

Mitsubishi Electric Introduces Diamond HS™ Passenger Elevators

CYPRESS, Calif. – December 11, 2018 – Mitsubishi Electric US, Inc. Elevator & Escalator Division introduces Diamond HS™ premium passenger elevators for high-rise buildings. Designed to offer premium service while addressing passenger safety and comfort, Diamond HS™ elevators include innovative technology systems that keep pace with society’s ever-growing demands for energy efficiency and sustainability.

“Mitsubishi Electric is committed to providing uncompromised reliability and sustainable performance in all of its products. Our high-speed Diamond HS™ elevators are no exception,” says Erik Zommers, senior vice president and general manager for Mitsubishi Electric US, Inc. Elevator & Escalator Division. “We designed and manufactured Diamond HS™ elevators in response to the market’s diverse application demands. They offer comfort, smooth and efficient passenger movement, energy savings and originality in design.”

Some of the industry-leading features of the Diamond HS™ line include:

- The world’s highest level of efficiency and power factor for traction machines
- One of the world’s quietest brakes as a result of advanced noise-reduction technology
- New sflEX-rope™ technology for super high-rise rope mechanics to reduce rope stretching
- An optional active roller guide that reduces vibrations and provides even more comfort for passengers

Diamond HS™ elevators are equipped with Sigma AI-2200C or Sigma AI-22 group control systems (ΣAI-22 and ΣAI-2200C). These systems utilize artificial intelligence to optimally apportion passengers to cars according to factors such as waiting time, travel time, current car occupancy, energy consumption and building size. Diamond HS™ elevators are also available with an optional destination-oriented allocation system (DOAS) that can reduce average waiting times by up to 30 percent compared to conventional control systems. Passengers use hall-operating panels to select their destination floor before boarding the elevator, allowing the supervisory controller’s algorithm to determine the best car to serve that floor. Dispensing passengers by destination eliminates the need for passengers to press a button within the car, reduces the number of potential stops that a car will make, minimizes wait and travel times for all users and reduces energy consumption.

To promote sustainability, Diamond HS™ elevators use a permanent magnet gearless traction machine, which produces an intense magnetic field due to high-density, high-precision winding of the joint-lapped

cores built into the machine's motor, reducing energy usage and CO₂ emissions.

Diamond HS™ are equipped with intelligent door systems to promote safety and reliable door operation. As sensors detect conditions including variations in door loads between floors, wind strength within elevator shafts and sediment in the door tracks, the data is analyzed by a highly-efficient Reduced Instruction Set Computer (RISC) so that the elevator can adjust the speed at which doors open and close and modify torque to reduce the likelihood of a door-related failure. Precise control of AC motor speed and torque is provided by variable-voltage, variable-frequency (VVVF) inverters that enable Diamond HS™ elevators to vary voltage and AC motor input frequency as required. Additionally, Mitsubishi Electric offers a door operator design that is unique to the industry, where the door operator mechanism is structurally isolated from the elevator cab, minimizing noise and vibration transmission into the cab, and further stabilizing door operation.

The brake system incorporated into the Diamond HS™ elevators' traction machines employs a double-brake configuration to stop elevators securely. An additional high-resolution motor encoder maintains landing precision and affirms that passengers feel safe stepping across the threshold to board and disembark and feel comfortable during their ride. If the sensors detect a passenger or object over the track, the doors will immediately stop closing and then fully reopen.

Emergency features include standard earthquake and fire emergency operations, as well as emergency car lighting, automatic emergency power source operation, a remote supervisory panel, and MelEye, an advanced control system from Mitsubishi Electric.

In addition to safe and efficient passenger movement, rider comfort is key in the design and configuration of Diamond HS™ elevators. Leading-edge control systems and devices work with highly skilled installation technology to assure that even high-speed rides are smooth and quiet throughout their duration. An added focus on alignment ensures that cars are perfectly positioned at floors as the doors open.

For more information about Diamond HS™ elevators, and the complete line of Mitsubishi Electric elevators and escalators, visit <http://www.MitsubishiElevator.com>.

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About Mitsubishi Electric US, Inc. Elevator & Escalator Division

Headquartered in Cypress, California, Mitsubishi Electric US, Inc. Elevator & Escalator Division sells, installs, modernizes and services elevators and escalators. The division is recognized as an industry leader in product quality, reliability and preventive maintenance programs. Quality in Motion™ is inherent in the division's best in class products and people. Quality is at the division's core. The products differentiate themselves through the smooth ride, leading edge technology and unmatched reliability. The commitment continues over the life of the product through the division's intensive service program that maximizes

uptime of vertical transportation. Additional information is available at www.MitsubishiElevator.com or 714-220-4700.

In addition to elevators and escalators, [Mitsubishi Electric US group companies](#)' principal businesses include cooling and heating products, semiconductor devices, automotive electrical components, factory automation products and services, electric utility products and large-scale video displays for stadiums and arenas. Mitsubishi Electric US group companies have roughly 31 locations throughout North America with approximately 4,000 employees.

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MITEED/11/18/02