OH5000

Gearless Series Elevator

OTIS

The brochure is printed
in environment-protection paper

OTIS

160 OTIS

160 YEARS OTIS

160 years of rich history, the No.1 brand in the elevator industry;
Inventor of the world's first safety elevator;
Inventor of the world's first escalator;
Sales and Service operation located in over 200 countries and a service network covering over 1,700 locations worldwide;
Annual escalator and elevator sales of more than 70,000 elevators in 12 of the world's 20 highest buildings;

OTIS in CHINA

With 15,000 employees, Otis China offers professional consultancy and installation services and world-class maintenance support, operating 6 manufacturing sites in Tianjin, Hangzhou, Guangzhou, and etc., Otis engineer team located at three sites dedicate to new product development and product quality improvement.

OTIS CHINA FACTORY



Hangzhou Factory

Building Area: 45,754m^2
Capacity:

30,000 units/year 6,000 units/year

CNAS (China National Accreditation Service) Lab

Tianjin Factory

Building Area: 66,673m^2
Capacity:

25,000 units/year

USGBC LEED Gold Certification

Guangzhou Factory

Building Area: 48,900m^2
Capacity:

4,000 units/year

OTIS Escalator Quality Test Center

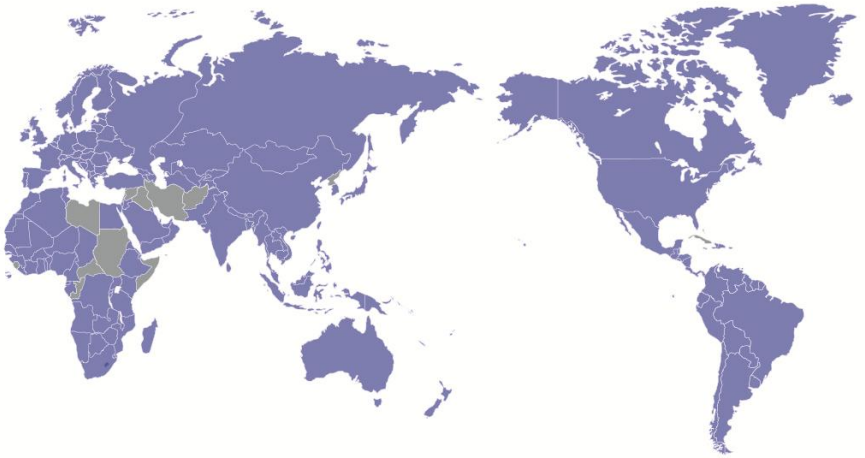
OTIS CHINA INTERNATIONAL BUSINESS

125
Covering more than 125 Countries

80,000
Having provided over 80,000 units of elevator & escalator worldwide

15
Meeting 15 International Codes including EN, JIS, ANSI, AS1735, COP2010, SS550, KC, GB and etc.

Europe — EN81 (elevator) EN115 (escalator)
Japan — JIS (ele. & esc.)
Singapore — SS550 (elevator)
Korea — KC (ele. & esc.)
Australia — AS1735 (elevator)
Australia — SAA (escalator)
China — GB (ele. & esc.)
Malaysia — SIRIM MS2021:2026 (elevator)
America — ANSI (escalator)



OH5000

OH5000 Gearless features

ISO9001

OHSAS

ISO14001

High efficient and Regenerative

A new gearless machine dramatically enhances efficiency and reduces operational costs.

Compact machine and space saving

The smaller machine and space saving design bring more flexibility.

Riding comfort

Excellent machine and controlling system bring pass relaxing experience.

Safety

OTIS safety standard ensure the passengers' safety and the elevator's running on the rails.

Today OH5000
OH5000 dominates the gearless elevator market in China, with sales of over 10,000 units

2002 OH5000
XOEC SIT develops the OH5000 gearless elevator, marking a milestone in gearless elevator technological development

2000 Gen2
Otis creates the revolutionary GEN2 elevator lifting system

1999 XO-Star
Introduction of the high quality, low cost XO-STAR series elevator

1997 XO21VF
Combining American Otis technology with Xizi elevator components, Xizi Otis create their first joint venture product

Benefit of OH5000 GETM Machine

The lanthanon permanent magnet material ensures performance and lifetime of machine.

