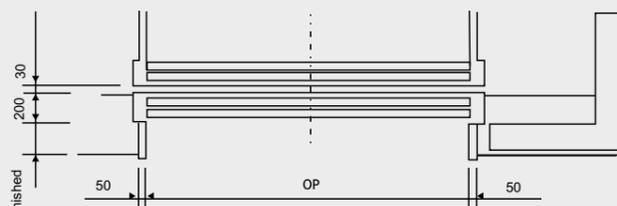


2-Panel Side-Opening Doors (2S)

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



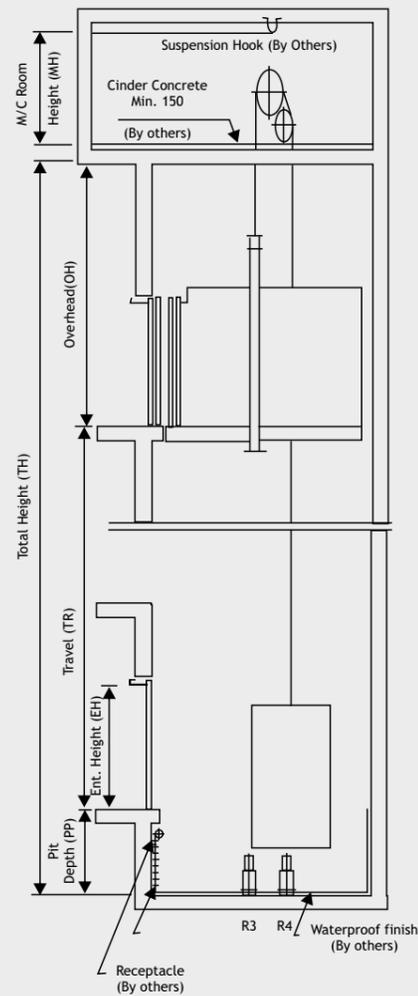
4-Panel Center Opening Doors (2SCO)



2-Panel Up-Sliding Doors (2U)

- Minimum floor height : opening Height x 3/2 + 450mm
- Minimum entrance height : 2100mm

Section of Hoistway



| Model | Speed (m/min) | Entrance | | | CAR | | Hoistway | | M/C Room (MX x MY) |
|------------|---------------|--------------|----------------|---------------|-----------------|----------------|-------------|---------------|--------------------|
| | | Door Opening | Width x Height | Entrance Type | Internal CA x C | External A x B | X x Y | Overhead (OH) | |
| F1000-2S | 30 | 2S | 1200 X 2100 | Standard | 1400 x 1700 | 1480 x 1900 | 2300 x 2200 | 4800 | 3200 x 3500 |
| | 45 | | | | | 1480 x 2020 | | | |
| | 60 | | | | | 1480 x 2020 | | | |
| F1500-2S | 30 | 2S | 1500 X 2100 | Standard | 1800 x 1800 | 1860 x 2000 | 2700 x 2300 | 4800 | 3600 x 4000 |
| | 45 | | | | | 1880 x 2120 | | | |
| | 60 | | | | | 1880 x 2120 | | | |
| F2000-2SCO | 30 | 2SCO | 1600 X 2100 | Standard | 1900 x 2100 | 1980 x 2310 | 2950 x 2600 | 4800 | 3600 x 4000 |
| | 45 | | | | | 1980 x 2440 | | | |
| | 60 | | | | | 1980 x 2440 | | | |
| F2000-2U | 30 | 2U | 1900 X 2100 | Standard | 1900 x 2100 | 1980 x 2298 | 2950 x 2700 | 4600 | 3800 x 4200 |
| | 45 | | | | | 1980 x 2416 | | | |
| | 60 | | | | | 1980 x 2416 | | | |
| F2500-2SCO | 30 | 2S | 1700 X 2100 | Standard | 2100 x 2300 | 2180 x 2510 | 3100 x 2800 | 4800 | 4000 x 4400 |
| | 45 | | | | | 2180 x 2640 | | | |
| | (60) | | | | | 2180 x 2640 | | | |
| F2500-2U | 30 | 2U | 2100 X 2100 | Standard | 2100 x 2100 | 2180 x 2498 | 3100 x 2900 | 4600 | 4000 x 4400 |
| | 45 | | | | | 2180 x 2616 | | | |
| | (60) | | | | | 2180 x 2616 | | | |
| F3000-2SCO | 30 | 2SCO | 1800 X 2300 | Standard | 2300 x 2500 | 2380 x 2710 | 3300 x 3000 | 4800 | 4200 x 4800 |
| | 45 | | | | | 2380 x 2840 | | | |
| | | | | | | 2380 x 2840 | | | |
| F3000-2U | 30 | 2U | 2300 X 2100 | Standard | 2300 x 2100 | 2380 x 2698 | 3300 x 3100 | 5000 | 4300 x 5200 |
| | 45 | | | | | 2380 x 2816 | | | |
| | | | | | | 2380 x 2816 | | | |
| F4000-2SCO | 25 | 2SCO | 2000 X 2100 | Standard | 2500 x 2900 | 2580 x 3110 | 3700 x 3400 | 5300 | 4500 x 5900 |
| | 30 | | | | | 2580 x 3240 | | | |
| | | | | | | 2580 x 3240 | | | |
| F4000-2U | 25 | 2U | 2500 X 2100 | Standard | 2500 x 2900 | 2580 x 3098 | 3700 x 3500 | 5500 | 4700 x 6400 |
| | 30 | | | | | 2580 x 3216 | | | |
| | | | | | | 2580 x 3216 | | | |

Note : 1. The loading capacity should be over 250 kg/m² minimally
 2. The actual reaction may slightly differ from above dimensions in line with machine beam position.

