The coated steel reinforced belt: technology that has transformed the industry.

The environmentally-friendly Gen2™ Nova system with both machine room above and machine roomless arrangements establishes new standards for elevator performance, reliability and design flexibility. And while offering passengers more comfort, it also achieves energy savings.

Gen2™ Nova MRL: In the machine-roomless arrangement, the PM gearless machine, controller and drive are placed within the shaft completely eliminating the need for a machine room.

Gen2™ Nova MR: In a machine-room arrangement, the controller and drive are installed in a machine room located above the shaft. The room in which the machine is placed allows for space saving due to the compact size of the permanent magnet (PM) gearless machine.
Otis Gen2™ Nova system: The benefits

An innovative elevator system which provides:

**Environmental sustainability**

- The belts and gearless machine with sealed for life bearings do not require any form of polluting lubricant.
- A compact permanent magnet gearless machine together with an energy conserving ReGen™ drive achieves energy savings of up to 75% compared to a conventional system with a non-regenerative drive. It also reduces operational costs.
- LED lighting offers increased efficiency and long lasting as compared to conventional tubes.

**Enhanced ride quality**

- Replacing conventional steel ropes with smooth, polyurethane-coated steel belts results in a quieter and smoother ride.
- A gearless machine controlled by a closed-loop ReGen™ drive provides a comfortable ride with improved stopping accuracy.
- Smoother elevator acceleration and deceleration.

**Safety and reliability**

- The PULSE™ system continually monitors the status of the belt’s steel cords enhancing both their lifetime and their reliability.
The Gen2™ Nova system is the smart choice for ‘green’ buildings.

ReGen™ drive

A typical elevator includes three major components: the machine, the elevator car and the counterweight. The counterweight is designed to balance a half-loaded car. Electrical power is generated when a heavily-loaded car travels in a ‘down’ direction or a lightly-loaded car travels in an ‘up’ direction (green area of graph).

With a non-regenerative drive the energy generated is dissipated in a set of resistors creating a waste heat load in the building.

With a regenerative drive, the energy generated is fed back into the building’s grid where it can be used by other loads connected to the same network. The energy consumed with a non-regenerative drive is represented by the yellow area while with a regenerative drive the energy consumed is just the difference between the yellow and green areas.

The amount of energy savings due to regeneration depends on various system parameters and configurations such as car load, speed, length of run, traffic pattern and system efficiency.

As the preferred choice for ‘green’ building initiatives, ReGen™ drives deliver substantial energy savings while helping to meet or exceed established worldwide standards.

- Energy savings (up to 75%)
- Low harmonic distortion (typically below 5%) and reduced Radio Frequency Interference.
- Operational cost savings through reduced peak power demand and decreased energy consumption.
Environmental responsible

A ‘green’ machine

Neither the belts nor the gearless machine with sealed-for-life bearings require any form of polluting lubricants.

The low inertia gearless machine is equipped with a highly efficient PM synchronous motor of radial construction.

The result is a machine which is up to:

- 50% more efficient than conventional geared machines.
- 10% more efficient than conventional gearless machines with induction asynchronous motors.
- 15% more efficient than other machines with PM motors of axial construction design.

A gearless machine with a closed-loop VF drive increases passenger comfort.

The gearless machine combined with a sophisticated load weighing device and a closed loop variable frequency drive with vector control contribute to a smooth and quiet ride. Furthermore, they result in outstanding stopping accuracy of within +/- 3mm at every landing.
The Gen2™ Nova elevator offers exceptional levels of performance.

Faster operation
With adjustable acceleration and deceleration rates, up to 0.6 m/s², the Gen2™ Nova elevator rapidly reaches its nominal speed and furthermore decelerates and stops both smoothly and quickly.

While advanced security features demonstrate an absolute commitment to both safety and reliability.

Safety features
For elevator users and service technicians.

- **Door deterrent device**
  If the car is stopped between floors, a deterrent device prevents the car door from opening. Hence a person cannot take the risk of exiting.

- **Hoistway access detection**
  To protect a person entering the hoistway, a special safety feature prevents the elevator from operating after a landing door has been opened.

- **Rescue system**
  Battery-operated rescue system with electronic speed monitoring enables the safe and fast rescue of trapped passengers in the event of a power failure.

- **Infra-red entrance protection**
  A screen of infrared beams acts as an invisible safety curtain. When an obstacle breaks this screen, the sensitive 2D system detects it and immediately reopens the doors.

- **Stopping accuracy**
  The belt’s reduced stretch compared to conventional steel ropes together with a closed loop VF control results in outstanding stopping accuracy (within ±3 mm at every landing).

Increased reliability
The PULSE™ electronic system monitors the status and integrity of the belt’s steel cords 24/7d providing advance notice of the need for replacement. Not only does this improve their reliability and extend their life but it also reduces the downtime required for inspection.

Otis’ PULSE™ system monitors the integrity of belt cords 24h/7d.
While passengers feel comfortable holding on to the handrail during travel, the special mirror finish adds to the aesthetic appeal.

