FOVF Heavy Duty Elevator



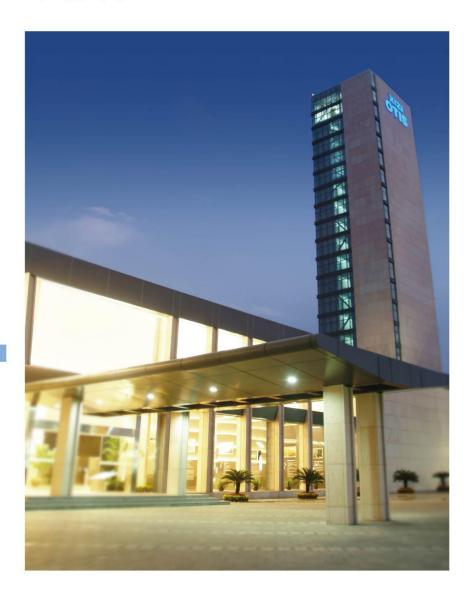


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Excellent Service E-mail: SE.IBD@otis.com

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OTIS

150 years of rich history, the NO. 1 brand in the elevator industry

Inventor of the word's first safety elevator

Inventor of the word'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 elevator in 12 of the world's 20 highest buildings

XIZI OTIS

As the largest joint venture of OTIS Elevator Company, Xizi Otis has developed fastest with greatest potential.

Xizi Otis boasts the largest yearly escalator and travolator capacity of more than 5,000 units.

And the annual elevator production capacity is over 33,000 units.

In 2010, over 30,000 elevators and escalators have been provided to worldwide, covering more than 60 countries.









As a matured product, FOVF heavy duty elevator absorbs Otis advanced design technology and fully utilizes the Otis's advanced designing process-PDP process. Through its stability and flexibility, FOVF not only can be used for warehouse and factories, but also could meet the requirements of high usage intensity location.

It conforms the EN81 code and fully complies with the Otis safety standard-WWJSSS, which is fulfilled worldwide to satisfy the Otis' principle-Safety First.

Standard Specification

Load (kg) Speed (m/s)	630	1000	2000	3000	4000	5000
1	50m/16F	50m/16F	50m/16F	/	/	/
0.63	30m/8F	30m/8F	30m/8F	/	/	/
0.5	1	/	30m/8F	30m/8F	30m/8F	30m/8F
0.25	/	/	/	/	16m/8F	16m/8F



According to the character of vertical transportation, the forceful traction machine can fully meet the requirements of all kinds of loadings and locations. Diversiform types of traction machine can be used for different kinds of locations.

FOVF heavy duty elevator adopts Otis micro-processor based VVVF control system to achieve a perfect combination with the traction machine and variable-frequency technology.

Smooth Leveling, Superior Ride

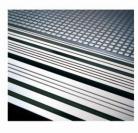
The excellent performance of traction machine makes the elevator running calmly with less magnetic noise and vibration.

FOVF heavy duty elevator adopts SIEI Vary Frequency System to ensure the operating preciseness. Smooth leveling enables passengers to enjoy riding experience without unconscious vibration.

The special optimized graphic speed curve generated by Otis control system makes FOVF running more stably in acceleration as well as deceleration.

Leveling Ac	curacy (mm)
maximal	general
±5	±3







Leading Technology, Innovative Door System



Door Opening Design

FOVF equips with door operator system especially designed for cargo lifts to satisfy the wide range opening size for varied conditions. Two-panel side-sliding opening or four-panel center opening can be selected as standard option based on different car size. Door operator system represents a passengers' first interface with a vertical transport system. Superior reliability enhances a building's overall lift performance and passengers' riding experience.

Door Protection Device

The CEDES door protection device adopts the matured European technology to comply with high safety standard. It offers a broad entrance detection area and gives a prompt response on any passenger or goods (or vehicle) coming into its detection area.







Four panel center opening



Two panel side opening

Reliable Elevator Safety System





Governor

Safety components comply with E3 policy—passed 25 times tripping test without component replacement.



Safety Gear

Safety components comply with E3 policy—passed 25 times freefall and runaway test without component replacement.



