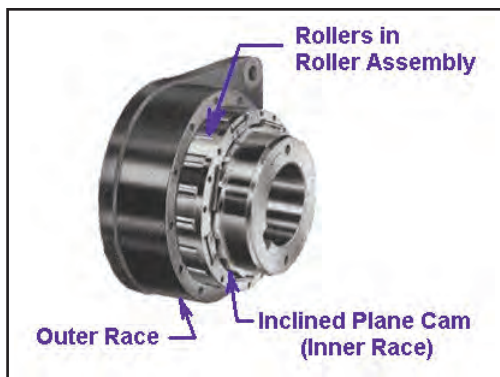




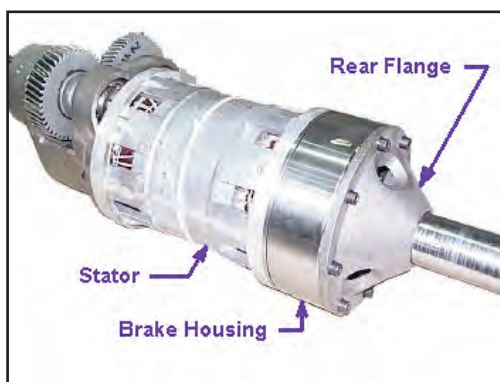
# Motorized Pulley Options Mechanical Backstops and Brakes



## Mechanical Backstop Exploded View

Rulmeca's mechanical backstops are built into the Motorized Pulley to limit pulley rotation to one direction (either clockwise or counterclockwise.) The backstop's keyed inner race is fixed to the motor rotor and the outer race is bolted to the motor stator frame. This yields two advantages: (1.) the backstop has all of the mechanical advantage, which can be as high as 100:1, and (2.) it is protected in a hermetically sealed environment.

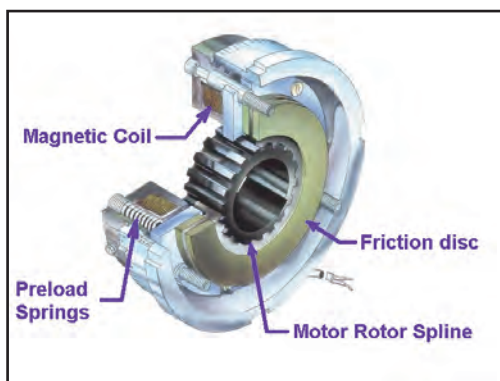
*Technical Precaution: It is essential that the identity of each of the three phases of the power supply be determined before attaching power supply wires to the pulley to prevent the motor from driving against the backstop. The identity of each of the three phases of the motor is clearly labeled.*



## Rulmeca Internal Brake/Motor/Gearbox Assembly

Spring-loaded electromagnetic brakes are designed to release when power is applied to the brake coil. This is a "fail safe" feature. They clamp shut when brake power is removed (either during normal operation or during an emergency loss of overall system power.) Photo shows 320H model. Note that this option requires additional internal space and larger minimum Roller Length.

*Technical Precaution: Control circuit for motor and brake must be designed to stop pulley motor before brake clamps shut and start pulley motor after brake is released. Brakes are DC-powered and supplied with AC to DC rectifiers to be mounted in a remote panel (by others). Control circuit must be designed to kill motor power in the event of loss of brake power. If this provision is not made, motor can possibly "power through" clamped brake.*



## Rulmeca Internal Brake

Rulmeca internal brake is designed to function primarily as a belt holding device for reversing and/or articulating conveyors. The brake is not intended to be a conveyor stopping device. The brake's keyed spline is fixed to the motor rotor and the brake's housing is bolted to the motor stator frame. This yields two advantages: (1.) the brake has all of the mechanical advantage, which can be as high as 100:1, and (2.) it is protected in a hermetically sealed environment.

*Technical Precaution: Control circuit must be designed so that motor and brake never work against each other. Brake should never be clamped shut when motor is on except for "emergency stop." Motor should never be powered on (including "jog" command) when the brake is clamped shut.*



## Example of External Brake (South Carolina—USA)

Available in models 500H and larger, Rulmeca external brake shaft option extends motor rotor shaft through hole in non-rotating pulley shaft for attachment of external brake (by others.) This hydraulically-actuated double-shoe brake (protective cover removed for photograph) prevents conveyor roll back when fully loaded belt is stopped.

The external brake option provides one of the two key advantages available with the internal brake option. Brake has all of the mechanical advantage of the drive (as high as 100:1 ratio) because it is fixed directly to the motor rotor shaft. It is, however, exposed to the environment.