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PRESS RELEASE

ABB Dodge Gear Reducer Proves Effective For Kwena Coal Mine's Performance

The outstanding performance of ABB's Dodge gear reducer at Kwena Coal Mine in Mpumalanga has led to leading distributor [Bearings International](#) (BI) continuing its successful business relationship with Swiss-Swedish multinational [ABB](#) through the purchase of a second unit to be installed on another key conveyor.

ABB has a long-standing agreement to plan inventory for the ABB Dodge Torque Arm II (TAII) gear reducer supplied to Kwena Coal mine, with ongoing discussions and planning underway for a third installation.

Kwena coal mine initially purchased an ABB Dodge Torque Arm Reducer from BI in 2013, at a time when the mine was looking for innovative solutions to increase operations efficiencies and lower production downtime. The TAIL gear reducer is used in the drive mechanism of a 200-m-long, 600-mm-wide coal conveyor carrying 700 tph of coal. This main conveyor is a critical application, feeding coal into the wash plant.

"An excellent relationship with the end user and a branch in close vicinity allows for this site to be used as a reference when engaging with users from other sites. The end user was and continues to be highly satisfied with the reliability, minimal maintenance required, and longevity of the unit," says BI Offer Marketing Manager Victor Strobel.

The shaft-mounted TAIL gear reducer mounts directly onto the driven shaft and is ideal for tough applications where a long operating life is essential, making it a perfect solution for a coal mine like Kwena. The reducer can also be used in a range of environments due to the many accessories available.

These reducers are manufactured at the ABB Greenville Plant in South Carolina in the US to American Gear Manufacturers' Association (AGMA) standards, utilising only heavy-duty tapered roller bearings throughout the unit for an average bearing life of 25 000 hours at a 1.0 service factor.

The units adhere to strict manufacturing principles, ensuring quality and consistency in the manufacturing process. Regular quality checks are performed throughout the process, ensuring materials and finished components meet requirements consistently. All the gear reducers are subject to final test runs upon assembly to ensure all parameters are within technical specifications.

A key feature of the TAIL gear reducer is the advanced dual-seal system, featuring inner seals made from hydrogenated butadiene nitrile rubber (HBNR) on the input and output shafts. The heavy contact seals' primary function is to retain oil inside the reducer.

The light-contact seals are fitted outward from the heavy contact seals so as to keep dust and debris away from the inner seal, prolonging the life of both. The HBNR material has an operating temperature range of -40°C to 150°C, and shows less wear on the shafts than other types of seals with similar high points.

The TAIL gear reducer utilises a twin-tapered bushing that eliminates fretting corrosion, and makes fitment quick and easy with regular hand tools, allowing the gearbox to be removed quickly should the need arise to change a conveyor pulley or the conveyor pulley bearings between the gear reducer and the pulley.

Spares are simplified, since various shaft sizes can be accommodated by a single gear reducer, which means there is no need to stock a gear reducer for each shaft size on the plant. Stores simply need to keep common reducers and associated bush kits on hand.

Having an externally accessible backstop means direction changes can be easily achieved in the field without needing to disassemble the gear reducer. These backstops are compatible with oils containing extreme pressure (EP) additives. The complete lift-off design ensures zero drag or shaft wear once up to operational speed.

Pry slots along the mating surface ensure the reducer can be repaired easily, without damaging the case. Service parts are available in different levelled kits, taking the guesswork out of which part to replace. Also making the unit fully serviceable rather than just disposable.

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BI is a member of the Hudaco Group. BI is a leading distributor of bearings and power transmission products in Southern Africa. With its customer-focused approach, BI is committed to delivering value to all its stakeholders, while offering quality solutions that make a real difference to optimising plant availability and turnaround time. With over 60 years in the bearings and power transmission industry, BI puts its experience to good use by going great lengths to ensure their product range and services meet the changing needs of clients, industry and business. Backed by an elite technical team, BI covers the full spectrum of customer requirements, and is able to ensure immediate availability of products through a nationwide network of branches.

About ABB

ABB (ABBN: SIX Swiss Ex) is a technology leader that is driving the digital transformation of industries. With a history of innovation spanning more than 130 years, ABB has four customer-focused, globally leading businesses: Electrification, Industrial Automation, Motion, and Robotics & Discrete Automation, supported by the ABB Ability™ digital platform. ABB's Power Grids business will be divested to Hitachi in 2020. ABB operates in more than 100 countries with about 147,000 employees. www.abb.com

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