

## Entrance Design

### SPECIFICATION

#### 1. Landing door

- 1) Hinged type
  - Steel with baked painting
  - A-60 Class fire proof door
  - Vision glass (Option)
- 2) Center open type
  - Steel with baked painting or stainless steel
  - A-0 & A-60 Class fire proof door
  - Sill : Stainless steel

#### 2. Hall indicator button

- Stainless steel with hairline finished
- Car here light



## Car Design

### SPECIFICATION

#### 1. Car wall, car doors and ceiling

- Steel with baked painting
- SUS hairline finished
- SUS etching finished
- SUS mirror finished
- SUS mirror etching finished

#### 2. Lighting

Fluorescent light

#### 3. Ventilation

Fan with louver

#### 4. Flooring

Non-slip type vinyl sheet or stainless bare

#### 5. Operation panel

- SUS with hairline finished
- Key-lock switch : For restriction to enter into the designated deck.



## General Requirement

### FOR QUOTATIONS, WE REQUIRE THE FOLLOWING INFORMATION

- |                                      |   |
|--------------------------------------|---|
| 01. Shipyard                         | 10. Location of machine room                          |
| 02. Hull No.                         | 11. Dimensions of elevator trunk                      |
| 03. Flag                             | 12. Power supply                                      |
| 04. Classification and certification | 13. Any other special features which may be required. |
| 05. Capacity                         | 14. Delivery time                                     |
| 06. Speed                            |   |
| 07. Traveling height                 |   |
| 08. Number of stops                  |   |
| 09. Type of landing door             |   |



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Tankers | Bulk carriers | Containers | RO-RO & PCC  
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HYUNDAI ELEVATOR

MARINE ELEVATORS

Moving solutions with safety, reliability and efficiency

# Marine Elevators

Hyundai Elevator provides a highly efficient, safe, convenient and reliable elevators for marine applications.



Golar Viking

## Main Equipment

### ▶ TRACTION MACHINE

The traction machine is driven by a squirrel cage induction motor and provided with an electromagnetic brake acting on the coupling between the gear and the motor. And, in order to prevent the vibration from the hull, isolation pad is equipped in the traction machine foundation.



### ▶ GENERAL SPECIFICATION OF MOTOR

- Motor Protection : IP 23, IP44 & IP54
- Insulation Class : B and/or F Class
- Starting times(2BC) : 180 times/hour
- Ambient temperature : 45°C
- Variation Voltage : +6% ~ -10% at rated voltage
- Variation Frequency : ±2.5% at rated frequency

### ▶ LANDING DOORS (Fire Proof Landing Doors)

All types of Hyundai Elevator landing doors are designed especially for marine elevators. This first of all means that the doors are designed and fire-tested for a class [A-0 & A-60] divisions in accordance with SOLAS.

Furthermore, type approval certificates for each type have been issued by most national marine authorities and major classification societies.

### ▶ CONTROL PANEL

The control panel is placed in the elevator machine room contains Main Inverter, PC Boards, relays, rolling/ pitching switch and relevant equipment for operation.

## Safety Devices

### ▶ DOOR INTERLOCK

Each landing door is provided with an electromechanical lock connected in series with safety circuit. Hence, the elevator car can not be started or kept in motion unless every landing door is fully closed and locked in compliance with safety requirements.

### ▶ SPEED GOVERNOR

If the car traveling speed exceeds the specified upper limit, the speed governor is activated, turning off the drive motor and activating the safety gear on outer frame of the car whereby the car is stopped and secured to the rails.

### ▶ SAFETY GEAR (for Car & CWT)

Safety gears for car and counter weight are provided under the car and counter weight. At the moment of emergency case (eg. dropping the car or counter weight), the safety gear related with speed governor is operated with gripping the guide rails.

### ▶ CAR DOOR SWITCH

This switch prevents the car from starting unless the car doors are completely closed.

### ▶ EMERGENCY EXIT SWITCH

If the emergency exit door on the car roof is opened, the power would be disconnected to prevent from the car moving.