External-roter greatly reduces machine size and weight, increase efficiency.

AC synchronous drive improves elevator start, brake and acceleration.

High Reliability: Without the traditional gear box, gearless system requires no maintenance and lubrication to permit longer life time than others.

Excellent Performance

Load:1000kg Speed:1.75(m/s)

	Geared machine	OH5000
• Nominal rotate speed(rpm)	1305	167
• Motor capacity (kw)	14	11.7
• Nominal current (A)	40	14.8
• Nominal voltage (V)	320	513
• Machine room average noise level dB(A)	68.3	57.6
• Oil consumption (L)	15	0.0

High efficient and Regenerative

ACD Controller

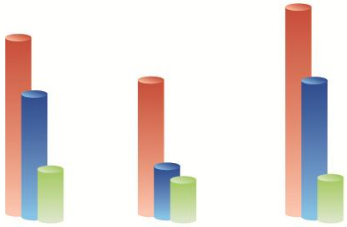
ACD Controller System, which adopts GECB as the nucleus module of the elevator's controller system and utilize OTIS reliable Serial Communication Network and CANBUS, connects all parts of elevator firmly. OTIS new regenerative drive is also installed in the controller and would feedback the converted power to internal grid.

When elevator car is moving down with heavy load, or moving up with light load, OTIS Regen technology can convert the reduced system potential energy to electricity. OTIS Regen technology can also filter the regenerated electricity and make it clean enough to be re-used.

Environment Friendly

The converter unit of the drive can modulate the feedback energy by Plus-Width Modulation (PWM) to the power will have the same frequency and voltage as the building's grid.

Energy Consumption



Energy Saving

Modeling and simulation results show that Otis regenerative drives uses up to 70 percent less energy than non-regenerative drives for equivalent elevator motion.

- Non-Regenerative + Induction Geared Motor
- Non-Regenerative + Gearless Motor
- OH5000

Outstanding Performance in Energy-saving

VDI established its VDI 4707 standard to clearly assess elevator energy efficiency taking into account factors such as load, speed, frequency of use and travel height-both during travel and standby modes.

An elevator's energy efficiency is rated using seven different classes from A to G, where A represents the highest energy efficiency and G the lowest energy efficiency. VDI measures energy efficiency based on usage category on a scale from 1 to 5, where 1 represents low-usage elevator and 5 represents high-usage elevator.

The OH5000 installed in an office building and an university in Hangzhou, made an excellent performance in the VDI 4707 testing. The energy efficiency of OH5000 in these locations have both reached Class A

Location	Type	Load (kg)	Speed (m/s)	Number of Stops	Rise (m)	Travels time per day	Usage Category	Travel Class	Standby Class	Efficiency Class
Office Site	OH5000	1350	2.5	26	99.2	6	5	A	C	A
University Site	OH5000	1150	1.75	16	49.8	6	5	A	C	A

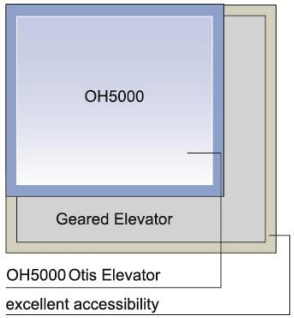
OH5000

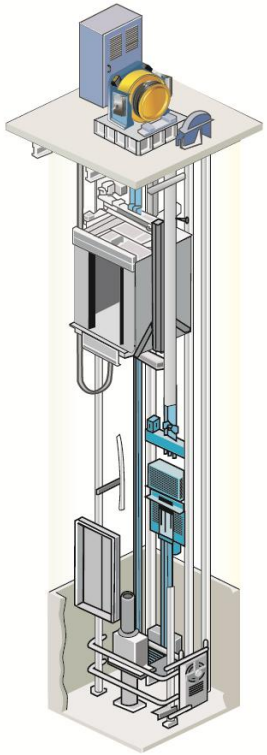
Compact machine and space saving

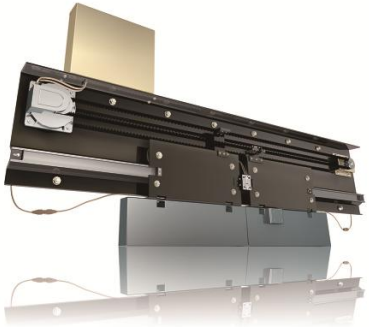
GETM machine is designed for OH5000 to save more space. The smaller machine can meet a wide range of customer needs with flexible architectural arrangement options.