Buffer

Safety components comply with E3 policy—passed 100 times strike test without component replacement.

E3 Policy

E3 policy 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 freefall test
Buffer	100 times strike test	6 times strike test

Note: All safety device pictures presented are only configuration for partial specification

FOVF

Interface **●** № 16 14 12 10 8 6 4 15 13 11 9 7 5 3 2

Optional Display





Configuration:

Wall: 2130 Painted steel Door: Painted steel Ceiling: B4090 Car Floor Type: 4901AM Optional Floor: 4901PVC

COP:

Standard COP: COP1 Optional COP: COP2 Faceplate: Hairline stainless steel® Optional Faceplate: Mirror stainless steel/ Ti-Mirror stainless steel Standard Interface: Segment LED Optional Interface: 7" TFT-LCD/ 6.4"STN-LCD



HBP:

Standard HBP: HBP2 Optional HBP: HBP11-STN/ HBP11-TFT/ HBP11-B Standard Interface: Segment LED Optional Interface: 4.3" TFT-LCD/ 4.3"STN-LCD





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 Aesthetics Brochure.

Function	Functions Name	Functions Descriptions (S)
EN-CK	Door hold cancel	Under automatic conditions, while the door is fully open, and in delay closing stage, it can be closed in advance by pressing the EN-CK button constantly.
EN-CCO	Calls in opposite direction auto-clear	Calls in opposite direction can be cleared automatically while the car moves up and down.
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.
DTO	Door Time Protection - Open	If the car door does not open completely within an adjustable time (default 20s) after the door open command due to some mechanical problems or any other reasons, the elevator will cancel all the signals (including external and internal) and go to the floor nearby to release passengers.
DTC	Door Time Protection - Close	If there is no door closing signal, the elevator will automatically enter protection mode after the third door closing demand when it is blocked and exceeds the predetermined time limit due to some mechanical problems or any other reasons. It will resume normal operation only if the door closes successfully.
LNS	Load Non Stop	When a car is loaded to a predetermined percentage of its capacity, it is considered 'full'. Additional passengers would be unable to enter.
PKS	Parking Operation	Park Stop function, when it's set to action on the park stop floor, the elevator will come back to the Park floor automatically after responding calls registered before the PKS function. Then it will stay in energy saving mode, and cut off all lighting inside the car and light hall call systematically.
PRK	Parking	That is stop ready switch, after the key which is installed at the predetermined floor starts action elevator will move to the predetermined floor after finishing response to all commands At the same time, energy saving mode will start, cutting off all in car lighting and turning on all stop-lift switch indicator.
LOBBY	Floor of Lobby	Lobby can be set according to various requirements. If no registration of calls or operations after preset timeout, the car will return to lobby and wait there. Lobby should be the floor with maximum passenger flow or the first floor.
EDP	Electron light curtain door protection	Light red unit for special purpose enhanced the safety of elevator, a infrared curtain can be formed in front of the car door, A quick response will be acted when something entered this area.
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.
ERO	Electrical Recall Operation	If there is an ERO device in the controller, ERO is available for emergency operation.
LR	Light and Ventilation in car	After a preset timeout, the car will suspend in a minor power consuming mode, the light and ventilation device in the car will be shut down if no operations are registered.
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.
DOB/DCB	Door Open/ Close Button	The door open button in the car operating panel permits to open or re-open an automatic door, and to keep it open/close it by constant pressure.
DDT	Independent control of car door and landing door	Refer to the statistical information, the waiting time of door opening by hall call is longer than that by car commands. The system performance can be raised by adjusting the door hold time for both car door and landing door separately.
HDI/CDI	Hall/Car Direction Indicator	To inform the passengers about the operation direction, there should be a Direction Indicator on car operational board or in the jamb of the car entrance.
HPI/CPI	Hall/Car Position Indicator	Persons both in car and at landings (generally main landing) may see, where the elevator(s) are.
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.

