

APPLICATION BULLETIN



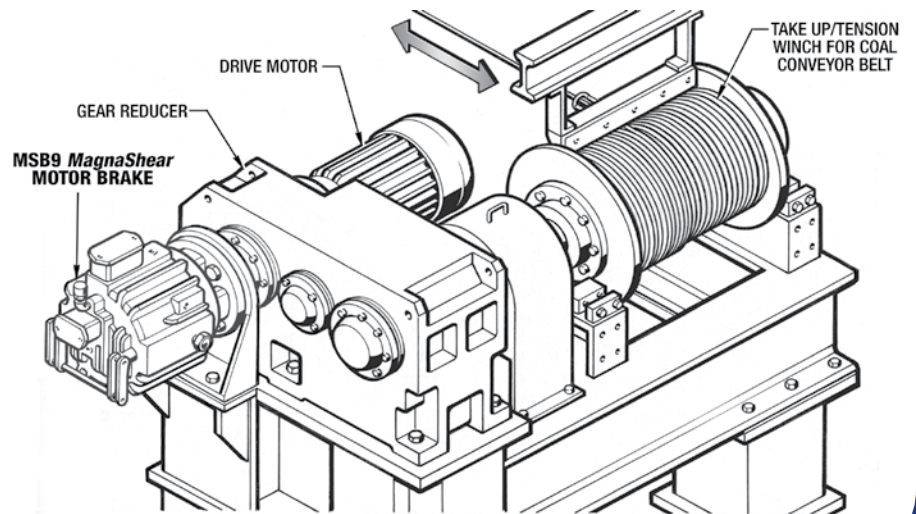
APPLICATION: Conveyor Constant Tension Winch

INDUSTRY: Mining, Tunneling

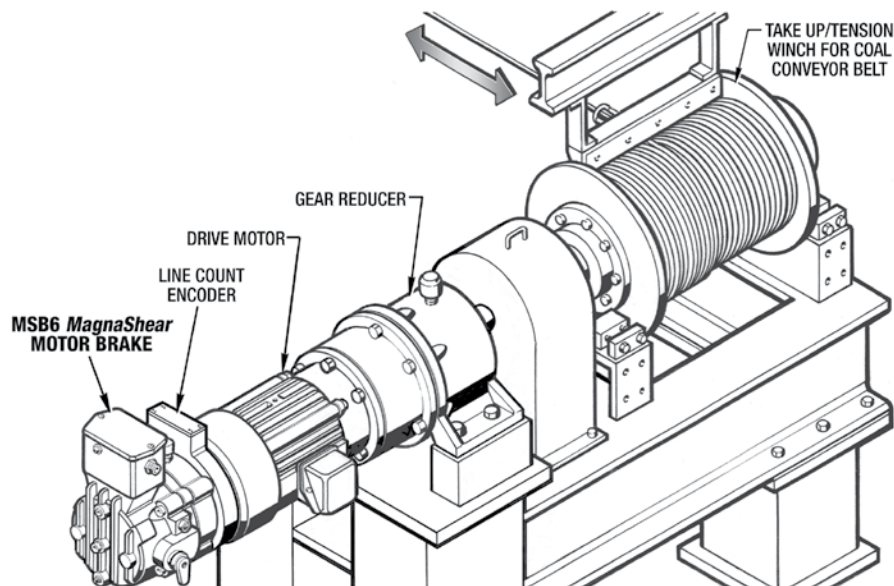
PRODUCT: MagnaShear Motor Brake

Conveyor Constant Tension Winch

MagnaShear on Gear Reducer



MagnaShear on Motor



CONVEYOR CONSTANT TENSION WINCH

WHERE THEY ARE USED: The Conveyor Constant Tension Winch is used extensively around the world in underground mines, underground tunnelling, and overland belt conveyors. The belt conveyors can be up to several thousand feet long and transport bulk material like coal, ore and soda.

HOW THEY WORK: The Conveyor Constant Tension Winch is used to prevent sagging between carrier idlers during startup, continuous operation, and stopping by moving an idler pulley on the slack side of the belt. The winch drive motor is controlled by an AC flux vector drive to maintain the proper belt tension. The *MagnaShear* Brake is released during normal operation, but is engaged when the conveyor is stopped or during the critical event of an emergency stop.

PROBLEMS SOLVED: Dry friction brakes are effected by the dust, dirt, water, oil, and other substances inherent to the underground and outdoor environments making them very susceptible to failure. The large coil of a dry friction brake is slow to respond. During an emergency stop these problems can cause the winch to go into a dangerous overspeed condition which can damage the winch, brake friction pads, and idler carriage. If this happens the idler no longer provides tension to the conveyor belt and the conveyor drive or backstop can't stop the load which then is dumped at the end of the conveyor.

The Force Control *MagnaShear* Brake provides smooth, reliable and quick braking under all conditions to stop the winch without losing tension in the conveyor belt during an emergency stop.

IMPORTANT FEATURES:

- Totally enclosed and sealed from outside contaminants.
- Quick response to keep winch from running away.
- Superior heat dissipation and long life friction material.
- Smooth "cushioned" stop for reduced shock to the drive system.
- Oil Shear design to provide maximum service life, with little maintenance and no adjustments.



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