

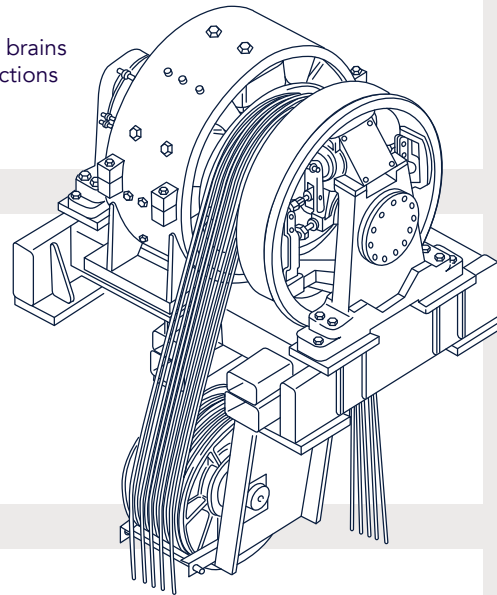
The Elevator Safety Chain

1 The Controller

Microprocessor-based controllers are the brains of the system, controlling all elevator functions based on data received from multiple subsystems, components and sensors.

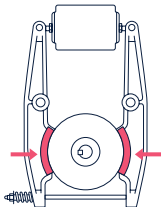
2 The Machine

The gearless machine consists of a motor, traction sheave and brake. The sheave drives the cables attached to the elevator car and counterweight. In a gearless traction machine, the drive sheave is an integral part of the motor.

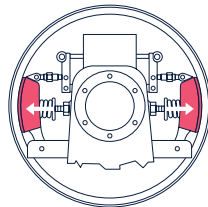


3 The Brakes

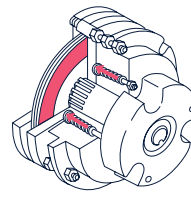
Modern elevators use friction brakes: a pair of shoes that apply equal and opposite pressure to a drum, pulley or disc mounted on the motor shaft. Springs apply the brake shoes to the pulley and are lifted electrically. If power is lost, the brake applies.



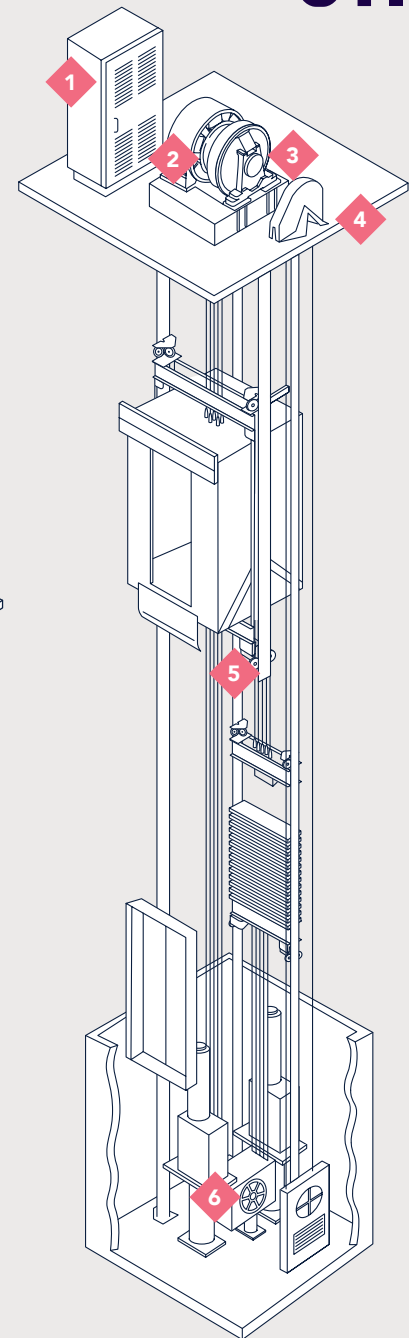
EXTERNAL DRUM



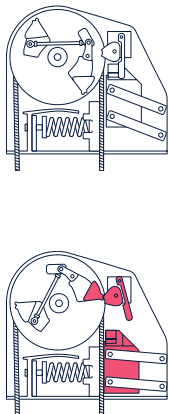
INTERNAL DRUM



DISC TYPE



4



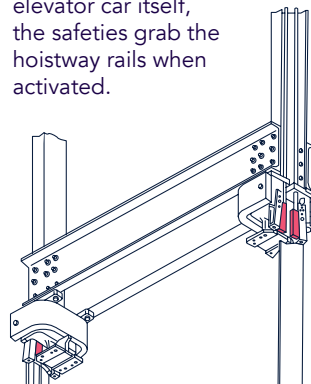
Governors

The governor continuously monitors car speed. If the car exceeds its maximum rated speed, flyweights inside the governor spring outward, causing the governor to initiate action: first engaging the machine brake, then engaging the car safeties.

5

Safeties

Located on the elevator car itself, the safeties grab the hoistway rails when activated.



6

Buffer

Positioned at the bottom of the hoistway, buffers can absorb and dissipate the energy of a descending elevator.

