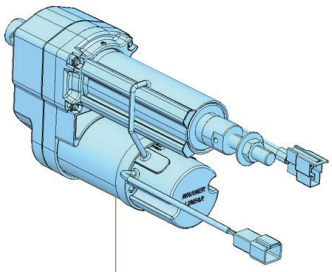
Warner Linear
Altra Industrial Motion

Application Profile



Products

Electric Linear Actuator K2EP1.2

Application

Cabin Door Lock on World's Tallest Ferris Wheel

Highlights

- 450N, 68mm/s
- Reliable, long service life
- Light-weight extruded aluminum tube for corrosion protection
- Design modification to customer specifications

When the world's tallest Ferris wheel is completed in Beijing China in late 2009, riders will be held safe within their 40-person cabins by Warner Electric linear actuators that prevent the cabin doors from opening during the rotation of the wheel.

Currently under construction, the Great Wheel of China will stand 680 feet tall as the highest ferris wheel in the world. Each of its 48 cabins is equipped with a double lock system managed with the linear actuator that serves as a secondary lock system. The actuator design was modified to meet customer specifications which included an adjustable end limit switch, end stroke signaling, specific stud, nut and washer arrangements, and a manual release lever. The maintenance-free actuators were manufactured from extruded aluminum tube bodies to reduce weight and resist corrosion.

The Great Wheel is expected to make 750,000 rotations over a 50-year period, so long service life was critical to the customer. Important in this outdoor application is that each actuator has an ingress protection rating of IP65, meaning they can be subjected to low pressure jets of water from all directions.

Warner Electric also provided spring-applied, electromagnetic tooth clutches, Model E330, which assist in providing stability to the cabins. In the event of an unexpected locking of the gear drive mechanism that keeps the cabins vertical, the tooth clutch automatically disengages the transmission to leave the cabin free, with axis vertical due to gravity.

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