Function	Functions Name	Functions Descriptions (S)
BELL	Alarm Bell	An alarm sound signal will be given out to the outside in specific conditions
ОНТ	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 floro, unload and shut down the light and ventilation device; once the temp falls down to normal, the car will recover.
ССМ	Passing Chime in car	On the top of the car, a bell ring will be given out when the car reaches the destination floor.
CBC	Cancel Error Calls	Before the car starts, the registration of a call or operation can be canceled by double click of this button. After the car starts, registration cancel will not allowed for the sake of passengers' safety.
RE-OP	Hall door re-open	This function allows the door to reopen while there is a call in the same direction of the car during door closing process.
RIN	Reinitiate	When the power recovered from a cut, position signals have not reserved or the position can not be detected, the car will move to lobby and reinitiate. After that the floor info can be displayed and the elevator backs to normal.
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.
SE	Start Equalize	For better comfort at the car's start, computing the load in the car by system will make start equalization.
ELTU	Emergency Light	Emergency light in the car will start whenever there is a power cut.
DCBL/DOBL	Door Close/Open Button Light	Door Close/Open Button will highlighted if the buttons are pressed as a success echo.

Function	Functions Name	Functions Descriptions (O)
ATT	Attendant Service Operation	The Attendant Operation feature allows semi-automatic operation with manual control.
DHB	Door Hold Button	Pressure on the Door Hold button 'DHB' in the car operating panel opens the door, reverses the door, and keeps the door open for a specified adjustable door hold time.
EFO	Emergency Fireman Operation	If there is a fire in a building, the system will cancel all commands, control the elevator back to the fireman's floor to evacuate the passenger and walt for the fireman's operation after receiving a fire atarm signal. The control system will send the signal to the fire center when the forced horning has been done successfully.
ISC	Independent Service	In order to satisfy and cater for the customers' special requirements, independent service state is set up to make the elevator operation & its gate operation being controlled manually only.
SGS	Light eye and safety gear protection	Utilizing reliable leveling indicator plate and sensitive infrared, this double detection will ensure the passengers' safety.
EPO	Emergency Power Operation	In case that regular power supply shuts down, the power supply of cars turns to Emergency Power ,then cars in group 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.
EQO	Earthquake Operation	Once an earthquake has happened, all the calls and operations will be cleared after the earthquake signal. The car will stop at the nearest floor to unload passengers.

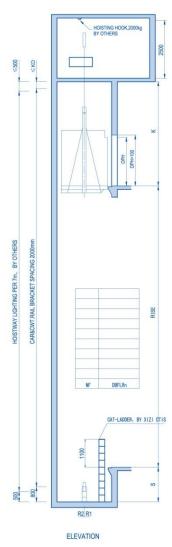
Function	Functions Name	Functions Descriptions (O)
G2C	Group control	This function is applied to the control of two interconnected elevators of the same model. This makes interconnected elevators can automatically give the most appropriate response, avoiding overlapped stopping of elevators, shortening the passengers' waiting time and raising the efficiency.
ARED	MSD device	When a sudden power cut happens, the device will act and the car will stop at the lowest floor, and after the leveling action, a sound signal will be given out and the door opens meanwhile for unload. Levelling precision: ±30mm.
NSB	Non stop button	Once the NSB button is pressed, all calls outside will not be registered, and the car moves directly to the destination floor.
FSL	Fireman's Service Indicator	Indicates that the car is on any kind of Fireman service.
REL	Re-leveling Operation	Stopping errors shall be corrected by re-leveling. The size of a possible stopping error depends on the type of drive and the accuracy of the position sensors.
SSM	Speech Synthesis Module	The speech synthesis option converts car position and direction information into an audible announcement 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.
EFS	Emergency fireman service (automated)	EFS-1 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.
ВА	Building monitor ports	Elevators with BA function can provide scattered elevator status for computed management of the buildings. Contact type BA provides signals such as floor numbers, running directions, fault signals, park signals and safety signals, and it can't display letters; RS485 type BA provides signals such as floor numbers, running directions, fault signals, park signals, emergency fire signals and door signals, it can also provide PKS control and EFK control, it can display letters except 'S'.

