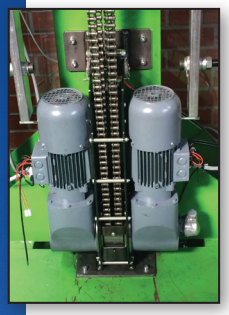
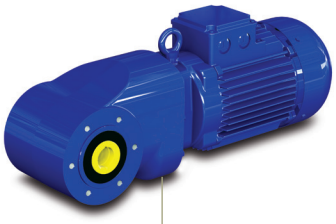
Bauer Gear Motor
Altra Industrial Motion

Application Profile





Product — Modified BK17 Series Gear Motor

Application — **Wind Turbine Elevator Drive**

Highlights

- Modified BK17 Series helical bevel geared motor
- Special gear ratios
- Relatively low weight
- High torque rating of 243 lb.ft. (330 Nm)
- Small footprint
- Temperature range to -35˚C

A leading manufacturer of commercial rope hoists recently selected Bauer geared motors for use in their new wind turbine elevator hoist system. The compact hoist fits within the tight confines of wind turbine towers and allows maintenance personnel, tools and materials to be safely transported up to the base of the turbine nacelle positioned at the top of the tower. The new system, with a load capacity of 550 lbs. (250 kg) and an approx. speed of 19 m/min (62 ft/min), was developed as a replacement for older tower elevators that often require frequent maintenance.

Bauer engineers worked closely with the customer's team to optimize the elevator drivetrain. Ultimately, modified Bauer BK17 Series helical bevel geared motors were selected over competitive models based on their many advantages. The BK17 has a relatively low weight and a higher torque rating of 243 lb.ft. (330 Nm) compared to 170 lb.ft. (230 Nm) of competitive models. The BK17 also has a smaller footprint than other models and a temperature range to -35˚C vs. -20˚C of competitive units. The Bauer BK17 units supplied feature special gear ratios and motors with a weak starting torque winding to reduce shock to the system.

A"parachute" brake with a manual release was integrated into the drivetrain. The brake opens when the hoist's rope pulley reaches a speed of 2000 rpm. If a power supply loss occurs during a lift, the brake allows maintenance personnel to reach the next exit platform where they can access a ladder to move up or down the tower.

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