GRUPO EIDE

SAFETY SYSTEMS

• TYPE FPC SAFETY CATCH SYSTEM • SAFETY CENTRIFUGAL BRAKES

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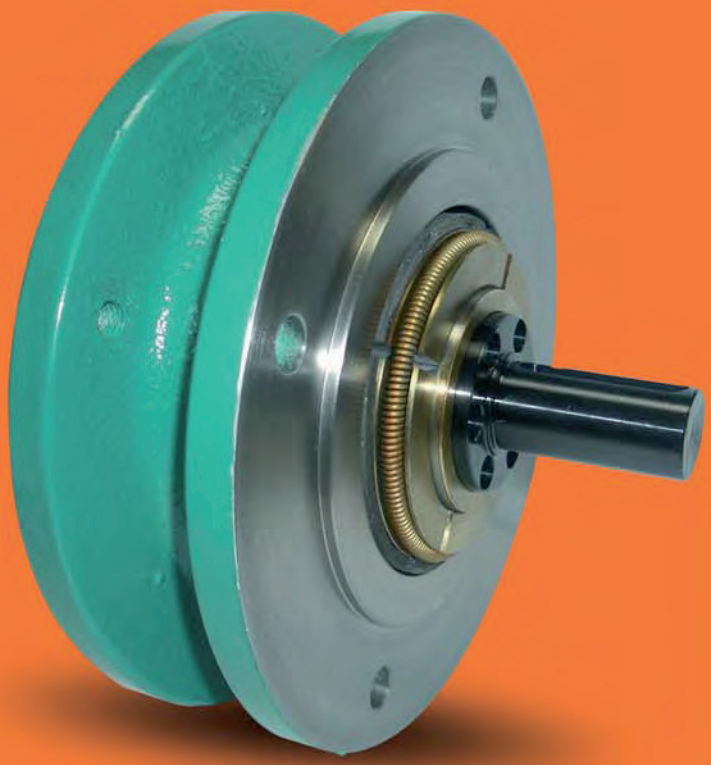
SAFETY CENTRIFUGAL BRAKES

For elevators

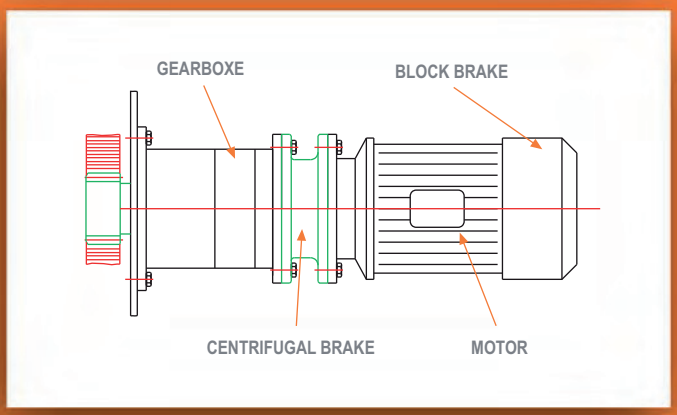


These devices are meant to control the descent speed when no motorization is involved, either as intended or by accident.These brakes operate on the centrifugal force principle, which actuates on masses with friction onto a static drum.

The centrifugal force is an exponential function of speed. A balance is always reached between the power of the load in the descent and the braking power. The balance speed will be the one that is kept by the load till it reaches a limiter or till a brake comes into action. This means centrifugal brakes are not blocking brakes, but brakes that act as gibs.

Due to their characteristics, the best results are obtained with fast axis. They are usually applied between the motor and the gearboxe, set in a way that means that they only brake when the motor nominal speed is surpassed.

Centrifugal brakes allow for a controlled descent when there is no motorization involved or in case of failure of the blocking brake. It ensures there is not an uncontrolled acceleration of the load, so that the foreseeable accident becomes just an incidence. Obviously, neither the blocking brake nor the centrifugal brake can prevent the accident from taking place if the anomaly occurs within the gearboxe or any other such element. If the centrifugal brake is mounted by means of an independent transmission, this will act as the final safety, since its action will be independent from the fact that the blocking brake or the gearboxe may not be working due to a failure or a fracture.



