



Product

GMR-SD Caliper Brakes

Application

Coal Mine Dragline

Highlights

- Spring-applied, air-released caliper brakes
- GMR-SD 15.6 models feature 36 kN braking force each; 72 kN combined braking force per motor
- GMR-SD 4.5 models feature 10.5 kN braking force each; 21 kN combined braking force per motor
- Easy-to-replace brake pads
- Torque adjusted to meet operating conditions
- Modularity allows for quick change out

The dragline at a mine in Queensland, Australia recently required a comprehensive maintenance overhaul. Originally commissioned in 2008, the dragline's braking systems needed to be replaced after the extreme wear and tear of operating 24/7/365 for more than 4 years in the tough mine pit environment.

The 5,600 ton electric dragline can dig to a depth of more than 50m with a bucket capacity of 168 tons, allowing for an impressive overburden removal rate. The dragline utilizes two 21m long by 4m wide shoes to move around the mine pit. The combined drive systems for the machine's hoist, drag, swing and walking motions have more than 37,500 applied horsepower.

After a competitive review, Twiflex was selected to provide all required replacement brakes. To meet the machine's hoist and drag performance demands, Twiflex delivered spring-applied, air-released GMR-SD 15.6 caliper brakes operating on 42" dia. discs that provided a combined braking force of 72 kN on each of 14 motors. GMR-SD 4.5 brakes operating on 40" dia. discs were used to supply 21 kN braking force on each of the 8 swing motors.

The GMR-SD modular design allows for quick change outs and the ability to use multiple units of varying sizes to meet specific installation requirements. Torque is adjusted in the field to meet operating conditions.

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