External rotor greatly reduces machine size and weight.

Small machine room provides more space for customer.



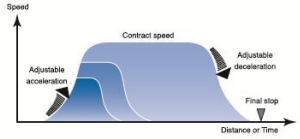




Door System

Door operator system represents a passenger's first interface with a vertical transport system. They must be safe, efficient and dependable.
Door operator system of DO3000 adopts OTIS core technology. Superior reliability of DO3000 enhances a building's overall lift performance. Infra-red Curtain Door Protection offers maximum protection for passenger safety.

Riding comfort



The excellent performance of gearless machine makes the elevator running calmly with less magnetic noise and vibration.

Machine brakes and some sound isolation pads are specially designed to reduce noise.

OH5000 adopts **Regen Variable Frequency** System to ensure the operating preciseness. Smooth star-up leveling enables you to enjoy your riding experience without unconscious vibration.

The Otis Real-time Response dispatching system and advanced micro-processor modular control system fully understand your waiting mentality with concern about feeling of passengers.

Safety

OH5000 keep to OTIS Safety Standard, ensure passengers' safe as per OTIS E3 policy.

E3 is an Otis global policy for safety components. The requirements cover safety components design, manufacturing, qualification and traceability, which captured the most severe requirements among all major International elevator codes and industry requirements. E3 compliance audit is led by Otis Worldwide Engineering, and approved by Otis world headquarter.

	OTIS E3 Policy	European & China Code
Governor	25 times tripping test	20 times tripping test
Safety Gear	25 times freefall and runaway test	4 times free fall test
Buffer	100 times strike test	6 times strike test

COP

Optionl Display

7″ TFT-LCD

UI 2 Standard　UI 15　UI 16　UI 18

10.4″ TFT-LCD

UI 13

Button

BR27A　Material: Hairline Stainless Steel

COP

COP:COP2
Faceplate:Hairline stainless steel①
Button:BR27A
CPI:7" TFT-LCD
Optional COP:COP1, COP8-P

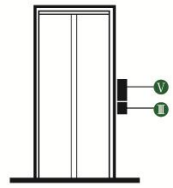
Standard Configurations

Wall:2130 Painted steel with color W1001
Door:Painted steel with color W1001
Car Floor Type:4901PVC

Note:
1、When car panel is 2130, the default finish of COP faceplate is in the same as car panel's finish.
2、More aesthetics choices please refer to Aesthtics Brochure.

Hall Call Panel

HBP11



HBP11-STN

HBP
Standard HBP：HBP11-STN
Optional HBP:HBP11-TFT、HBP11-B、HBP2
LCD Type:4.3″ STN-LCD
Material:Hairline st.steel

Parking Key Switch
Material:Hairline st.steel
(only for main landing)

HBP11-TFT

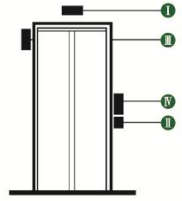
LCD Type: 4.3″ TFT-LCD **Material Interface:** Hairline st. steel — UI 2

LCD Type: 4.3″ TFT-LCD **Material Interface:** Mirror st. steel — UI 15

LCD Type: 4.3″ TFT-LCD **Material Interface:** Hairline st. steel — UI 16

LCD Type: 4.3″ TFT-LCD **Material Interface:** Mirror st. steel — UI 18

HBP 11-B



Ⅰ Hall Postion Indication
Ⅱ Parking Key Switch
Ⅲ Hall Lantern
Ⅳ Separated Hall Button Box

