



Product

Centric® Centrifugal Clutch

Application

Mine HVAC System

Highlights

- Dual-drive clutch application
- Automatic engagement and disengagement
- Protection against shock loads

A global mine ventilation equipment manufacturer needed an overload clutch solution for a large fan drive application. Fans are used to drive fresh air into a downcast shaft while the large diameter main fans draw out old air from the mine through an upcast shaft. Booster fans are positioned within the mine as needed to maintain optimum air flow. This powerful through-flow air ventilation system plays a critical role in mine safety as it reduces dangerous gases, dust, and high heat levels inside the mine.

The main dual-drive fan is primarily powered by an electric motor running at 1800 rpm. If power is lost, a diesel (or gas) engine, running at 900 rpm is utilized. The clutch is positioned on the diesel engine side of the fan, between the necessary speed increasing gearbox and the fan shaft. The electric motor is positioned on the opposite side of the fan.

During a power failure, when the electric motor shuts down, the clutch automatically engages the diesel engine driveshaft connected to the fan to ensure that continuous air flow into the mine is maintained.

Boston Gear supplied 19 in. and 24 in. diameter Centric Centrifugal Clutches (CCC) to meet the challenging OEM fan drive application requirements. Spring-loaded CCC units are designed to automatically engage and disengage at customer specified RPMs.

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