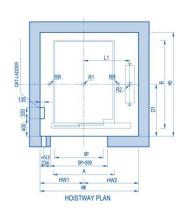
Function	Functions Name	Functions Descriptions (O*)
EFS2	Emergency fireman service (manual)	While the switch with lock is positioned start, EFS will be trigged to clear all the hall calls, and the car will only response to the car calls, to go with the fireman elevator.
AUTO-PKS	AUTO-Parking Operation	AUTO-Parking Operations will be on if this function is enabled. Start/Lock will be carried out automatically.
AES	District monitor system	Computers carry out district monitor system. This function can provide computed monitoring for all the elevators in this district and offer the BA for the computed management of the building.
EMS	Elevator Management System	EMS is a self-contained system with its own documentation and order procedure. This description gives only a short summary. The Elevator Management System "EMS" permits to monitor, control, and analyze elevator service and traffic of up to eight groups with up to eight cars per each group. The system ties into ring communication with the OCS ring car boards, the limited car board or - by means of a parallel / serial interface - even with relay controllers.
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.

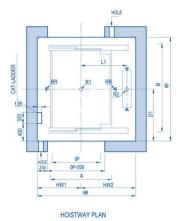
Remarks:

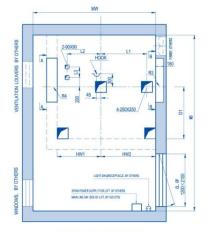
S=Standard

O=Option
O*=Need confirmed by factory

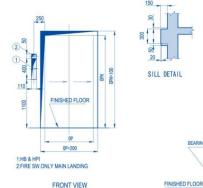




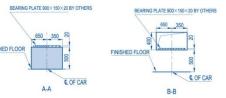




CUTOUTS OF MACHINE ROOM

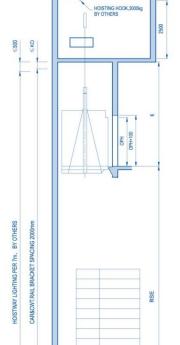


Done by the Owner & Builder



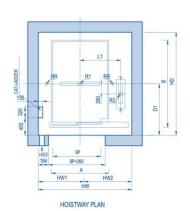
К	KD
K≤6700	300
K>6700	K-6700+300

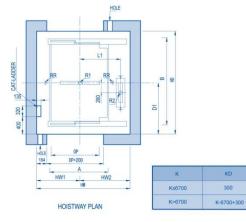
	Load	Speed	Car Outside	Net opening	Net hoistway size	HW1	HW2	Machine room size	0	К	Ohter Size (mm)			RR(KN)	PitR (KN)		Machine Ros Reactions	om (KN)	Max. Floors	Max. Rise	
	(kg)	(m/s)	AxB	OP x OPH	(HW) x (HD)	(mm)	(mm)	(mm) MW x MD	(mm)	(mm)	D1	L1	L2	L3	RR	R1	R2	R3	R4	mas. Froois	(m)
П		0.63								4500	930	1000	725	224	32		60	53	29	8	30
Ш	630	1.0	1300x1500	1100x2100	2150x1860	950	1200	2700x3500	1500					240	36	12				16	50
	4000	0.63	4500 4000		0050 0400	4000	4000	0700 0000	100000	4500	101001	1100	000	224	44	120	84	77	40	8	30
L	1000	1.0	1500x1800	1100x2100	2350x2160	1050	1300	2700x3800	1500	4500	1080		825	240	31	104				16	50



DBFLRn

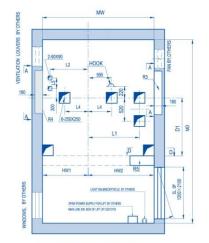
CAT-LADDER, BY XIZI OTIS

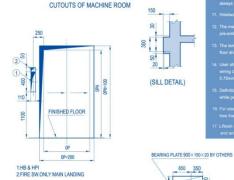




KD

300





FINISHED FLOOR

Done by the Owner & Builder

- oistway should be provided with perforated ventilation openings in the upper or tway, and the ventilation opening should be at least 1% of the available hoistw