Construction

The centrifugal brakes mainly comprise a central hub that turns together with the motor axis. Around them we can find a series of masses in sectors that are pulled by the guides.

These masses can move in a radial manner along their own guide. This movement is opposed by the force of the clasping springs. These masses are externally covered by asbestos-free friction materials.

And finally, the whole system is mounted inside a drum or concentric flange fixed directly onto the gearboxe carcass. The flange acts as a bearing for the motor.

Operation

- MOTOR AND BRAKE HUB TURNING AT STANDARD SPEED

In this case, the brake springs are set so that their action compensates the centrifugal forces of the masses while fixed to the hub. The brake acts as a completely passive element.

- MOTOR AND BRAKE HUB TURNING AT A SPEED THAT IS HIGHER THAN THE STANDARD ONE

Whenever the turning speed of the hub surpasses the nominal speed (1,500 rpm) in a 3%+-2, for whatever the reason, the masses overcome the action of the springs and develop a friction against the inside wall of the fix drum producing the brake friction.

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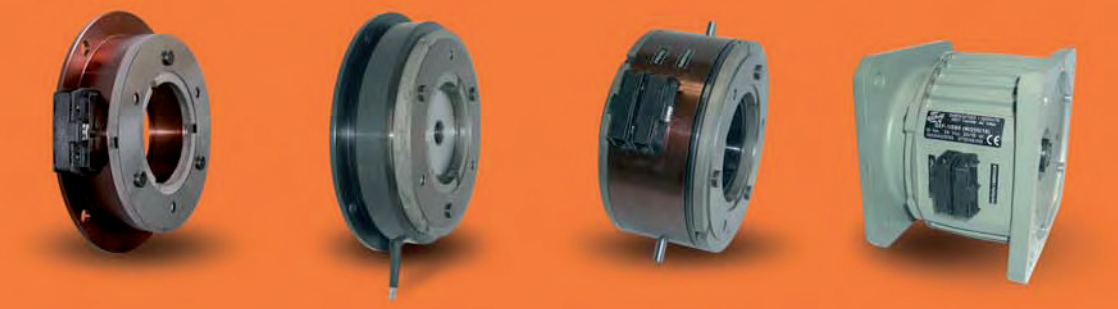
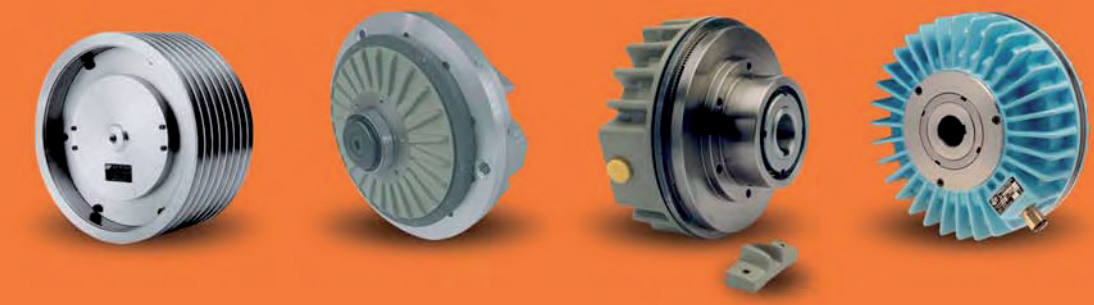
TORQUE LIMITERS

ELASTIC COUPLINGS



ELECTROMAGNETIC CLUTCHES AND BRAKE



PNEUMATIC CLUTCHES AND BRAKES

SAFETY CATCHES AND CENTRIFUGAL BRAKES
ELECTROMAGNETIC AND PNEUMATIC BRAKES AND CLUTCHES
ELASTIC COUPLINGS - TORQUE LIMITERS

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