



INSERTION OF LIFT.

IS IT:

Product

Technology

Equipment

APPLICABLE FOR:

Restoration

Rehabilitation

New Construction

APPLICABLE ON:

1. Foundations and underground structures

2. Vertical structures

3. Horizontal structures and vertical connections

4. Roof and terraces

5. Façade and building envelope

6. Finishes and completion elements

7. Integrated services

8. General strategies for building recovery

Related companies: OTIS

DESCRIPTION

- When you have little space to install an elevator.
- You are looking for more silence and comfort,
- Lower energy consumption,
- Greater reliability.

WHY TO USE

Ease of installation:

- No specific electrical installation is required.
- It is simply connected as if it were a household appliance to the 220 V single-phase mains.
- It only requires 500 W of power for its operation, less than a microwave oven.

Safety in case of power failure:

- In the event of a power failure, thanks to its accumulator system, the OTIS Gen2 Switch continues to operate normally, ensuring the mobility of all users. This feature is particularly important in buildings where there are disabled people or people with reduced mobility, as it can make more than 100 trips without mains power supply.

Power generation:

- The elevator generates energy when it rises empty or descends loaded, thus achieving significant savings in the electric bill.

It is a machine roomless elevator in which traditional steel cables have been replaced by flat steel belts coated with polyurethane. The belts are 20% lighter, last up to 3 times longer and are much more flexible.

The flexibility of the belts allows the motor pulley to be smaller, resulting in a more energy efficient machine.

As the machine has no gears, it produces less noise and has fewer moving parts susceptible to wear and tear, thus increasing its reliability and durability.

Thanks to its advanced motion control, a smooth and pleasant start-up and deceleration is guaranteed, as well as a perfect leveling of the cabin.

HOW TO USE AND APPLY

This elevator systems are used and applied as with the traditional elevators, except for its size, thanks to the non-existence of a machine room which allows to use less space to be installed.

The minimal electricity required to drive rope elevators is available with machine-room-less elevators which have their traction machines and controllers made compact and installed inside the hoistway to eliminate the need for a machine room.

This has greatly increased the freedom to design buildings more effectively. The traction machine uses a gearless mechanism with a permanent magnet synchronous motor. It is installed at the top of the hoistway, thanks to its compact design.

The roller guides used in high-speed elevators up to now have been adopted as the latest technology for machine-room-less elevators. In addition to not requiring lubricant, which is needed for convention guide shoes, they also reduce noise and vibration.

Roller guides rotate to allow a smooth movement along the rail and a comfortable ride in the car.

For the guided shoes regular lubrication is required to keep the elevator moving smoothly, because friction is created since the rail and the shoe are in contact.

The controller of a machine-room-less elevator is designed compact to be installed flat inside the hoistway. Additionally, the use of an inverter allows for smooth drive control.

TECHNICAL CHARACTERISTICS

Traction equipment

- Sealed machine without gears and permanent magnet motor.
- Traction by means of flat belts.
- 2:1 configuration with lower or cantilever suspension.

Control

- Closed-loop variable frequency

Control panel

- Modular MCS 220, by microprocessors, combined with an advanced variable frequency and voltage system.
- Located in the column of the upper floor door. Optionally can be installed at a distance of up to 20 meters.
- Bidirectional communication and remote intervention system.

Maneuver

- Simple or collective automatic downstream.
- Duplex grouping

Door types

- Automatic telescopic or central opening.
- They are equipped with a variable speed digital control system, self-cleaning grooves.
- Finished in stainless steel or primed for subsequent painting.

Boarding and route

- Single or double boarding (90° or 180°).
- Maximum travel: 10 stops, 27 meters.

Speed and load capacity

- Variable between 0.63 m/s and 1.00 m/s.
- Load capacity: from 3 to 8 persons (225 to 630 kg).

Power supply

- Main voltage: 230V 50/60Hz single-phase
- Absorbed current: 1,5A
- Power: 0,5 kW

Shaft dimensions

Capacidad	4D	5D	6S	6D	7D	8D		
Carga (Kgs)	320	400	450	480	525	630		
Dimensiones Cabina (mm)	CW	840	840	1000	1000	1100		
	CD	1050	1200	1250	1300	1400		
Dimensiones Puertas (mm)	Telescópica (TLD)	700	700/750	800/900	800/850/900	800/850/900		
	Ap. Central (CLD)			800	800	800/900		
Dimensiones Hueco (mm)	HW		1350	1350/1450	1550 (TLD 800) 1800 (CLD 800) 1650 (TLD 900)	1550 (TLD 800) 1550 (TLD 850) 1800 (CLD 800) 1650 (TLD 900)	1600 (TLD 800) 1600 (TLD 1000)* 1800 (CLD 800) 1650 (TLD 900) 2000 (CLD 900)	
		WTW	1 embarque	1300	1450	1500	1550	1600
	2 embarques	1400	1550	1600	1650	1700	1750	

Dimensiones de puertas montadas sobre piso.
Flecha: 1.000 mm a 1,0 m/s. Para otras dimensiones de hueco, consúltenos.
*1600 (TLD 1000) solo con puertas Selcom de 3 hojas.

