

RDBK Backstops

INCLINED COAL MINE CONVEYORS

PROBLEM

A major gearbox OEM needed a compact, load-sharing, releasable backstop solution for use on a new incline conveyor system at a coal mine in Pennsylvania. Unlike other backstop designs that offer limited reverse rotation after being engaged, the new solution needed to allow for a controlled release under load and be able to rotate backwards for maintenance and clearing work.

SOLUTION

To meet the application requirements, Stieber provided newly developed RDBK high-speed backstops. The RDBK features an internal torque limiter which is specially-designed for use on the high-speed or intermediate shaft of the driving unit in multi-drive systems, such as on large inclined conveyors, where two or more backstops share the reverse load.

RDBK units also feature a releasable function which helps reduce downtime once the backstop has been engaged in the event of a blockage, belt jam or overload. Through the use of an internal hydraulic system, the RDBK is capable of performing as many reverse rotations as needed to completely unload a conveyor prior to maintenance work being performed.

With a maximum torque capacity of 180,000 Nm, a unique, compact design gives the RDBK up to 3.5 times more torque capacity than backstops of similar design; with up to 15 times more energy dissipation. The friction linings work in an oil bath to ensure that the unit remains functional after long periods of inaction.



HIGHLIGHTS

- High-speed backstop with integrated torque limiter for load-sharing
- Specifically designed for multi-drive systems
- Release function allows for unlimited reverse rotations to completely unload the conveyor (within limits of energy dissipation)
- Power-dense, compact footprint
- 11 models available with torque capacities from 5,500 Nm to 180,000 Nm
- 3.5 times more torque capacity and up to 15 times more energy dissipation than backstops of similar design

Regal Rexnord

[regalrexnord.com](https://www.regalrexnord.com)

[stieberclutch.com](https://www.stieberclutch.com)

Europe - Germany

Hatschekstraße 36
69126 Heidelberg, Germany
+49 (0) 6221-3047

North America - USA

23601 Hoover Road
Warren, MI 48089, USA
586-758-5000

Dieselstraße 14
85748 Garching
+49 (0) 8932-9010

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