

GeN2™ Switch

THE ELEVATOR THAT YOU PLUG IN
LIKE A DOMESTIC APPLIANCE



OTIS United Technologies Guarantee of quality

In 1853 OTIS created the first safe elevator in history; ever since then we have always been the world leaders in vertical transport. OTIS employs more than 60,000 professionals worldwide, who continually strive not only to meet all your expectations but to exceed them.

In OTIS we are constantly innovating and developing new technologies, in order to offer you the best products imaginable: elevators that are more comfortable, safer, quieter and more environment friendly.



Respect for the environment

Environment-responsibility is one of the fundamental pillars of OTIS' philosophy. We are determined to make a "green" future a reality and to set a benchmark for the elevator industry by developing clean, low energy consumption technologies.

The OTIS GeN2™ Switch, which generates energy to recharge its own accumulators, is another clear example of our commitment and determination to develop innovative elevators that respect the environment by minimizing energy consumption.



Plug&Go

The OTIS GeN2™ Switch is a highly efficient, functional elevator, ideally suited for residential buildings, especially those that were built without an elevator.



Easy to install

The only requirement for installation is a single-phase 220V power outlet, just like an electrical appliance. No specific electrical installation is necessary as it only needs 500W of power for operation, less than a microwave.



Operates in the event of a power failure

In the case of a sudden power cut, the OTIS GeN2™ Switch will continue working as normal thanks to a system of accumulators, thus ensuring passengers can still use the elevator, which is especially important in the case of people who are disabled or users with reduced mobility. It can make more than 100 trips without power from the grid.



Generates energy

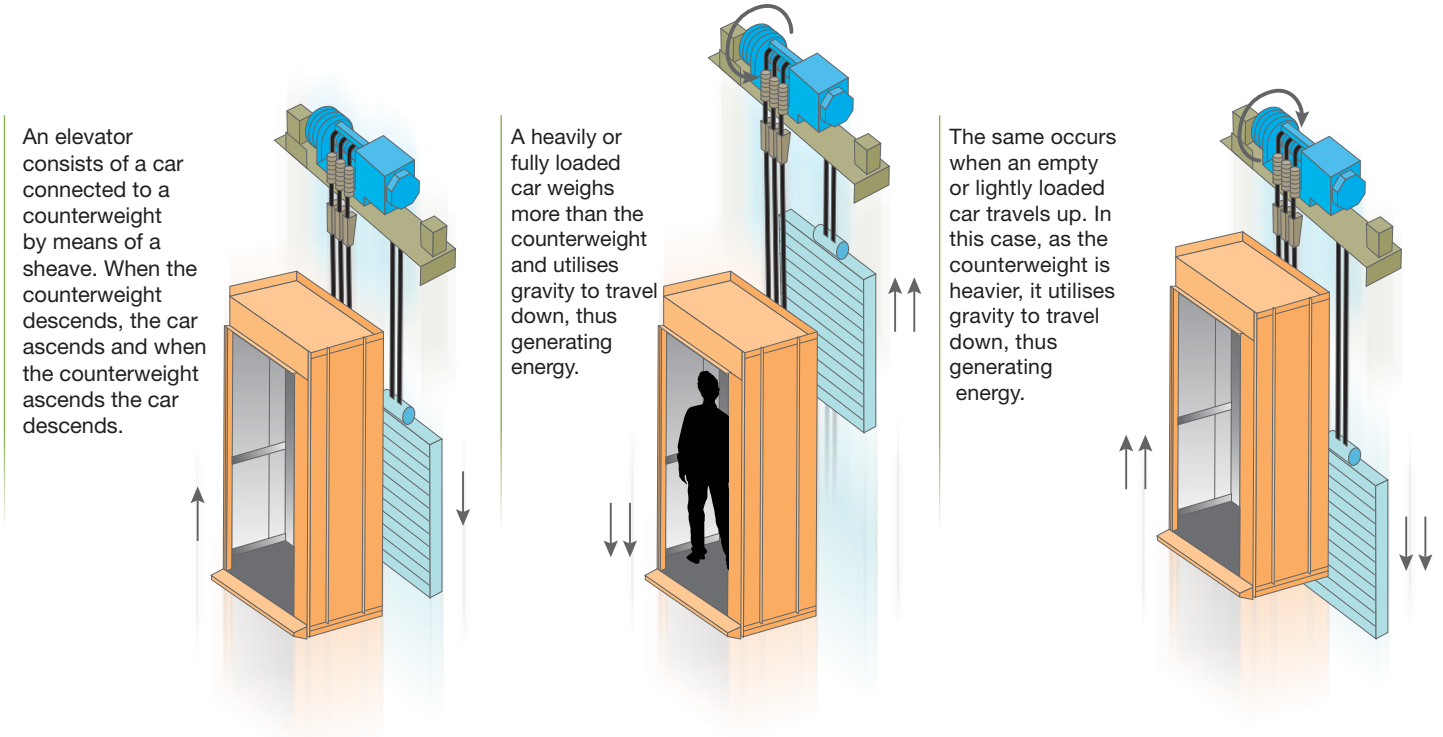
Depending on the load inside the car and the direction of travel, the OTIS GeN2™ Switch generates energy to recharge the accumulators, thus reducing the electrical consumption from the grid and achieving significant savings in the electricity bill.