Function	Description (S)
ACP-model 1- Anti Crime Protection-model 1	Anti-Crime Protection forces each car in the group to stop at a pre-determined floor and open its door. This allows a secrity guard or receptionist at the floor to visually inspect the passengers of the elevator before the car completes its run. Model 1-ACP is actived via installation parameters.
ALARB-Alarm Bell	An alarm sound signal will be given out to the outside in specific conditions
ANS-Anti-Nuisance Car Call Protection	If there is only one passenger in the car, and an excessive number of car calls is registered, nuisance is detected and all car calls will be cancelled, requiring registration of a proper number of calls
CBC-Cancel Error Calls	Before the car starts, the registration of a car or operation can be cancelled by double click of this button. After the car starts, registration cancel will not allowed for the sake of passengers safety.
CCM-Passing Chime in Car	On the top of the car, a bell ring will be given out when the car stops approaches at the destination floor.
CFT-Cafeteria Time	More open time for the cafeteria floor to meet with the requirement of the extra passenger flow.
DCP-Delayed Car Protection	If the door opened for a predetermined time due to constantly pressing the hall call button or other reasons, the elevator will be forced to close to respond other signals. And in case the elevator fails to carry out DCP force-closure, the elevator will stop and the inside or outside calls will be cancelled automatically. And the elevator will recover to normal operation till it detects the door is closed naturally.
DOB/DCB-Door Open/Close Button	The door open/close button in the car operating panel permits to open/close an automatic door, and to keep it open/close by constant pressure.
DOBL/DCBL-Door Open/Close Button Light	Door Close/Open Button will be highlighted if the buttons are pressed.
DTC-Door Time Protection Close	If the car door does not close completely within an adjustable time (default 20s- should be longer than the nudging time) after the door close command, the elevator will remove itself from group operation, i.e. Extinguish hall or car direction lanterns. Hall calls will be assigned to other elevators in the group. Open its doors and sound the buzzer in the car-operating panel. Attempt to close the doors again after 10s. After three unsuccessfully retries, the car will be shut down with its doors open and deenergized. Pending car calls will be cleared. The 'DTP' door time protection lamp will light.
DTO-Door Time Protection Open	If the car door does not open completely within an adjustable time (default 20s) after the door open command, the elevator will remove itself from group operation, i.e. Extinguish hall or car direction lanterns. Hall calls will be assigned to other elevators in the group. Optionally the buzzer in the car operating panel will sound. Close its doors and run in the current direction to the next landing, it will reverse at the terminal landings and move in the new direction. It will stop at the next floor and open its doors.After three retries at consecutive landings, the car will be shut down with its doors closed.Pending car calls will be cleared. The 'DTP' door time protection lamp will lights.
ELTU- Emergency Light	Emergency light in the car will start whenever there is a power cut.

Function	Description (S)
ERO-Electircal Recall Operation	Emergency electrical operation is obligatory for machines where the manual effort to raise the fully loaded car exceeds 400 N. Normal mains or standby power supply is required for "ERO".
FCL-Full Collective Operation	All car and/or hall calls registered are answered in the order in which the landings are reached. Direction of travel will be established by the first car command /hall call registered. All calls on its way will be served, irrespective of the time sequence in which the calls were registered.
ICU-3 Intercommunication Unit	The intercom system is primarily an emergency alarm device, which by definition is required to call for outside assistance if necessary. It shall be activated by the alarm button in the car operating panel.
LNS-Load Non Stop	When a car is loaded to a predetermined percentage of its capacity, it is considered "full". The car will bypass further hall calls. Additional passengers would be unable to enter.
NTSD-End Protection	If the speed is not slowed to the preset value while the car reach the end floor, a forced deceleration will be carried out by system in order to protect the safety of the car.
OHT-Drive Overheat Protection	Self-protection mode will be achieved if the temp of the motor exceeds the preset value due to the heat made by motor itself or the high temp in the environment. The car stops at the nearest floor, unload and shut down the light and ventilation device; once the temp falls down to normal, the car will recover.
LWS-Overload Protection	If the load exceeds the rate load, the sound signal will be given out by speaker, and 'OVER LOAD' will be displayed, the car door will not close, the elevator will not start.
RLEV-Relevelling Operation	Stopping errors shall be corrected by relevelling.
PKS-Parking And Shutdown Operation	The PKS switch is a two position key switch. Upon activation of the park switch: the car returns to the designated landing ;it will make normal car stops ;registered hall calls will be assigned to another car of the group, in simplex operation they will be canceled upon arrival, its doors will open to enable passengers to exit. They remain open, until the "CHT" timer expires. Then the doors will close for parking; upon arrival, its doors will open to enable passengers to exit. They remain open, until the "CHT" timer expires. Then the doors will close for parking; the door open button "DOB" will remain operative; fan and light protection "FLP" will turn off the car light and fan. It will resume normal operation when the parking switch is switched back.
PRK-Parking	Elevators in a same group will park on different floors once spare in order to shorten the response time.
RIN-Re-initialize	When the power recovered from a cut, position signals cannot be given or the position cannot be detected, the car will move to lobby and reinitiate. After that the floor info can be displayed and the elevator backs to normal.
TCI-Top Of Car Inspection	The inspection operation switch and its push buttons and an emergency stopping device 'TES' shall be placed on the car roof that they are readily accessible.

