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: 45,754m²
Capacity: 30,000 units/year
6,000 units/year
CNAS (China National Accreditation Service) Lab

Tianjin Factory
Building Area: 56,673m²
Capacity: 25,000 units/year
USGBC LEED Gold Certification

Guangzhou Factory
Building Area: 48,900m²
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, SSS50, KC,
GB and etc.
Heavy Duty Elevator

FOVF

FOVF

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 can meet the requirements of high usage intensity location.

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

Standard Specification

<table>
<thead>
<tr>
<th>Load (kg)</th>
<th>630</th>
<th>1000</th>
<th>2000</th>
<th>3000</th>
<th>4000</th>
<th>6000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>1/2</td>
<td>3/4</td>
<td>5/6</td>
<td>7/8</td>
<td>9/10</td>
<td>10/12</td>
</tr>
<tr>
<td>0.83</td>
<td>30m/min</td>
<td>30m/min</td>
<td>30m/min</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>0.5</td>
<td>/</td>
<td>/</td>
<td>30m/min</td>
<td>30m/min</td>
<td>30m/min</td>
<td>30m/min</td>
</tr>
<tr>
<td>0.25</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>15m/min</td>
<td>15m/min</td>
</tr>
</tbody>
</table>

*ODO up to 1000kg@2.5m/min

Advanced Technology, Strong Power

According to the character of vertical transportation, the powerful traction machine can fully meet the requirements of all kinds of loadings and locations. Diverseform 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 Riding

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

FOVF heavy duty elevator adopts SIE! Vary Frequency System to ensure operating preciseness and 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.

<table>
<thead>
<tr>
<th>Leveling Accuracy (mm)</th>
<th>maximal</th>
<th>general</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>±5</td>
<td>±3</td>
</tr>
</tbody>
</table>
Leading Technology, Innovative Door System

Door Opening Design
FOVF is equipped 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 passenger's 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 while any passenger or goods (or vehicle) coming into its detection area.

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 requirement which capture the most severe requirements among all major international elevators codes and industry requirements, covers safety components design, manufacturing, qualification and traceability. E3 compliance audit is led by Otis Worldwide Engineering, and approved by Otis world headquarter.

<table>
<thead>
<tr>
<th></th>
<th>OTIS E3 Policy</th>
<th>European &amp; China Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governor</td>
<td>25 times tripping test</td>
<td>20 times tripping test</td>
</tr>
<tr>
<td>Safety Gear</td>
<td>25 times freefall and runaway test</td>
<td>4 times freefall test</td>
</tr>
<tr>
<td>Buffer</td>
<td>100 times strike test</td>
<td>6 times strike test</td>
</tr>
</tbody>
</table>

Note: All presented safety device pictures are only configuration for partial specification.
## 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
- Standard Interface: Segment LED
- Optional Interface: 7” TFT-LCD / 6.4”STN-LCD
- Standard Button: BS34C

**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
- Standard Button: BS34C

### Functions Table

<table>
<thead>
<tr>
<th>Function</th>
<th>Functions Name</th>
<th>Functions Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN-CK</td>
<td>Door hold cancel</td>
<td>Under automatic conditions, while the door is fully open, it can be closed in advance by pressing the EN-CK button constantly.</td>
</tr>
<tr>
<td>EN-DDO</td>
<td>Calls in opposite direction auto-clear</td>
<td>Calls in opposite direction can be cleared automatically while the car moves up and down.</td>
</tr>
<tr>
<td>DCP</td>
<td>Delayed Car Protection</td>
<td>If the door opened for a predetermined time due to continuously pressing the hall call button or other reasons, the elevator will be forced to close to respond to 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 if it detects the door is closed naturally.</td>
</tr>
<tr>
<td>DTO</td>
<td>Door Time Protection - Open</td>
<td>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.</td>
</tr>
<tr>
<td>DTC</td>
<td>Door Time Protection - Close</td>
<td>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.</td>
</tr>
<tr>
<td>LNG</td>
<td>Load Non Stop</td>
<td>When a car is loaded to a predetermined percentage of its capacity, it is considered full. Additional passengers would be unable to enter.</td>
</tr>
<tr>
<td>PKS</td>
<td>Parking Operation</td>
<td>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.</td>
</tr>
<tr>
<td>PRK</td>
<td>Parking</td>
<td>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.</td>
</tr>
<tr>
<td>LOBBY</td>
<td>Floor of Lobby</td>
<td>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.</td>
</tr>
<tr>
<td>EDP</td>
<td>Electron light curtain door protection</td>
<td>Light red unit for special purpose enhanced the safety of elevator, an infrared curtain can be formed in front of the car door. A quick response will be acted when something entered this area.</td>
</tr>
<tr>
<td>TCI</td>
<td>Top of Car Inspection</td>
<td>The inspection operation switch and its push buttons and an emergency stopping device &quot;TES&quot; shall be placed on the car roof that they are readily accessible.</td>
</tr>
<tr>
<td>ERO</td>
<td>Electrical Recall Operation</td>
<td>If there is an ERO device in the controller, ERO is available for emergency operation.</td>
</tr>
<tr>
<td>LR</td>
<td>Light and Ventilation in car</td>
<td>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.</td>
</tr>
<tr>
<td>LWS</td>
<td>Overload protection</td>
<td>If the load exceeds the rate load, the sound signal will be given out by speaker, and OVERLOAD will be displayed, the car door will not close, the elevator will not start.</td>
</tr>
<tr>
<td>DOB/DCB</td>
<td>Door Open/Close Button</td>
<td>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.</td>
</tr>
<tr>
<td>DDT</td>
<td>Independent control of car door and landing door</td>
<td>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.</td>
</tr>
<tr>
<td>HDICD</td>
<td>Hall/Car Direction Indicator</td>
<td>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.</td>
</tr>
<tr>
<td>HPCP</td>
<td>Hall/Car Position Indicator</td>
<td>Positions both in car and at landings (generally main landing) may see, while the elevator(s) are.</td>
</tr>
<tr>
<td>ICU-3</td>
<td>Intercommunication Unit</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Heavy Duty Elevator FOVF

#### Function | Functions Name | Functions Descriptions (S)
--- | --- | ---
BELL | Alarm Bell | An alarm sound signal will be given out to the outside in specific conditions.
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 for the high-temp in the environment. The car stops at the nearest floor, unload and shut down the lift and ventilation device; once the temp falls down to normal, the car will recover.
CCM | 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 cancelled 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 re-open 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 back 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 of 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.
DCBU/DOBL | Door Close/Open Button Light | Door Close/Open Button light 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 wait for the fireman’s operation after receiving a fire alarm signal. The control system will send the signal to the fire center when the forced egress has been done successfully.
ISC | Independent Service | In order to satisfy and cater for the customers’ special requirements, independent service status is set up to make the elevator operation & its gate operation being controlled manually only.
SGS | Light eye and safety gear protection | Utilising 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 be defined landings (or next landings) one by one. After arrival to rescue position, the doors open 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.
EOO | 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 uncloud 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 overlapping 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 automatically for uncloud.
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 | Stepping errors shall be corrected by re-leveling. The size of a possible stepping 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 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 1 with the doors fully open.
BA | Building monitor parts | Elevators with BA function can provide scattered elevator status for remote 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 signal and door signals; it can also provide PKS control and EFK control, it can display letters accept “2”.
EFS2 | Emergency fireman service (manual) | While the switch with lock is positioned start, EFS will be triggered 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 executed 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 each group. The system ties into existing communication with the OCCS 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