How does it generate energy?

If the loaded car travels in down direction, the force of gravity makes the motor generate energy instead of consuming it, as if it were a dynamo.

The same occurs when an empty or lightly loaded car travels in up direction. The counterweight descends by the effect of gravity and the motor generates energy.

The regenerative system of the Otis GeN2™ Switch can harness the energy generated by the elevator itself and stores it in the accumulators that operate the elevator.



Unparalleled savings

Electricity companies, in addition to charging for the energy consumed, levy a charge for the contracted power. This is what is called the power charge.

As the OTIS GeN2™ Switch only requires 500W of power (less than a microwave), in many cases it will not be necessary to contract more power to operate the elevator, which also implies substantial savings.





COMPARISON OF ELECTRICAL APPLIANCES

The OTIS GeN2™ Switch only needs 500 W of power, less than a microwave.



Example of savings

AMOUNT IN CONSUMPTION



Load	Hydraulic elevator		2-speed traction elevator		OTIS GeN2™ Switch	
	Consumption in kWh/year	Consumption in €/year	Consumption in kWh/year	Consumption in €/year	Consumption in kWh/year	Consumption in €/year
6 	1793	348	770	150	524	102
8 	2400	466	924	179	583	113

Figures for reference purpose only, the actual figures may vary depending on the installation characteristics and conditions. Data according to VDI4707 usage category 2 (average traveling time of 30 minutes per day). Speed of the OTIS GeN2™ Switch: variable between 0.63m/s and 1m/s. Nominal speed of the two-speed traction elevator: 1m/s. Nominal speed of the hydraulic elevator: 0.63 m/s.



AMOUNT IN CONTRACTED POWER

Load	Hydraulic elevator		2-speed traction elevator		OTIS GeN2™ Switch	
	Contracted power in Kw	Amount €/year	Contracted power in Kw	Amount €/year	Contracted power in Kw	Amount €/year
6 	16.0	671	15.0	629	1.5	0
8 	20.5	859	15.0	629	1.5	0

AMOUNT IN CONSUMPTION + CONTRACTED POWER

Load	Hydraulic elevator		2-speed traction elevator		OTIS GeN2™ Switch	
	Amount €/year Consumption+Power		Amount €/year Consumption+Power		Amount €/year Consumption+Power	
6 	1019		779		102	
8 	1325		808		113	

TOTAL AMOUNT IN CONTRACTED POWER AND CONSUMPTION OF THE OTIS GEN2™ SWITCH

Load	With respect to a hydraulic elevator		With respect to a 2-speed traction elevator	
	Amount €/year	Percentage	Amount €/year	Percentage
6 	€917	90%	€677	87%
8 	€1212	91%	€695	86%



THE OTIS GEN2™ SWITCH DOES NOT REQUIRE THREE-PHASE INSTALLATION, WHICH MEANS SIGNIFICANT CONSTRUCTION SAVINGS

Example calculated with the following data:

- Price per kW contracted: €2.77 per month, plus taxes
- Price per kW consumed: €0.154, plus taxes

The amounts and total savings can vary according to the electrical tariff applied.