500 8

D-D

€ OF CWT

BEARING PLATE400 × 150 × 20 BY OTHERS

FINISHED FLOOR

€ OF CAR

A-A

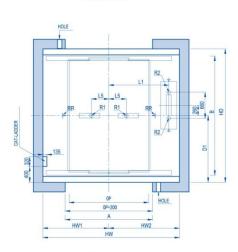
Load	Speed	Car outside	Net opening	Net hoistway size	HW1	HW2	Machine room size S K	Ohter Size (mm)				RR 000 PitR (KN)		Machine	Room Reacti	Mar Plant	Max. Rise					
(kg)	(m/s)	(A) x (B)	(OP) x (OPH)	(HW) x (HD)	(mm)	(mm)	(MW) x (MD)	(mm)	(mm)	D1	L1	L2	L4	L5	RR	R1	R2	R3	R4	R5	Max. Floors	(m)
2000	0.5 0.63	1800x2500	1500x2100	2700x2860	1150	1550	2700x4500	1500	4500	1430	1250	975	640	224	75.5	188	148	111	75	23.1	8	30
	0.63																					
2000	1.0	1800x2500	1500x2100	2700x2860	1150	1550	2700x4500	1500	4500	1430	1290	975	640	240	52	188	148	111	75	23.1	16	50

FRONT VIEW

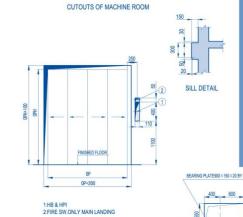
R2 R1 **ELEVATION**

200

R1 R1 5 HOLE HOISTWAY PLAN



6-250X250



FINISHED FLOOR

Done by the Owner & Builder

BEARING PLATE 500 × 150 × 20 BY OTHERS

C-C

€ OF CWT

FINISHED FLOOR

€ OF CAR

A-A

н	OIST	WAV	DI	ΔNI

К	KD
K≤6700	300
K>6700	K-6700+300

Load	Speed	Car outside	Net opening	Net hoistway size (mm) (HW) x (HD)	HW1	HW2	Machine room size	S	K		01	her Size (m)		. 1	RR (KN)	PitR	(KN)	Machine	Room Read	ions(KN)	May Floor	May Dien(m)
(kg)	(n/s)	(A) x (B)	(OP) x (OPH)	(HW) x (HD)	(mm)	(mm)	(MM) x (MD)	(mm)	(mm)	D1	L1	L2	L3	L4	L5	RR	R1	R2	R3	R4	R5	Max. Pious	max. ruse (III)
3000	0.5	2100x3000	2000x2400	3450x3360	1660	1790	3450x4000	1500	4800	1680	1520	1140	760	665	450	96.5	123	92	152	86	28.7	8	30

