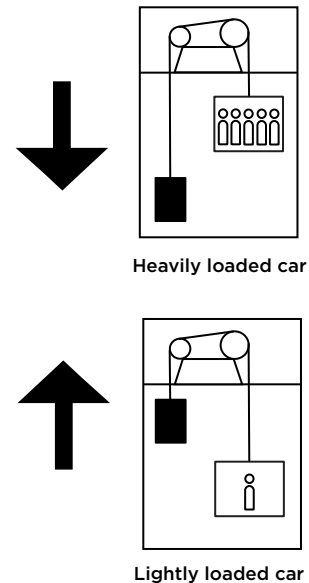


# REGENERATIVE DRIVE

Repurpose power generated during high-speed elevator operation to reduce CO<sub>2</sub> emissions and improve efficiency by up to 35%.

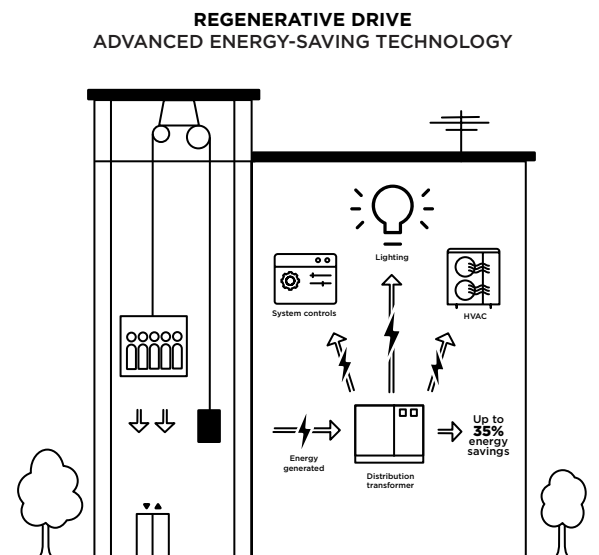
## HOW HIGH-SPEED ELEVATORS WORK

Diamond HS™ high-speed traction elevators operate using a permanent magnet gearless traction machine consisting of a variable-speed electric motor connected to the elevator sheave and a counterweight that is heavier than the cab. The motor consumes electricity when it turns the sheave to move heavy loads up or light loads down because it is moving the car against gravity. With conventional systems, the power generated during normal operation dissipates as heat.



## HOW REGENERATIVE DRIVE WORKS

With Mitsubishi Electric's Regenerative Drive, when the elevator moves heavy loads down or light loads up, the electric motor generates power as the heavier load works with gravity to turn the sheave. This effect is similar to how hybrid and electric vehicle motors generate energy while braking. Regenerative Drive captures energy generated during normal operation and transmits it to the distribution transformer and the building's electrical network. The energy is then used to power lights, heating and cooling and other building systems, supplementing building electricity that would generally be used from other sources.





## SAVE ENERGY AND IMPROVE SUSTAINABILITY

Mitsubishi Electric's Diamond HS™ high-speed traction machines use advanced core technology, quality engineering and highly efficient variable speed motors to realize optimum performance and operational efficiency. In addition to these efficient and energy saving features, **ALL Diamond HS elevators are equipped with regenerative drive as an engineered standard**, leading to even greater environmental and cost saving benefits.

**Up to 35% energy savings:** Lower monthly operating costs through greater efficiency.

**Lower CO<sub>2</sub> emissions:** As local laws and sustainability initiatives incentivize building owners to slash carbon footprints, Regenerative Drive helps reduce the need for electricity produced with fossil fuels.

### Maximum regenerative power (Diamond HS)

Rate speed \ Capacity	Capacity		
	3000lbs	3500lbs	4000lbs
500fpm	48HP (36kW)	55HP (41kW)	63HP (47kW)
700fpm	67HP (50kW)	78HP (58kW)	66HP (88kW)
800fpm	76HP (57kW)	90HP (66kW)	101HP (76kW)
1000fpm	95HP (71kW)	111HP (83kW)	127HP (95kW)
1200fpm	115HP (85kW)	132HP (99kW)	152HP (114kW)

NOTE:

- The max. value at deceleration at 115% load
- Calculation condition is based upon TR=150m, Car dead weight=3600kg
- Main Rope= 14x6 (sfleX-rope), Compen rope= 16x4

**Consult with your local Mitsubishi Electric representative to learn more about how Regenerative Drive technology can change your facility for the better.**