You can even forget about the electricity bill

The OTIS GeN2 Switch is an elevator that can operate with 100% clean, renewable energy. In addition to generating its own energy, if it is connected to solar PV (photovoltaic) panels, capable of producing between 1,800 and 2,100 watt-hours every day*, they will provide all the energy the elevator needs for operation, thus completely eliminating CO₂ emissions. And you can even forget about the electricity bill!



** Estimated values. Consult the technical requirements of the solar panels that are necessary for each installation to operate correctly according to the number of sunlight hours.*

Adapts to any building or hoistway

As a specific three-phase installation is not required, the OTIS GeN2™ Switch offers considerable construction savings and a much faster installation in the case of existing buildings. For this reason, it is perfect for any project, whether it is a new building or a restoration.

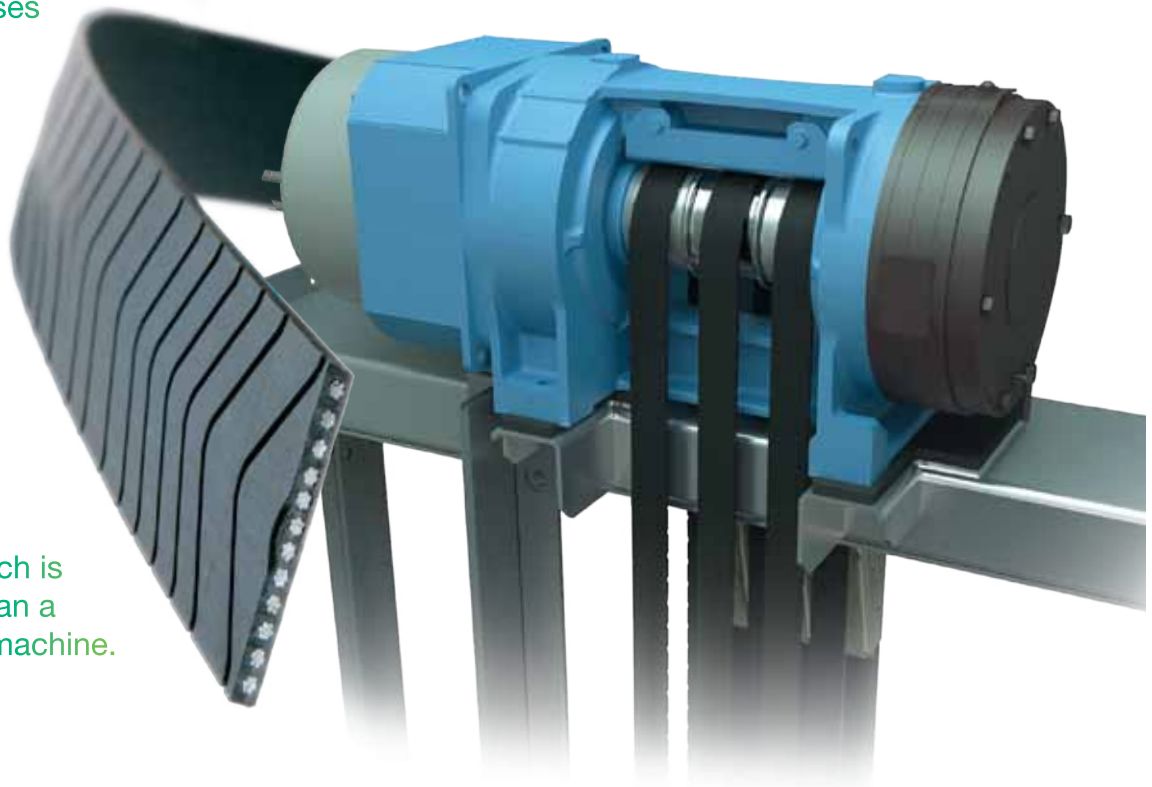
Because of the huge number of possibilities with regard to measurements and configuration, the OTIS GeN2™ Switch adapts to any hoistway, which is especially attractive to buildings that were constructed without an elevator.