Surface mounted - Combined hall button with 16 segment position indicator and direction arrows. No large pockets required in the walls. Easy and quick to install.

Simple. Sleek.

- One-touch micro-stroke buttons with illuminated LEDs make your journey more exciting.
- Anti-glare lens cover for the display on the car position indicator lends easy visibility from any position inside the car.
- Scrolling Dot Matrix display in car panel.

Note:- Fixtures shown are representative. Actual design will vary according to elevator cab size.
Base in painted finish, Munshell Grey

**Base**
- Munshell Grey
- D. A. Grey
- Cream

**Optional**
- Desert Sand
- GP Silver Grey

**Textured**
- D. A. Grey
- Antique Copper
- Broken White
- Siemens Grey

Note: Colours and finishes shown are indicative. Please allow for minor variations.
Metal effects

Polka Delite

Hairline # 4

Egyptian Gold

Interlock

Mirror

Maple Glory

Honeycomb

Mirror Gold

Splendour Maze

Note: Colours and finishes shown are indicative. Please allow for minor variations.
Vinyl flooring

- Sea Blue
- Pink
- Almond
- White
- Grey
- Steel Grey

Note: Colours and finishes shown are indicative. Please allow for minor variations.
Note:- Ceilings shown are representative. Actual design will vary according to elevator cab size.
Standard features

**Anti-nuisance car call protection**
The elevator identifies that there is only a single passenger load in the car but more than three or four calls have been registered. It would then cancel the calls. This feature is to prevent unnecessary movement due to playful children.

**Independent service (for duplex only)**
When the independent key switch is turned on, all registered hall calls are cancelled and the elevator responds only to car calls. No hall calls can be registered during this service.

**Overload device**
When an overload is detected the car does not start and the doors remain open. The elevator operation resumes only upon removal of the overload.

**Nudging**
If the doors are prevented from closing for a fixed period of time, a buzzer is activated and the doors begin to close at a reduced speed.

**Emergency firemen’s service**
This feature automatically places the car at the designated return landing with the doors fully open. The fireman can then enter and take control of the elevator.

**Emergency car light unit**
An automatically rechargeable emergency power supply will switch on upon failure of the normal lighting supply.

**Infrared curtain door protection**
Entrance protection system forms a safety net across the effective entrance area with invisible infrared beams that are able to detect passengers and objects in the path of closing doors, within a fraction of second. Therefore, should a passenger enter or exit the elevator just when the doors close, the system instantaneously reopens the elevator doors allowing, the passengers to enter or exit freely.

Due to its design superiority, even if a single beam is interrupted, the elevator door opens automatically and remains open until the passenger clears the door way.

**Door time protection**
If the car door does not close completely within an adjustable time after the door close command, the elevator will enter the DTC mode: remove itself from group operation. Hall calls will be assigned to other elevators in the group. Open its doors and sound the buzzer in the car operating panel. Attempt closing the doors again. After three unsuccessful retries, the car will shut down with its doors open. Pending car calls will be cleared.

**Emergency alarm button**
The emergency alarm bell located at the ground floor / lobby will be activated by pressing the alarm button in the car operating panel, the device is powered by battery.

**Extra door time of lobby & parking**
The lobby door time is normally longer than the time at other landings to allow extra passenger traffic at the lobby. Door timing is adjustable to suit the needs of the building.

**Door open / close button**
Door open / close button in the car operating panel permits independent, opening / closing of automatic door, and to keep it open / closed by constant pressure.

**Manual rescue operation**
The rescue of people trapped within the car is carried out by the manual inspection rescue device. It allows the movement of the car to the closest floor.

**Belt inspection device**
Reliability and safety are further enhanced with Otis’ PULSETM Electronic system which continually monitors the status of the belt's steel cords 24h/7d. Contrary to current visual inspections of conventional steel ropes, the Otis PULSETM system automatically detects and indicates through LED. This feature helps Otis technicians to monitor the quality of the belt cord and greatly enhances the reliability of the inspection.
Optional features

Car chime
When the car arrives at a landing, the chime on top of the car will be activated to indicate arrival.

Emergency power operation
This feature is activated during power supply failure. The car will be sent to designated landings and will remain idle with doors open.

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.

Parking key switch
When this feature is activated, the car will discontinue serving any hall or car calls. After responding to the last car call, the car will go to the designated floor and shut down.

Audible car call button
The car call buttons give an audio signal when calls are registered.

Automatic rescue operation
This device is used for rescue operation in case of power shutdown; it is powered by a re-chargeable battery. When there is a sudden power cut a sound signal will comfort the trapped passenger indicating that the automatic rescue operation has been activated. The car then moves towards the nearest floor and opens the doors enabling trapped passengers to safely come out of the elevator car.

Voice synthesizer
A pleasant voice announces the floor on arrival to give an added sense of comfort.