Function	Description (O)
ADO-Advanced Door Opening	In order to accelerate traffic, automatic door opening starts while the elevator car approaches a landing.
ATT-Attendant Service	The Attendant Operation feature allows semi-automatic operation with manual control.
ARED-Automatic Rescue Device	This device is used for rescue operation in case of power shutdown, it is powered by a rechargeable battery, when a sudden power cut happens, a sound signal will comfort the trapped passengers, then the car will move towards to the near floor, keep the door open to the passengers.
DCL-Down Collective Operation	The system has UP hall buttons at the bottom floor and/or at the main landing only, all other floors have DN hall buttons only.
DHB-Door Hold Button	Pressure on the Door Hold button 'DHB' in the car operating panel opens the door and keeps the door open for a specified adjustable door hold time.For group control, When a certain elevator is in door-open ready state, system will automatically distribute call signals to other elevators to manage.
EDP-Electronic Door Protection	Electronic door protection for special purpose enhanced the safety of elevator, an infrared curtain can be formed in front of the car door, and a quick response to reopen will be implemented once something entering this area.
EFO-Emergency Fireman Operation	Upon recognition of fireman's service, a car shall return non-stop to the designated return landing and park with the doors fully open. Optionally the doors shall be closed again after 15 seconds with the door open button operational.
EPO-Emergency Power Operation	This feature can only be used if the building is equipped with an emergency power generator. In case that regular power supply shuts down, the power supply of cars turns to Emergency Power ,then cars in group except cars in inspection mode run to defined landings (or next landings，) one by one. After arrival to rescue position, the cars open doors and let passengers out. It's available to define a part of cars in group for normal service during EPO which is needed by some users. The return to full normal operation is done automatically when regular power supply is reestablished.
HCM-Hall Chime	The Hall Chime fixture can be a substitute for hall lanterns and gong boards. It includes up and down lanterns, and a speaker.
GROUP-Group Control Function	Two or more elevators in same series should adopt this function for better response performance, avoiding repeated response, shorten the system response.
HCC-Hall Call Cancel	This feature allows the passenger to delete a hall call if a hall button was accidentally pushed. Hall call is deleted if the hall button is pushed twice again (within approximately 1 second). This function can ON/OFF by parameters on the Job-site based on the customer's requirement.
ISC-Independent Service	This function is designed for meeting customers' special needs. When switched on independent service the elevator will only answer any registered car call deviating from group control, regardless of the hall calls while opening or closing the door by manual control and operating according to customers' registered signals.

Function	Description (O)
BA-Building Monitor Ports	Elevators with BA function can provide scattered elevator status for computed management of the buildings, such as running directions, floor numbers, safety signals, door signals.
SSM-Speech Synthesis Module	The speech synthesis option converts car position and direction information into an audible an-nouncement as the elevator arrives at a landing. As the landing is reached the floor name is announced for the benefit of elevator passengers who are visually impaired. As the doors open to the hallway the committed car direction is also announced for the benefit of prospective passengers in the hall who are visually impaired as well as confirmation of direction for existing passengers.
AUTO-PKS-AUTO Parking Operation	AUTO-Parking Operations will be on if this function is enabled. Start/Lock will be carried out auto-matically when the Real Time Clock reaches a designated time zone. This designated time can be adjusted by parameters on the Job-site based on the customer's requirement.
EFS - Emergency Fireman's Service Automated	EFS shall automatically place the car on independent service when the elevator is at the designated return landing from Phase I with the doors fully open.