Moreover, enjoy all the benefits of **GeN2™** technology

GeN2™ technology uses flat, polyurethane-coated steel belts instead of conventional steel ropes.

The belts are 20% lighter and last up to three times longer. Their superior flexibility allows for a much smaller bending radius and the use of a compact gearless machine which is 50% more efficient than a conventional geared machine.



SAFETY AND RELIABILITY

The OTIS GeN2™ Switch has a number of safety features such as the hoistway access detection to protect service technicians, the door deterrent device which prevents a person from exiting the car without following safety procedures and an optional entrance protection system, consisting of a screen of infrared beams that acts as an invisible safety curtain. It is also equipped with the Pulse system that continuously monitors the status of the belts.



SILENCE AND COMFORT

- With GeN2™ technology the metal-to-metal effect is eliminated, which results in exceptionally quiet operation.
- The advanced motion control guarantees consistently smooth acceleration and deceleration, in addition to outstanding levelling accuracy between car and landing.

Traction equipment

- Gearless sealed machine and permanent magnet motor.
- Traction by means of flat belts.
- 2:1 configuration with lower suspension or in cantilever.

Control

- Closed loop, variable frequency drive.

Controller

- Modular microprocessor control system, (MCS220), combined with an advanced variable frequency, variable voltage drive.
- Located in the frame of top floor landing door. As an option, it can be installed at a distance of up to 20 metres.
- To-way communication and remote intervention system.

Operation

- Simple automatic or down collective.
- Up to 2 elevators in a group.

Types of doors

- Automatic, telescopic or centre-opening doors.
- Equipped with a variable speed, digital control system, self-cleaning slotted sill and aluminium door track with protected roller system.
- Stainless steel or prime finish for subsequent painting.

Entrances

- One or two entrances (90° or 180°).
- Maximum rise: 7 stops, 21 metres.

Speed

- Variable between 0.63 m/s and 1.00 m/s.

Load capacity







- From 3 to 9 passengers (225 kg. to 675 kg.).

Electrical power supply

Mains voltage	220V 50Hz single phase
Absorbed intensity	1.5 A
Power	0.5 kW

Hoistway dimensions:

Configuration: guide rails facing each other

Load Capacity	Car CW x CD	Hoistway HW x HD		Door opening OP
320 kg 	840 x 1.050	1 ent.	1.350 x 1.300	700
		2 ent. 180°	1.350 x 1.400	Telescopic
400 kg 	840 x 1170	1 ent.	1350 x 1420	700
		2 ent. 180°	1350 x 1520	Telescopic
450 kg 	1000 x 1250	1 ent.	1550 x 1500	800
		2 ent. 180°	1550 x 1600	Telescopic
		1 ent.	1800 x 1500	800
		2 ent. 180°	1800 x 1600	Centre-opening
		1 ent.	1650 x 1500	900
		2 ent. 180°	1650 x 1600	Telescopic
525 kg 	1000 x 1300	1 ent.	1550 x 1550	800
		2 ent. 180°	1550 x 1650	Telescopic
		1 ent.	1800 x 1550	800
		2 ent. 180°	1800 x 1650	Centre-opening
630 kg 	1100 x 1400	1 ent.	1600 x 1650	800
		2 ent. 180°	1600 x 1750	Telescopic
		1 ent.	1800 x 1650	800
		2 ent. 180°	1800 x 1750	Centre-opening
		1 ent.	1650 x 1650	900
		2 ent. 180°	1650 x 1750	Telescopic
		1 ent.	2000 x 1650	900
		2 ent. 180°	2000 x 1750	Centre-opening
		1 ent.	1600 x 1700	800
		2 ent. 180°	1600 x 1800	Telescopic
675 kg 	1100 x 1450	1 ent.	1800 x 1700	800
		2 ent. 180°	1800 x 1800	Centre-opening
		1 ent.	1650 x 1700	900
		2 ent. 180°	1650 x 1800	Telescopic
		1 ent.	2000 x 1700	900
		2 ent. 180°	2000 x 1800	Centre-opening