### ▶ BRAKING SYSTEM

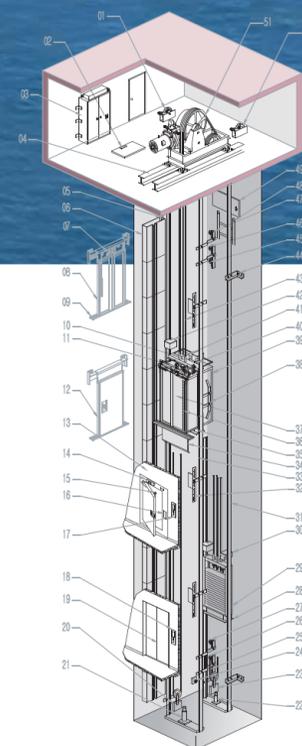
At the moment when the drive motor is turned off, a spring loaded DC magnetic brake is applied to the motor.

### ▶ EMERGENCY LIGHT

This light provided on the ceiling is illuminated as soon as power failure takes place.

### ▶ CAR BUFFER

Spring buffers are mounted in the elevator pit area at the bottom of the elevator trunk, under the car and counterweight.



### STANDARD ARRANGEMENT IN HOISTWAY

- |  |                                     |  |
|--|-------------------------------------|--|
| 01. Car governor   | 18. Hall indicator button           | 36. Safety edge  |
| 02. Trunk top escape hatch switch (In case of overhead type) | 19. Landing door (Center open type) | 37. Car door   |
| 03. Control panel  | 20. Car governor tension sheave     | 38. Final limit switch cam                                   |
| 04. Machine foundation                                       | 21. Car buffer                      | 39. Car assembly   |
| 05. Travelling cable   | 22. Counterweight buffer            | 40. Car exit switch  |
| 06. Travelling cable duct (for Guide)                        | 23. Counterweight tension sheave    | 41. Car junction box   |
| 07. Door interlock switch                                    | 24. Pit switch                      | 42. Oiler  |
| 08. Landing door (Center open type)                          | 25. Down final limit switch         | 43. Main wire rope   |
| 09. Hatch sill (Center open type)                            | 26. Down limit switch               | 44. Counterweight rail bracket                               |
| 10. Stack rope switch  | 27. Down slow limit switch          | 45. Up slow limit switch                                     |
| 11. Door operator (Car)                                      | 28. Counterweight safety gear       | 46. Up limit switch  |
| 12. Landing door (Hinged shoe)                               | 29. Counterweight                   | 47. Up final limit switch                                    |
| 13. Bulkhead (Steel wall)                                    | 30. Counterweight guide shoe        | 48. Escape ladder  |
| 14. Door closer (Hinged type only)                           | 31. Counterweight guide rail        | 49. Trunk top escape hatch switch (In case of basement type) |
| 15. Landing door safety switch                               | 32. Landing vane                    | 50. Counterweight governor                                   |
| 16. Landing door interlock switch                            | 33. Car guide rail                  | 51. Traction machine   |
| 17. Hall indicator button                                    | 34. Apron                           |  |
|  | 35. Car safety gear                 |  |

**HYUNDAI ELEVATOR CO., LTD.**, an affiliate of Hyundai Business Group, has been designing and manufacturing a wide range of vertical and horizontal transports for persons and goods. To cover the increasing demands in domestics and overseas markets, it is also engineering and manufacturing a broad range of marine elevators with accumulated superior technology and vast field experiences.