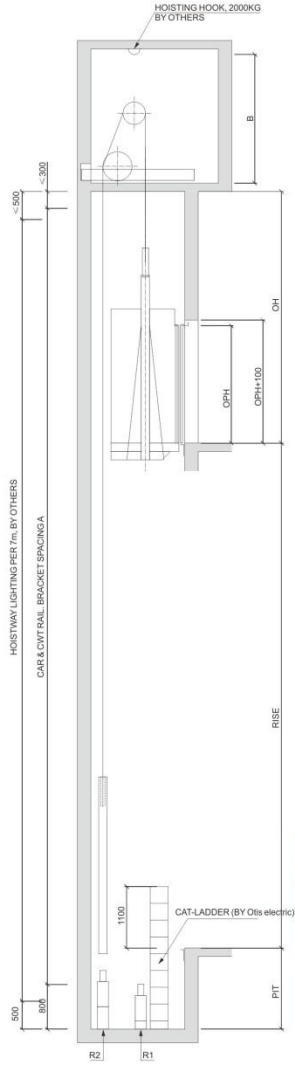
Function	Description (O*)
AMS- Area Monitoring Screen	It can be installed in the porter's lodge, simply display the condition signals by LED indicators and lock/unlock the elevator.
EFS2- Emergency Fireman's Service Manual	**"EFS" function isn't provided for abroad client at present, but the EFS electrical interface can be supplied.** **While the switch with lock is positioned start, EFS will be trigged to clear all the hall calls, and the car will response only to commands from the car, to go with the fireman elevator.**
MIT&MOT-Moderate Incoming & Outgoing Traffic	Aiming at relieving the traffic peak in the building, for example, morning peak or evening peak, all the elevators on service at lobby will be activated once the load reached a predetermined value(generally 50%), and this model will continue at the predetermined peak times.(this function only available to triplex and group control)

Remarks:

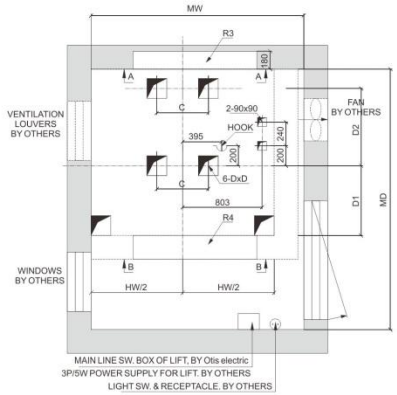
S=Standard
O=Option
O*=Need confirmed by factory

OH5000

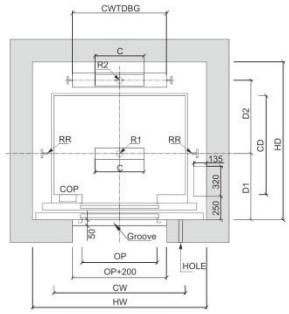
OH5000 LAYOUT
DUTY LOAD:630KG,680KG



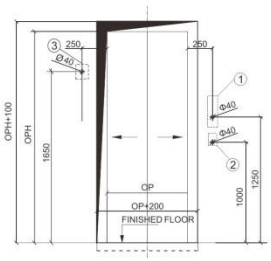
ELEVATION



CUTOUTS OF MACHINE ROOM

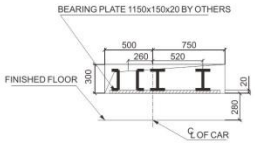


HOISTWAY PLAN

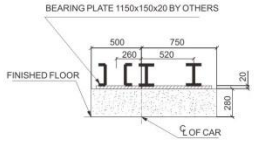


①: HB & HPI
②: PARK SW. ONLY FOR MAIN LANDING
③: ONLY FOR FIRE SW. SELECTED AT MAIN LANDING
④: E & I PANEL
FREE HOLE FOR HALL FIXTURE, INTERIOR DIA. Φ40mm
PVC PIPE IS RECOMMENDED