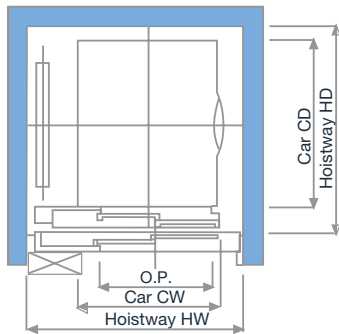
Pit S=1000. For other hoistway dimensions, please contact your local Otis representative

Door Height*	Car Height	Overhead Clearance (K)	Availability
2000	2100	3300	Optional
2000	2200	3400	Standard
2100	2300	3500	Optional

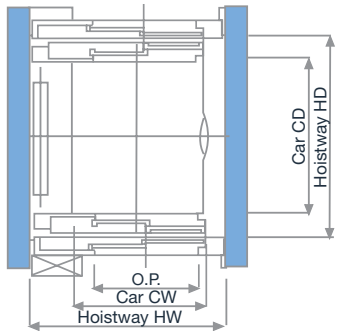
Dimensions in millimetres - Doors mounted on landing - Dimensions of controller cabinet: 400mm wide x 205mm deep x 2100mm high. Details of product design are subject to change.

suitable for any project

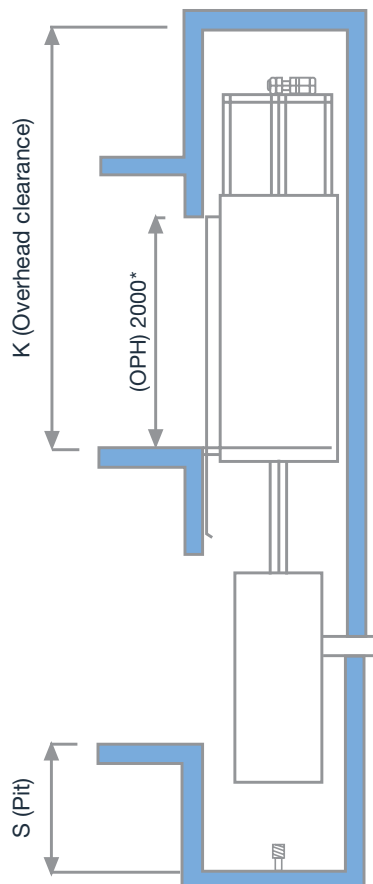
Floor plan
one entrance, telescopic door



