



Product

Application

Highlights

- 2,700 lb.ft. (3660 Nm) torque capacity
- Bore range: 1.87 to 2.93 in. (47 -74 mm)



Model FRB Overrunning Clutch

Copper Mine Process Air Fan

A leading fan and blower OEM required a clutch solution for installation on a process air fan system at a copper mine. The fan is used to exhaust the hot air generated from the equipment in the copper ore processing facility. The motor driven fan operates at 1750 RPM and can reach temperatures in excess of 900° F (482° C).

Fans that are working with high temperature gases need to be continuously rotated at a low speed when they are shut down during a cool down period. When the fan's main drive is shut down, the overrunning clutch engages a smaller, secondary motor/gear reducer drivetrain that rotates the fan very slowly (approx. 10 RPM). This cool down period is needed to reduce the temperature of the large squirrel cage fan and 4" diameter shaft, preventing them from damage caused by sagging and warping due to their weight and exposure to elevated temperatures.

The overrunning clutch will automatically disengage the low-speed drive when the main high-speed motor is powered up, preventing potential damage to the low-speed drive.

A Formsprag Model FRB-700 clutch with a 5,700 lb.ft. (3660 Nm) torque capacity met the customer's overrunning application requirements. The clutch is positioned on the main fan shaft, opposite from the large primary drive motor. FRB clutches feature a high-torque density and need no adjustments or controls, providing reduced operating costs. These low-maintenance units require service once every 3 years.

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