Inter-communication car to controller and lobby
The intercom system is primarily an emergency alarm device, which by definition is used to seek outside assistance when necessary.
PM GEARLESS: (MACHINE ROOM) Speed: 1.00 mps

Details of product design are subject to change.
PM GEARLESS: (MACHINE ROOMLESS) Speed: 1.00 m/s
### Gen2™ Nova Specifications

<table>
<thead>
<tr>
<th>MODEL</th>
<th>MR</th>
<th>MRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity - Passenger</td>
<td>5, 6, 8, 10, 13, 15</td>
<td></td>
</tr>
<tr>
<td>Duty - Kgs</td>
<td>340, 408, 544, 680, 884, 1020</td>
<td></td>
</tr>
<tr>
<td>Speed</td>
<td>1.00 Mps</td>
<td></td>
</tr>
<tr>
<td>Controller Type</td>
<td>Microprocessor Based</td>
<td></td>
</tr>
<tr>
<td>Drive</td>
<td>VF Renegerative (Closed Loop)</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>400/415 Volts (3 Phase AC)</td>
<td></td>
</tr>
<tr>
<td>Operation</td>
<td>Full Collective</td>
<td></td>
</tr>
<tr>
<td>Car Group</td>
<td>Simplex / Duplex / Triplex</td>
<td></td>
</tr>
<tr>
<td>Machine</td>
<td>PM Gearless</td>
<td></td>
</tr>
<tr>
<td>Ropes Type</td>
<td>Flat coated Steel Belt</td>
<td></td>
</tr>
<tr>
<td>Max. Stop</td>
<td>21 (Same side opening)</td>
<td>16 (Same side opening)</td>
</tr>
<tr>
<td>Max. Rise</td>
<td>60 Metres</td>
<td>45 Metres</td>
</tr>
<tr>
<td>Car Finish</td>
<td>Powder painted / Stainless steel / Metal effects</td>
<td></td>
</tr>
<tr>
<td>Ventilation</td>
<td>Cross Flow fan</td>
<td></td>
</tr>
<tr>
<td>False Ceiling</td>
<td>Base: CD 41; Option CD 35 and CD 42</td>
<td></td>
</tr>
<tr>
<td>Entrance Height</td>
<td>2000 mm (2100 mm option)</td>
<td></td>
</tr>
<tr>
<td>Car Height</td>
<td>2200 mm (2300 mm option)</td>
<td></td>
</tr>
<tr>
<td>Hand Rails</td>
<td>5 &amp; 6 Passenger only at rear: Base - Painted: Option - SS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8,10,13,15 Passenger Base config - rear: Base - Painted: Option - SS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 side option Base - Painted: Option - SS</td>
<td></td>
</tr>
<tr>
<td>Flooring</td>
<td>Vinyl as standard / Option provided for Recess in flooring (Marble or Granite to be provided by owner)</td>
<td></td>
</tr>
<tr>
<td>Fire Rated</td>
<td>As applicable per Code (Fire rating of 1 Hour)</td>
<td></td>
</tr>
<tr>
<td>Door Operator</td>
<td>DC Door operator</td>
<td></td>
</tr>
<tr>
<td>COP Type</td>
<td>Box Type - SS finish</td>
<td></td>
</tr>
<tr>
<td>COP Buttons</td>
<td>Round Illuminated Button (LED - Red Colour / Optional - Blue Colour)</td>
<td></td>
</tr>
<tr>
<td>Car Position Indicator</td>
<td>Scrolling Type</td>
<td></td>
</tr>
<tr>
<td>Auto Fan Cut Off</td>
<td>Included in base</td>
<td></td>
</tr>
<tr>
<td>Hall Fixtures</td>
<td>HB with PI (16 segment display LED - Red Colour / Optional - Blue Colour)</td>
<td></td>
</tr>
<tr>
<td>Hall Fixture Face Plates</td>
<td>Base: Pan type is SS #4 finish, Option: flat type in SS finish</td>
<td></td>
</tr>
</tbody>
</table>
SERVICE CENTRES:

Western Region:
Mumbai, Navi Mumbai, Thane, Nashik.

Eastern Region:
Agartala, Angul, Bhubaneshwar, Bokaro, Dhanbad, Durgapur, Guwahati, Jamshedpur, Jharsuguda, Kahalagaon, Kolkata, Patna, Ranchi, Shillong, Siliguri.

Northern Region:

Southern Region:
Bengaluru, Calicut, Chennai, Coimbatore, Erode, Hubli, Hyderabad, Kollam, Kottayam, Mangalore, Mysore, Ootacamund, Pondicherry, Quilon, Ramagundam, Salem, Thiruvananthapuram, Trichy, Trichur, Vellore, Vijaywada, Vishakapatnam.

Western Region - Area Operations:
Ahmedabad, Ankleshwar, Aurangabad, Bhopal, Goa, Indore, Jabalpur, Kolhapur, Korba, Nagpur, Pune, Rajkot, Raipur, Solapur, Surat, Vadodara, Valsad.