FRONT VIEW



A-A VIEW



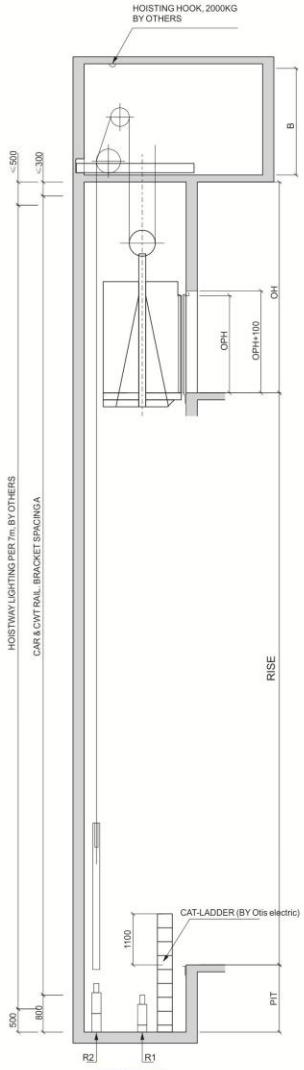
B-B VIEW

Load (Kg)	SPEED (M/s)	Net car size CWxCD	Net opening OPxOPH	Net hoistway size HWxHD	Machine Room size MWxMD		PIT STD (mm)	PIT MIN (mm)	OH Std EN81 -1	OH Min EN81 -1	OH Std EN81 -20	OH Min EN81 -20	Other Size(mm) D1	D2	A	B	C	D	RAIL R(KN) RR	Rx	Ry	Pit R(KN) R1	R2	Machine R(KN) R3	R4	Max floors	Max Rise (m)
630	1.0	1400x1050	800x2100	1900x1680	2200x2630		1400	1250	4450	4300	4650	4500	705	803	2500	2300	520	200	22	0.36	0.51	68	56	49	28	16	50
	1.5						1500	1400	4600	4500	4800	4700														24	75
	1.75						1550	1450	4650	4550	4850	4750															90
	2.0			1950x1680	2250x3330		1700	1600	4750	4650	4950	4850			2000	2300		250								36	105
	2.5						1900	1800	5000	4900	5200	5100															125
680	1.0	1400x1100	800x2100	1900x1750	2200x2700		1400	1250	4450	4300	4650	4500														16	50
	1.5						1500	1400	4600	4500	4800	4700			2500	2300		200								24	75
	1.75						1550	1450	4650	4550	4850	4750		855			520		24	0.48	0.57	76	64	54	33		90
	2.0			1950x1750	2250x3400		1700	1600	4750	4650	4950	4850			2000	2300		250								36	105
	2.5						1900	1800	5000	4900	5200	5100															125

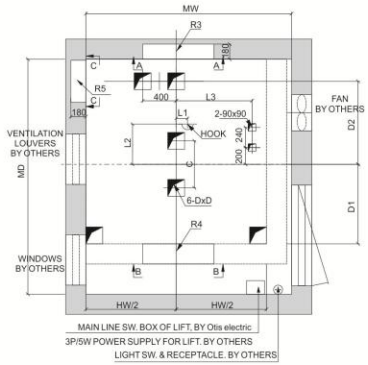
NOTE:DO NOT SCALE THIS DRAWING,UNLESS OTHERWISE STATED.

OH5000

OH5000 LAYOUT
DUTY LOAD:800KG-1600KG



ELEVATION



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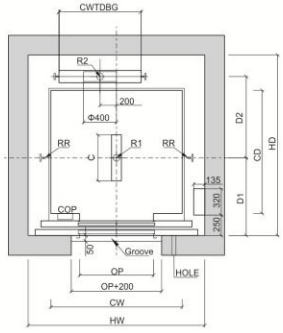
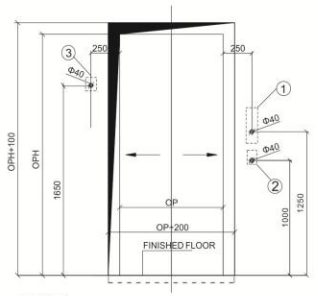
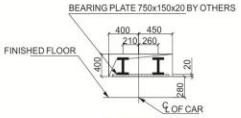


HOISTWAY PLAN

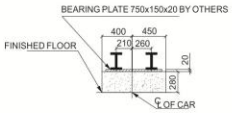


①: HB & HPI
②: PARK SW. ONLY FOR MAIN LANDING
③: ONLY FOR FIRE SW. SELECTED AT MAIN LANDING
④: E & I PANEL
FREE HOLE FOR HALL FIXTURE, INTERIOR DIA. Φ40mm
PVC PIPE IS RECOMMENDED

