Model HSB Backstopping Clutch

Mine Process Blower

- Prevents reverse rotation
- Comprised of an FSO clutch combined with an oil reservoir
- Torque capacity of 5,000 lb.ft. (6800 Nm)
- Formsprag exclusive PCE® sprag design
- Reservoir features a flush oil sight gauge

A leading industrial fan OEM needed a backstopping clutch for a process blower at a copper mine. The large squirrel cage fan is used to exhaust heat generated inside the processing plant at the mine. The backstopping clutch prevents windmilling or reverse rotation when the fan is turned off. A fan of this size rotating at just 3 RPM in the wrong direction could cause significant damage when the fan drive motor is started.

To meet the requirements of this heavy-duty application, a Formsprag Model HSB 700 clutch, with a torque capacity of 5,000 lb.ft. (6800 Nm), was chosen. HSB Series high-speed clutches are intended for use as backstops on a wide range of applications, including fans and conveyors.

HSB units are comprised of a standard FSO clutch with the addition of an oil reservoir. The oil reservoir is an aluminum casting with cooling fins. HSB models have a spacer replacing the seal at the reservoir end to permit free oil flow between the clutch and reservoir. The reservoir features a flush oil sight gauge and a combination breather and oil filter.

The FSO-700 clutch incorporated into the HSB 700 features PCE® sprags with Formchrome® and Formsprag "Free-action" retainers. Exclusive Formchrome sprags provide extra-long life, maximum wear resistance and lower maintenance costs. Ultra-hard Formchrome sprags are made by diffusing chromium into the surface of hardened high-carbon alloy steel to form a chromium-carbide alloy.

The HSB unit installed has provided over 15 years of dependable service in this hot, dusty mine environment while requiring only oil changes per the maintenance schedule.