Floor plan
two entrances, telescopic door

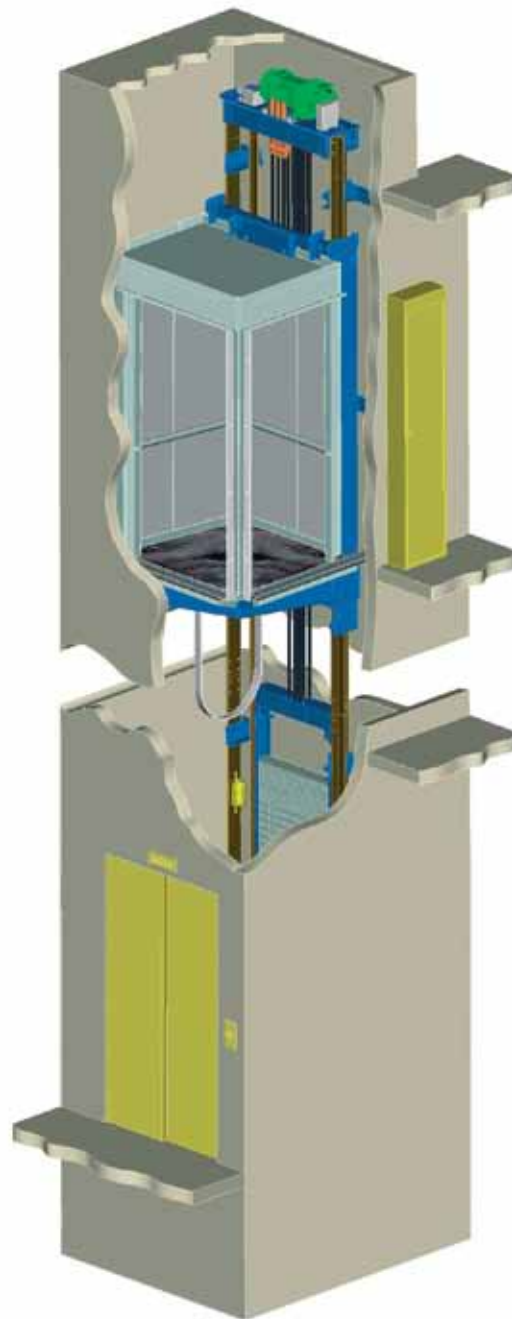


Elevation



* Ask Otis for the possibility of 2100 mm height doors. Dimensions may vary from the ones published in this brochure.

Configuration of side or rear guide rails and counterweight



The OTIS Gen2 Switch can be configured either with the guide rails and counterweight on one side or at the rear. This makes the elevator very flexible and able to adapt to almost every hoistway. Please consult our technicians about dimensions available.

Aesthetics

Car Aesthetics: Widest range of choices available

The Otis GeN2™ Switch is not only the most technologically advanced elevator in the market, but it also has the widest range of car panels, floorings, ceilings, handrails, hall buttons, displays, doors and mirrors.



Optima

The Optima perfectly illustrates the principle that elegance can be achieved through simplicity - provided it's based on an inspired idea. With the Optima design, that idea is embodied by the car operating panel actually illuminating the car. Important to the car's refined appearance are the panels themselves. In three finishes, they are cheering to the eye and easy to maintain. In fact it is the balance between the aesthetic and the practical that defines the Optima car.



Selecta

The name unequivocally defines the design. The Selecta car is about choice. Again illuminated by the car operating panel, it satisfies the most diverse requirements. There are five car wall designs, various flooring types together with different car operating panel designs and handrail types. The possibilities are indeed endless. Demonstrating that the Selecta car has been conceived by us to be designed by you.



Lumina

The Lumina car is distinguished by its range of ceiling lighting arrangements. Each offers a different level of illumination, from the discreet to the sumptuous, and in combination with a choice of four wall types, a host of decorative effects can be achieved. Painstaking detail can also be found in the quality of the car fittings which cumulatively help establish the prestige of the Lumina car.



Other car aesthetics available include Resista with vandal resistant equipment, Medica with all around protection barriers and Panorama with glass panels. Consult your Otis representative.

Sustainability, worldwide

At OTIS, we have a strong commitment to environmentally friendly solutions. You can see it in our global efforts to reduce our carbon footprint in manufacturing and operations worldwide. You can see it in our state-of-the-art products like the flagship Gen2 elevator system and our technologically advanced escalators and moving xcx. You can see it in our highly efficient and environmentally aware maintenance and modernization programs. And you can see it for yourself by joining us in our efforts.



7 WTC photo: David Sundberg, ESTO Photography

Otis elevators, escalators and moving walkways are a part of many of the world's most well-recognized and significant buildings.



www.otis.com



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