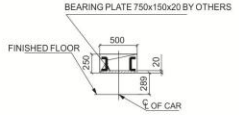
FRONT VIEW



A-A VIEW



B-B VIEW



C-C VIEW

Load (kg)	SPEED (m/s)	Net car size CW×CD	Net opening OP×OPH	Net hoistway size HW×HD	Machine Room size MW×MD	PIT STD (mm)	PIT MIN (mm)		OH Std EN81 -1	OH Min EN81 -1	OH Std EN81 -20	OH Min EN81 -20	Other Size(mm) D1	D2	L1xL2	L3	A	B	C	D	RAIL R(KN) RR	Rx	Ry	Pit R(KN) R1	R2	Machine R(KN) R3	R4	R5	Max floors	Max Rise (m)
800	1.0	1400x1350	800x2100	1900x2000	2200x2600	1400	1250		4450	4300	4650	4500	835	975	135x460	803	2500	2300	520	200	26	0.54	0.81	84	68	60	35	10.6	16	50
	1.5					1500	1400		4600	4300	4800	4500																	24	75
	1.75					1550	1450		4650	4500	4850	4700																		90
	2.0			1950x2100	2600x3750	1700	1600		4750	4650	4950	4850		1030	135x480		2000	2500	560	250	33.5			84	68	66	43	10.6	36	105
	2.5					1900	1800		5000	4900	5200	5100																		120
900	1.0	1600x1300	900x2100	2150x2100	2450x2700	1400	1250		4450	4350	4650	4550	805	925	135x460	903	2500	2300	520	200	29	0.67	0.91	96	76	66	43	11.8	16	50
	1.5					1500	1400		4650	4550	4850	4750																	24	75
	1.75					1550	1450		4700	4600	4900	4800																		90
	2.0				2800x3750	1700	1600		4750	4650	4950	4850		980	135x480		2000	2500	560	250	36.5					55	40		36	105
	2.5					1900	1800		5000	4900	5200	5100																		120
1000	1.0	1600x1400	900x2100	2150x2200	2450x2800	1400	1250		4500	1250	4700	1450	885	975	135x480	903	2500	2300	560	200	30	0.55	1.1	100	80	71	41	12.5	16	50
	1.5					1500	1400		1500	1400	1700	1600																	24	75
	1.75					1550	1450		1550	1450	1750	1650																		90
	2.0				2800x3850	1700	1600		1700	1600	1900	1800		992	135x480		2000	2500		250	47.5					60	40		36	105
	2.5					1900	1800		1900	1800	2100	2000																		120
1150	1.0	1900x1350	1100x2100	2600x2100	2900x2700	1500	1350		4450	4300	4650	4500	835	1030	165x505	1053	2000	2500	560	250	38	0.92	1.06	132	108	77	56	16.8	16	50
	1.5					1600	1500		4600	4500	4800	4700																	24	75
	1.75					1650	1550		4700	4600	4900	4800																		90
	2.0				3250x3750	1700	1600		4750	4650	4950	4850									45.5								36	105
	2.5					1900	1800		5000	4900	5200	5100																		120
1350	1.0	1900x1550	1100x2100	2600x2300	2900x2900	1500	1350		4450	4300	4650	4500	947	1118	165x505	1053	2000	2500	560	250	40	1.1	1.54	140	112	81	59	17.5	16	50
	1.5					1600	1500		4600	4500	4800	4700																	24	75
	1.75					1650	1550		4700	4600	4900	4800																		90
	2.0				3250x3950	1700	1600		4750	4650	4950	4850									47.5								36	105
	2.5					1900	1800		5000	4900	5200	5100																		120
1600	1.0	2000x1700	1100x2100	2600x2500	2900x3100	1500	1350		4450	4300	4650	4500	1022	1193	165x505	1103	2000	2500	560	250	44	1.31	2.03	156	124	92	63	19.3	16	50
	1.5					1600	1500		4600	4500	4800	4700																	24	75
	1.75					1650	1550		4700	4600	4900	4800																		90
	2.0				3250x4150	1700	1600		4800	4700	5000	4900									51.5								36	105
	2.5					1900	1800		5000	4900	5200	5100																		120

NOTE:DO NOT SCALE THIS DRAWING,UNLESS OTHERWISE STATED.