



Product

Ameriflex[®] Disconnect Coupling

Application

Power Plant

Highlights

- Unique separated multi-convoluted diaphragm configuration
- No wearing parts, no lubrication and no required maintenance
- 7 to 10 times less angular moment
- High torque to weight and torque to diameter ratios
- Diaphragms designed for infinite life

A new engineered coupling solution was needed at the first coal-fired power plant in the U.S. that utilizes ultrasupercritical boiler technology, where water moves directly from a liquid to superheated steam. As a result of the process, the new plant is much more efficient with reduced carbon dioxide emissions.

Ameridrives Couplings was contacted by the customer based on previous successes at their other power plants. The coupling is located between the boiler's water feed pump and the steam turbine. At certain times, such as during scheduled maintenance, the coupling needs to allow plant operators the ability to disengage the feed pump from the turbine in order to stop the water flow, which allows the turbine to continue to rotate on the turning gear.

To meet the application requirements, Ameridrives provided a custom-engineered Ameriflex RMD (Reduced Moment Disconnect) diaphragm coupling. The Ameriflex RMD is the most technically advanced disconnect coupling available on the market. Prior to its introduction, the only other options for certain boiler feed pump applications was a lubricated gear coupling or a non-disconnecting dry coupling.

The unique Ameriflex RMD features multi-convoluted diaphragms which are separated to provide many advantages over other choices including no wearing parts, no required maintenance and no lubrication. The coupling is designed to operate at full ratings while providing improved dynamic balance with 7 to 10 times lower applied bending moment.

Ameridrives' technicians subjected the coupling to extensive factory testing on a high speed test stand in disengaged, engaging and engaged positions.

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