



Product

EM/ERS Spring-Set Brake Module

Application

Overhead Doors

Highlights

- Designed for holding applications
- 7 ft.lbs. of holding torque
- NEMA C-face compatible mounting
- Easy to install
- Fully automatic reset
- No adjustment required
- Completely assembled and preburnished at the factory
- High-torque, lead-free and asbestos-free friction material

A manufacturer of large overhead doors uses a C-face motor and 150:1 helical reducer to open and close their doors. When a door is in a partially-open position, the weight of the door can be sufficient enough to backdrive the high-ratio gearbox and lower by itself. The door does drop slowly enough that dangerous high-speed impacts are not an issue. However, efficiency becomes a problem as lift truck drivers have to stop and re-open the door before proceeding. Another associated concern is that the power generated by the backdriving motor could damage the drive system electronics.

Warner Electric EM/ERS spring-set, electrically-released brakes were supplied to solve the backdriving problem. The unit has an ERS spring-set holding brake positioned within a C-face housing to allow for mounting between the drive motor and reducer. It was easy to retrofit the brake between the motor and reducer, and other than an added 3-1/8" of length, no change in the drive system was needed.

For sizing the load, both the gear ratio and the diameter of the drive sprocket for the door lift were considered. The door weighed 1,750 lbs. and used an 8" diameter sprocket. Basic calculations confirmed that 7,000 in.lbs. of holding torque was required at the drive shaft of the door. Given the 150:1 reduction ratio, slightly less than 47 in.lbs. (3.9 ft.lbs.) of torque was needed to hold the door in place.

The standard model EM50/ERS-42 provides up to 7 ft.lbs. of holding torque. The brake was wired so that when power is removed from the motor, the brake will engage and hold the door in its current position. The EM50/ERS-42 unit was installed with a standard Warner Electric CBC 100 power supply.

US (Application Assistance)
1-800-825-9050
warnerelectric.com

Europe
+33 (0) 2 41 21 24 24

Asia Pacific
For a list of our AP sales offices:
altramotion.com/contactus