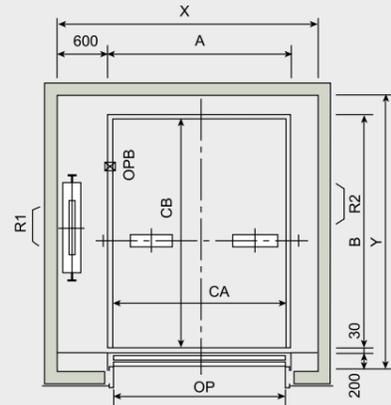
Building Requirements

| Speed (m/min) | PIT (PP) | M/C Room Height (MH) |
|---------------|----------|----------------------|
| 30, 45 | 1350 | 2400 |
| 60 | 1500 | 2600 |

Automobile Elevators

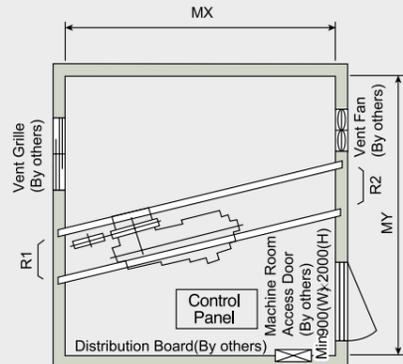
General Type (2U, 3U)

Plan of Hoistway & Machine Room



2-PANEL UP-SLIDING DOORS (2U)

- Minimum floor height : Opening Height 1700mm
- Minimum entrance height : 1800mm



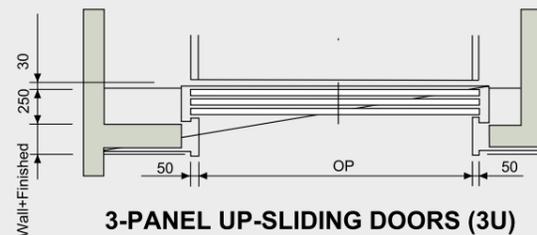
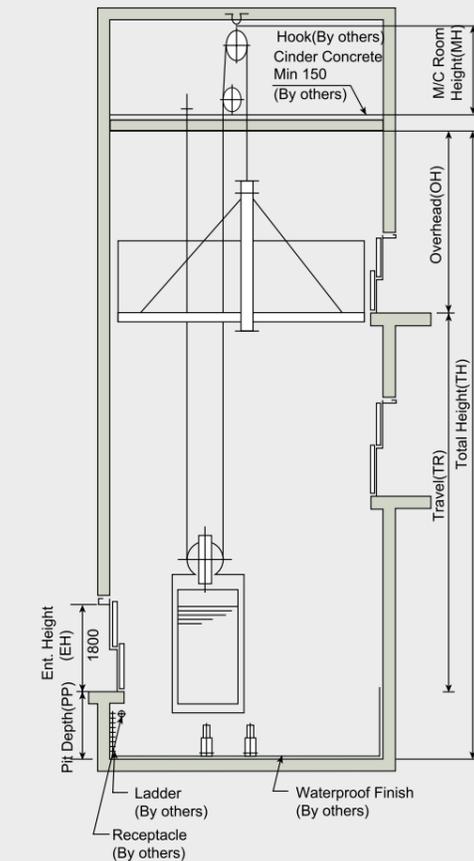
- Notes: 1. Temperatures should be maintained below 40°C with a ventilating fan and/or air conditioner (if necessary) and humidity below 90%.
2. The specification of car doors are optional.

(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.

Section of Hoistway



3-PANEL UP-SLIDING DOORS (3U)

- Minimum floor height : Opening Height 1750mm
- Minimum entrance height : 1800mm

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 |
| | | | | OP | CA×CB | | | | |
| Standard Type | A2000-2U | 30, 45 | 2350 | 2350×5300 | 2450×5350 | 3300×5800 | 3300×5800 | 17500 | 12000 |
| | A2500-2U | 30, 45 | 2750 | 2750×6300 | 2850×6350 | 3700×6800 | 3850×6800 | 22500 | 12500 |
| | A2000-3U | 30, 45 | 2350 | 2350×5300 | 2450×5350 | 3300×5800 | 3300×5800 | 17500 | 12000 |
| | A2500-3U | 30, 45 | 2750 | 2750×6300 | 2850×6350 | 3700×6800 | 3850×6800 | 22500 | 12500 |
| Double Entrance Type | A2000-2UD | 30, 45 | 2350 | 2350×5300 | 2450×5300 | 3300×5800 | 3300×5800 | 17500 | 12000 |
| | A2500-2UD | 30, 45 | 2750 | 2750×6300 | 2850×6300 | 3700×6800 | 3850×6800 | 22500 | 12500 |
| | A2000-3UD | 30, 45 | 2350 | 2350×5300 | 2450×5300 | 3300×5800 | 3300×5800 | 17500 | 12000 |
| | A2500-3UD | 30, 45 | 2750 | 2750×6300 | 2850×6300 | 3700×6800 | 3850×6800 | 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.

