

*Customer Inquiries:*

Overseas Marketing Division, Building Systems Group  
Mitsubishi Electric Corporation  
bod.inquiry@rk.MitsubishiElectric.co.jp  
<http://www.mitsubishi-elevator.com>

*Media Contact:*

Public Relations Division  
Mitsubishi Electric Corporation  
prd.gnews@nk.MitsubishiElectric.co.jp  
<http://www.MitsubishiElectric.com/news/>

## **Mitsubishi Electric Announces New Ultra-High-Speed Elevator Technologies**

*Improves safety, reliability and comfort in the world's fastest elevators*

**Tokyo, February 3, 2011** – Mitsubishi Electric Corporation (TOKYO: 6503) announced today its new suite of technologies that enable ultra-high-speed elevators to travel faster than 1,000 meters per minute, or 60 kph, with enhanced efficiency, comfort and safety. The technologies will be incorporated in the world's fastest elevators, including those developed by Mitsubishi Electric for the 632-meter Shanghai Tower under construction in Shanghai, China.

In response to the increasing height of high-rise buildings amid continuing urban population growth, the role of elevators is gaining even greater importance. In response, Mitsubishi Electric is developing advanced solutions incorporating technologies and equipment for enhanced drive and controllability, safety, super high-rise cable mechanics and passenger comfort. The company's new suite of ultra-high-speed elevator technologies includes the following advancements:

### ***1. Drive and Controllability***

- The traction motor incorporates a permanent magnetic motor for energy-efficient, low-noise, low-vibration operation.
- A single motor has two grouped three-phase winding coils and parallel drive systems controlled by separate control panels. Each motor has a built-in converter to regenerate electricity, lowering power consumption by more than 30 percent.
- Brakes composed of two units with a hydraulic driven clamp-type disk brake achieve stable braking.

### ***2. Safety***

- Safety gears, which activate the brakes by grasping the guide rails in emergencies if cables become transected, comprise two stages to manage increased kinetic energy due to ultra-high speeds.
- Fine ceramic is used for the safety gear shoe to realize high resistance to heat, abrasion and shock. Braking is extra-stable even if high frictional heat is generated when the safety gear is activated.
- The hydraulic oil buffer (shock absorber) at the bottom of the elevator shaft has an advanced plunger comprising three stages for exceptional shock absorption within a shortened frame.
- Newly developed governor monitors elevator speed stably even with heavy loads placed by ropes traveling at high speeds over long distances.

### ***3. Super high-rise cable mechanics***

- A steel core with a wider diameter provides high intensity, allowing traveling cables to be lightened by using lightweight sheath material and operated by a highly efficient electric power carrier system.
- Mitsubishi Electric's new "sfleX-rope" comprising bundles of high-intensity steel wire strands, each covered with plastic, offers higher intensity than conventional rope for safe operation despite the greater weight of longer ropes. Each wire has a higher density and wider cross-sectional area than conventional rope, which helps to reduce rope stretching caused when passengers step onto the elevator.

### ***4. Ride comfort***

- A new active roller guide, which reduces vibration from the guide rails and wind, enhances passenger comfort even at ultra-high speeds.
- The inside of the car is extra-quiet thanks to a streamlined aerodynamic car cover and a high sound insulation cage.
- Air pressure control helps to minimize rapid changes in atmospheric pressure for reduced ear discomfort.

###

### **About Mitsubishi Electric**

With over 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. The company recorded consolidated group sales of 3,645.3 billion yen (US\$ 43.9 billion\*) in the fiscal year ended March 31, 2011. For more information visit <http://www.MitsubishiElectric.com>

\*At an exchange rate of 83 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2011