

HOR SERIES OVERLOAD CLUTCH

MINE BOWL CRUSHER



PROBLEM

A major mine crusher OEM needed an overload clutch solution for a new line of bowl crushers. Material is fed through the top of the cone crusher and falls over a mantle. A vertical shaft rotates a cone-shaped mantle in an eccentric fashion below the bowl liner (concave), crushing the material in the small, varying size gap between the mantle and concave liner.

As wear occurs, the mantle needs to be re-calibrated. The clutch rotates as the drive slips during re-calibration and then returns to the original material (rock) size to ensure desired product uniformity. The clutch also provides critical “anti-spin” protection during startup to prevent material from flying out of the bowl.

SOLUTION

To meet the OEM’s demanding performance requirements, Boston Gear supplies several sizes of HOR Series overload clutches with torque ranges up to 50,000 in.lbs. The units perform as both an overrunning clutch and a torque limiting clutch. The HOR Series is an automatic reset, ball detent style overload release clutch. It has been designed to provide accurate and dependable torque disconnect protection for mechanical power transmission equipment including mine crusher drives.

The bi-directional clutches feature single position indexing, convenient torque adjustment, maximum torque limit stop, limit switch actuating mechanism, hardened components for long life, and electroless nickel finish and stainless steel hardware for superior corrosion resistance. Units are sealed for protection against external contamination in tough mine environments.

HIGHLIGHTS

- Ball detent style overload release clutch
- Torque ranges up to 50,000 in.lbs.
- Torque limiting in one direction, overrunning in the opposite direction
- Maximum torque limit stop
- Electroless nickel finish
- Limit switch actuating mechanism
- Sealed for protection against external contamination

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