Standard Features for Passenger & Freight Elevators

- Selective Collective Control** : Selective automatic operation by collective all call signals
 Accurately adjusts motor speed, which makes elevator start, run and stop smoothly.
- VVVF Inverter Drive With Close Loop Encoder Feedback** : Accurately adjusts door motor speed, which makes door start, open & close and stop smoothly.
- VVVF Inverter Door Drive With Close Loop Encoder Feedback** : Accurately adjusts door motor speed, which makes door start, open & close and stop smoothly.
- Inspection Operation** : When inspection switch actuates car inching operation at speed 0.3m/s.
- Automatic Overload Bypass** : Crowded car with load more than a preset value bypasses hall calls.
- Fireman's Emergency Return and Fireman's Emergency Operation** : When the key switch at main floor is activated or signal is received from fire detection system, all calls are canceled and car returns immediately to main floor, then door opens. Thereafter car responds only to car call, to facilitate rescue.
- Car Arrival Chime** : Electronic chime mounted on car top sounds to indicate the car's arrival.
- Dot Matrix Display Indication** : Car position displays inside car and on landings with scrolling arrow to indicate the direction in which the car is running.
- Reverse Car Call Cancellation** : When the car responds to the final car call in one direction, the system automatically clears the remaining calls in the other direction from its memory.
- False Call Canceling - Button Operation** : If a mistake is made when pressing a floor button, simply pressing the same button again cancels the call.
- False Call Canceling - Automatic** : If the number of car calls registered is not in proportion with the lift's capacity, all calls are canceled in order to avoid unnecessary stops.
- Owner Skip Operation** : Temporarily locking (bypassing) a floor as per customer's requirement.
- Ventilation Fan** : Lift is fitted with sound free axial flow fan fitted above and hidden by false ceiling.
- Car Ventilation Auto Shut Off** : If there is no call registered within a predetermined period of time, i.e. the elevator is idle, car fan is automatically shut off to conserve energy.
- Car Light Auto Shut Off** : If there is no call registered within a predetermined period of time, i.e. the elevator is idle, car light is automatically shut off to conserve energy.
- Overload Holding Stop** : Overloaded car cannot leave the floor and a buzzer is sounded.
- Attendant Service** : Elevators can be changed over to attendant service from normal full automatic operation by an override switch in the car operating panel.
- Repeated Door Closing and Opening** : If an obstacle prevents the doors from closing, the doors repeatedly open and close until the obstacle is cleared.
- Lift Operation Counter** : The controller records the number of elevator running operations performed.
- Fault Indication** : When elevator stops due to a fault, the fault is recorded and displayed in the controller.
- Emergency Car Lighting** : When power fails, battery operated emergency light in car turns ON immediately.
- Multi-beam Door Protection** : Multiple infrared light beams cover the full width and height of the door as the door opens or closes, to detect passengers or objects.
- Interphone with Battery Back Up** : A three way interphone system comprising a press and speak unit in car operating panel for the passengers and handset each at lift control panel and main lobby.

Optional Features

- Safety Edge Door Protection** : Conventional sensitive mechanical door edge to detect pressure from passenger and objects, in lieu of or together with multi-beam protection.
- Voice Synthesizer** : Floor and elevator status announcement.
- Duplex Control** : Optimizes the operation of a pair of elevators by dispatching the nearest car to attend a call.
- Group Control** : Optimizes the operation of a group of 3 to 8 cars by minimizing waiting time, zonal distribution and energy conservation.
- Auxiliary Car Operating Panel** : Extra car operating panel in large-capacity elevator for passenger convenience. Can be regular vertical layout type or handicap type.
- Swing Type Car Operating Panel** : Full height car operating panel- an entire return panel forms the car operating panel plate.
- Emergency Landing Device ELD (Automatic Rescue Device ARD)** : In case of normal power's failure, a rechargeable battery moves the car to the nearest floor.
- Dual Floor Fireman's Emergency Return** : In case of fire signal from the building's fire detection system, return to a floor other than the main floor if the fire signal is from the main floor.
- Supervisory Panel** : Common display panel (for building control room or lobby or security room) with a car position and status display for each lift.
- Hall Lantern** : Predictive attractive flashing up and down indicator lights above the landing doors of lifts in a group to indicate to waiting passengers the lift expected to arrive at the floor.
- BMS contact** : Potential free contacts for BMS at lift control panel, with signals on lift position and status.