

Press release

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The right Voith drive solution for every belt conveyor

June 2013

Voith recently delivered 36 fluid couplings for an iron ore distribution center in Malaysia. Starting in 2014, the couplings will be used in the drives of 16 belt conveyors supplied by the BEUMER Group. For each of the belt conveyors Voith has offered just the right fluid couplings.

The supplied Voith hydrodynamic fluid couplings are applied to drives ranging in powers from 200 to 800 kW. They have been selected to softly start and protect all conveyor system components and minimize unplanned system downtime. Voith fluid couplings have a rugged design and are well suited for use under the most extreme environmental conditions. They dampen torsional vibrations in the driveline and protect it against overload. This extends the lifetime of the entire system.

Voith has offered just the right fluid couplings for each of the 16 belt conveyors. The belt conveyor drives are equipped with TVVS-type couplings. Voith is delivering special TVVS designs to match the start-up and operating conditions of the drives.

The TVVS constant-filled fluid coupling is particularly suited for medium and long belt conveyors with start-up times up to 45 seconds. Fluid couplings automatically match the demand torque of the driven conveyor. The smooth application of fluid coupling torque provides a smooth belt start-up to protect the belt from damaging stresses, thus reducing system downtimes.

Thanks to the mechanical separation of the motor and machine through the fluid coupling, the motor can run up to speed without load. In addition, systems that use multiple motors can be switched on in a staggered sequence to limit the current demanded during the motor acceleration. This avoids grid overloading caused by simultaneous motor starts. In the most demanding belt conveyors, the TVVS is deployed with centrifugal force valves to further protect the electric grid. Centrifugal valves control the filling and draining of the coupling working circuit, and thus the power transmission, as a function of the drive

speed. The motor starts up virtually load-free, even in the event of voltage drops. The coupling torque is applied continuously and without shocks up to the required breakaway torque of the system.

The TVVS can also use water as the operating medium. This environmentally-friendly operating medium is particularly well-suited for use in the belt conveyors that transport iron ore above the ocean.

In future, the Malaysian iron ore distribution center will supply customers in the Asian-Pacific region with iron ore from South America. The belt conveyors transport the iron ore from the terminal to the harbor. The reliability of the belt conveyors is extremely important for ensuring the planned shipment capacity. Voith drive solutions increase the availability of these belt conveyors.

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Page 2
Press Release
June 2013



Photo 1: The Voith constant-filled fluid coupling protects the components in belt conveyor systems, increasing their availability.

Voith Turbo, a division of Voith GmbH, specializes in hydrodynamic drive, coupling and braking systems for road, rail and industrial applications, as well as for shipboard propulsion systems.

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Voith sets the standards in the energy, oil & gas, paper, raw materials and transportation & automotive markets. Founded in 1867, Voith now employs more than 42,000 people, generating €5.7 billion in sales and operating in some 50 countries in every region of the world, making it one of the largest family-owned companies in Europe today.

Page 3
Press Release
June 2013

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