FRONT VIEW

R2 R1 R1

ELEVATION

NF

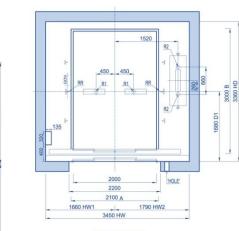
DBFLRn

CAT-LADDER, BY XIZI OTIS

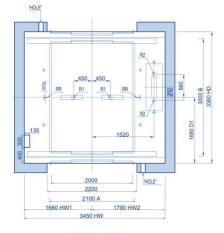
HOISTWAY LIGHTING PER 7m, BY OTHERS

II

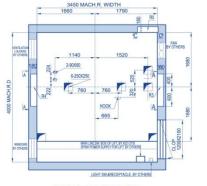
HOISTWAY LIGHTING PER 7m,BY OTHERS CAR&CWT RAIL BRACKET SPACING 1500m



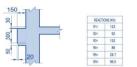
HOISTWAY PLAN



HOISTWAY PLAN



CUTOUTS OF MACHINE ROOM



Sill Support Detail



2:FIRE SW.ONLY MAIN LANDING

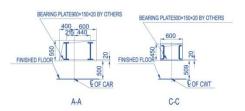
FRONT VIEW

К	KD
K≤6700	300
K>6700	K-6700+300

Done by the Owner & Builder

- The hoistway should be exclusively used for the lift. It shouldn't contain cables or devices
 etc., other than for the lift. Hoistway and all pats attached to it should meet the requirement for
 fire protection.
- The verticality tolerance of the hoistway should be ranged as follows: when rise is 0~30m,
 0~25mm; when rise is 30~50m, 0~30mm; when rise exceeds 60m, 0~50mm. And the
 minimum horizontal dimension of the whole rise is regarded as the hoistway size marked in
 the leaver.
- If accessible space oo exist below the car and the counterweight, the base of the pit should be designed for an imposed load of at least 5000N/m², and the counterweight should be equipped with safety gear.
- Safety protection barrier with enough strength which height is not less than 1.2 m should be placed in front of all the entrances of hoistway before lift installed.
- Enclose hoistway should be provided with perforated ventilation openings in the upper or lower hoistway, and the ventilation opening should be at least 1% of the available hoistwa area.
- 6. The reserved hole for landing door, half call units etc. should be filled in after the installation
- We prefer concrete hoistway. If you adopt brick structure, concrete beam of 300mm in height should be made in the hoistway wall where the guide brackets will be fixed in. Meanwhile, there should be concrete grider of 300mm in height with the same width as the hoistway's, locating upper and lower the edge of landing door.
- When the distance between consecutive landing dooralite exceeds 11m, intermediate emergency doors of a minimum width of 300mm and a minimum height of 1800mm should be provided, which should not be open toward inside of the hoistway. And the door should conform to the ENR1.1 Standard.
- The pit should be impervious to infiltration of water. If there is a plash, it should be installed in the corner of the pit.
- 10. According to requirement of the technical parameter sheet, the power supply should be placed in the main line box with protection switch and locked off. The fluctuation of the power supply should be less then 27%. The neutral conductor and the protection conductor should always be separated, and the ground resistance should be no more than 4.0.
- 1. Hoistway wall and pit should withstand the loads marked in the layou
- The matters (bearing plate etc.) prepared by users shown in the layout should be pre-embedded.
- 13. The temperature in the machine box should be maintained between 5°C~ 40°C. Machine room
- 14. User should set up rescue guardhouse. Each lift should be provided with a 3-pair twisted writing cable or flaving shield cable used as interphone cable (pach writing is not less than
- wiring cable or 6-wiring shield cable used as interphone cable (each wiring is not less that 0.75mm²), CAT-5 cable is acceptable if the above two kinds of cable are not available.
- while people race the car door standing inside the car, and vice versa.

 16. For steel landing door still support, the thickness of landing floor decoration should be considered to the constant of the const
- For steel landing door sill support, the thickness of landing floor decoration shouless than 60mm.
- Liftwell should far away from bedroom & living room. If it's irrealizable, effectual so insulation and anti-vibration material is required.



FOVF LAYOUT(Duty Load =3000kg) Six Car Guider Rails(For B ≥3300 Only)

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

R2 R1 R2

ELEVATION

0

FLOOR HEIGHT

CAT-LADDER, BY XIZI OTIS

HOISTING HOOK 4000kg BY OTHERS



CAT-LADDER ,BY XIZI OTIS HOISTWAY PLAN

K≤6700

K>6700

300 K-6700+300

R1 RR

0P+200

HW

HOISTWAY PLAN

L5 R1

R1 RR R2

HW2

HW

5

HOLE

320

RISE

DBFLRn

RR R2

HOLE

HW2

0.25 4000 2100x3800 2000x2400 5000 2500x3800 2400x2400

HOLE

1960 1990 3950x4160 3950x4160

2-90X90

10-250X250

CUTOUTS OF MACHINE ROOM

FINISHED FLOOR

OP

2:FIRE SW.ONLY MAIN LANDING FRONT VIEW

1:HB & HPI

HOOK

1500 4800 2080 1520 1140 500 665

FINISHED FLOOR

SILL DETAIL

123.5 158 118 1500 4800 2080 1720 1340 400 885 650 560 150.5 194 144 246

C OF CAR

A-A

R1 R2 R3 R4 R5 196 112 36.8 131 45

C-C

HOISTWAY LIGHTING PER 7m, BY OTHERS

FOVF LAYOUT(Duty Load =4000/5000kg)

ELEVATION

R2 R2 R1