CW= Ancho de cabina
CD= Profundidad de cabina
HW= Ancho de hueco
WTW= Profundidad de hueco

Cuadro de maniobra: 400 mm de ancho x 203 mm de fondo x 2100 de alto.

Altura de puertas (mm)	Altura de cabina (mm)	Recorrido seguridad** a 1 m/s (mm)	Disponibilidad
2000	2100	3300	Opcional
2000	2200	3400	Estandar
2100	2300	3500	Opcional

** El sobrecorrido puede verse incrementado en 200 mm en función de las dimensiones del hueco.

RECOMMENDATIONS AND OTHER INFORMATION

How does it generate energy?

If the cabin is traveling downhill with a load, the force of gravity causes the motor to generate energy instead of consuming it, just like a dynamo.

The same happens when the cabin travels upwards empty or with little load. The counterweight is lowered by gravity and the motor generates energy.

The regenerative system of this model ensures that the energy generated by the elevator itself is harnessed and stored in the accumulators that make the elevator work.

EXAMPLES



Fig.1: Machine roomless elevator installed on an office building. @TKE tkelevators.com



Fig.2: Mitsubishi Electric's machine roomless elevator. @Mitsubishi Electric

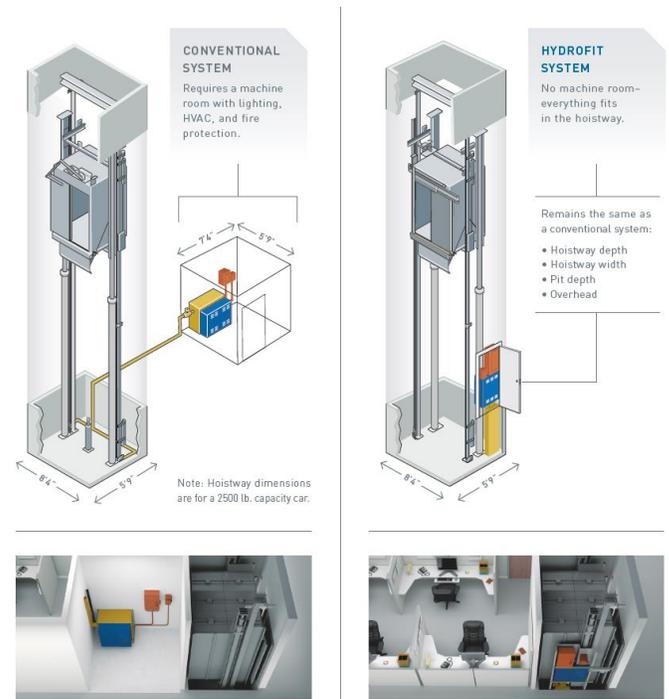


Fig.3: Otis's machine roomless elevator, comparison with a conventional system. @OTIS

REFERENCES / SOURCES AND LITERATURE

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WEBSITE OF THE COMPANY

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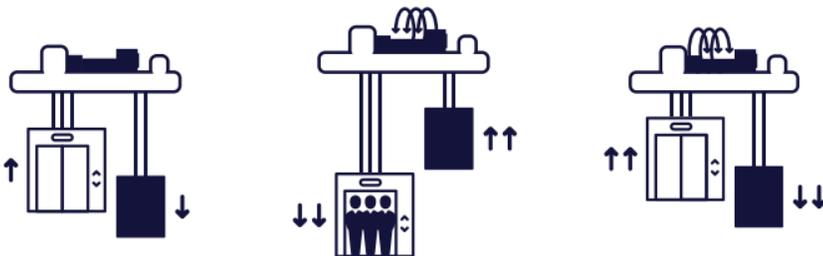
IMAGES AND CAPTIONS



Fig.4: Image of elevator installed in glass box. ©OTIS



Fig.5: Motor and flat belts detail. ©OTIS



En un ascensor la cabina está unida a un contrapeso a través de una polea. Cuando el contrapeso baja, la cabina sube, y cuando el contrapeso sube, la cabina baja.

Si la cabina baja cargada, ésta pesa más que el contrapeso, por ello baja por efecto de la gravedad, generando energía.

Esto mismo ocurre cuando la cabina sube vacía; en este caso el contrapeso es más pesado y también baja por efecto de la gravedad, generando energía.

Fig.6: Diagram of how it generates energy. ©OTIS



Fig.7: Cabin interior. ©OTIS