

# Coal Age<sup>TM</sup>

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## **MAGNETIC COUPLING TECHNOLOGY SAVES RAG TIME AND MONEY**

When it comes to material handling, producers who move product efficiently from one place to another make the most money. Improvements in conveyor system performance can directly enhance productivity. Conversely, poorly engineered conveyor systems or less-than-optimal components result in downtime, wasted resources, safety issues and reduced profit. MagnaDrive has a solution that is delivering major efficiency, reliability and safety improvements to conveyor operators nationwide.

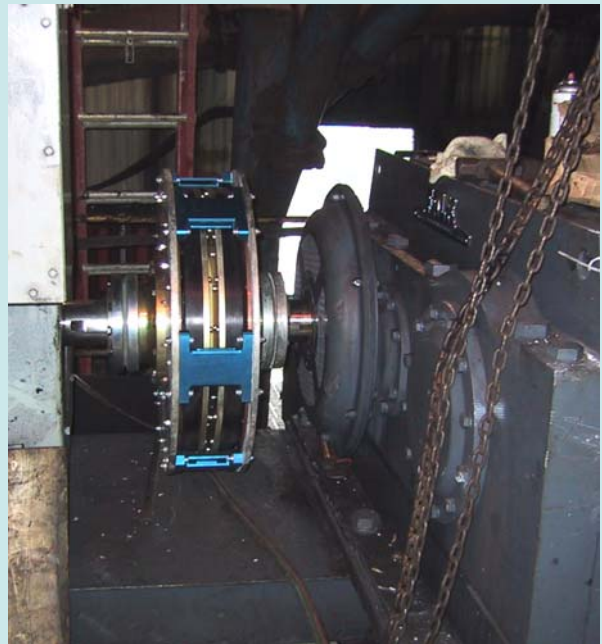
The company's new power transmission technology uses powerful rare-earth permanent magnets to transmit torque across an air gap with no physical connection between the motor and the driven equipment. The MagnaDrive Coupling is designed for constant speed applications from 10 to 5,000 horsepower (hp).

One of the coupling's benefits is its performance in torque overload situations such as material jams or excess weight. It automatically disengages, shutting down the system and preventing damage or destruction of the motor and driven equipment. When the jam is cleared, the coupling automatically resets to resume operation.

RAG Cumberland Resources, located near Waynesburg, Pa., uses the system on a 650-foot (ft) long slope belt conveyor brings raw coal from a storage silo to the prep plant. It operates almost continuously and is critical to the plant operation. A 400-hp motor with a fluid coupling drove the conveyor. The operators wanted to increase capacity by speeding up the belt drive and they also wanted an alternative to the high maintenance costs and downtime associated with fluid couplings.

RAG Cumberland replaced the original motor and fluid coupling with a 600-hp motor and MagnaDrive Coupling. They concluded that the coupling would be less expensive up front, simple to install and align, plus offer significant other benefits including soft start, overload protection, no vibration transfer and no hot oil spills.

"The MagnaDrive Coupling is definitely a winner," said David Rife, RAG Cumberland maintenance supervisor. "No vibration is transferred. The soft start and stop capability protects the driven units and lets the motor come up to full speed before engaging the driven equipment, helping get the conveyor started in overload conditions." MagnaDrive has units installed nationwide and was selected as a Technology of the Year for 2001 by IndustryWeek magazine.



*RAG uses a MagnaDrive coupling on the plant's slope belt.*