### SPECIFIC FEATURES

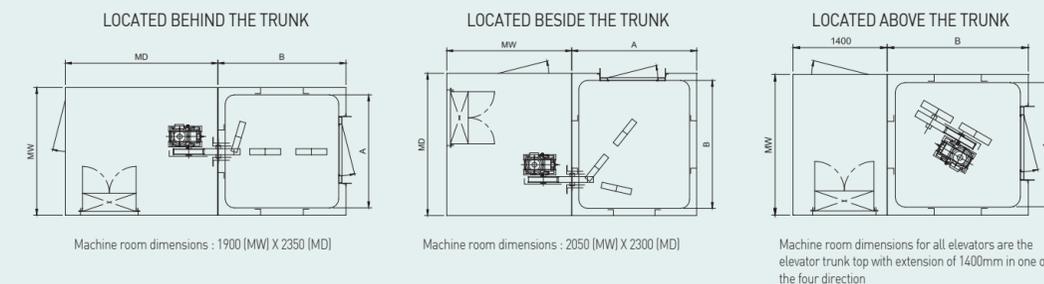
- Upgraded safety allowances for the power factor and structures.
- Type approved fire proof landing doors. [A-0 & A-60]
- Home landing operation.
- Smoother & superior riding comfort.
- Energy-saving control & drive system.
- Efficient & accurate landing control system.
- Efficient & easier installation and maintenance.
- Fire, CO<sub>2</sub> or Halon alarm provided as optional to prevent a person to accessing the engine room area in case of fire & gas leakage.

### MAIN SPECIFICATION

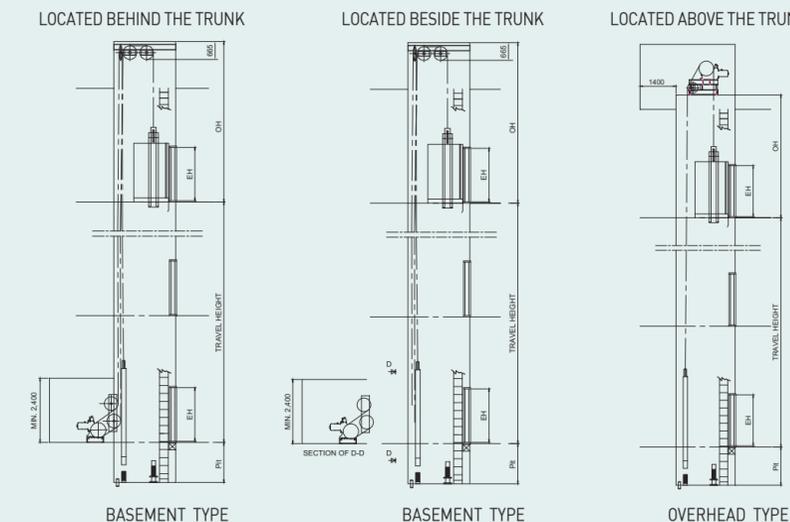
Control System	Inverter (VWF) drive with microprocessor control
Speed (m/min.)	30, 45, 60 & 96
Capacity (kg)	360, 500, 800, 1000, 1200, 1500 & 1700
Operation	Selective Collective Control (2BC)
Landing Door	Hinged Type : A-60 Class Center Open Type : A-0 & A-60 Class

## Layout of Elevator Trunk and Machine Room

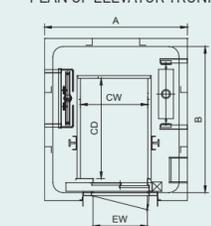
### PLAN OF MACHINE ROOM



### ELEVATION OF ELEVATOR TRUNK



### PLAN OF ELEVATOR TRUNK



## Standard Dimensions

Load Capacity (Persons)	Speed (m/min)	Entrance Dim. EW x EH (mm)	Internal Car Dim. CW x CD (mm)	Trunk Dim. A x B (mm)	Pit Depth (mm)	Overhead Height	
						Basement	Overhead
360 kg (4 Persons)	30	800 x 2000	950 x 1000	1800 x 2000	1300	4200	3800
	45						
	60						
500 kg (6 Persons)	30	800 x 2000	950 x 1300	1800 x 2200	1300	4200	3800
	45						
	60						
750 kg (10 Persons)	30	800 x 2000	1200 x 1500	2000 x 2200	1300	4200	3800
	45						
	60						

Notes : 1. Trunk dimensions are the clear dimension except the deck cutting (opening), stiffener, insulation and etc.  
2. Please consult with Hyundai Elevator when the specification is different from the above table.

