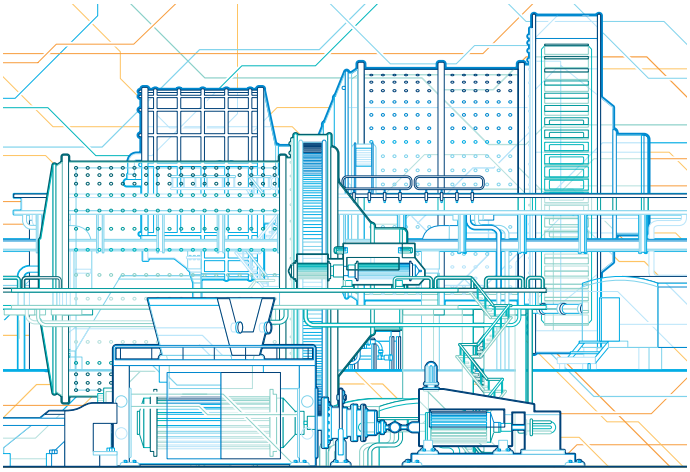
Products and solutions

Drive systems for all grinding applications
A comprehensive portfolio for optimal results

More powerful and larger mills, higher ball charges and demanding ambient conditions call for a strong partner for grinding solutions. We help you meet these challenges with our drive systems, which have a long track record in improving the performance and extending the technical frontiers of all three mineral grinding applications: Gearless mills, ring-geared mills and high pressure grinding rolls.



A drive systems portfolio for optimal results

The grinding process is a significant part of the ore beneficiation activity and therefore requires reliable solutions to ensure optimal results. Key factors such as location of resources and environmental or energy considerations determine viability and performance of your grinding equipment. This consequently influences the electrical design necessary for optimal operations. In addition, your choice of drive solution also directly impacts performance, flexibility of operation, total efficiency, reliability, maintenance, downtime and the lifetime of the system.

Our comprehensive grinding portfolio offers solutions for all your applications. In cooperation with the industries' leading mechanical suppliers, we develop the most efficient and reliable electrical solutions that fit your specific site requirements.

Competence in grinding

The expertise at hand is based on over four decades of developing and supplying integrated systems for the mining and mineral processing industry, resulting in the largest installed base and knowledge bank in the market. Our drive solutions philosophy for grinding is guided by the following values:

- Application-specific functionality
- Smooth operation
- Higher flexibility through optimized design
- Variable-speed control as inherent feature

For superior energy efficiency, higher throughput, lower operating costs and peak performance throughout the life cycle of your applications, turn to ABB. Our dedicated experts for grinding solutions will work with you to optimize your grinding circuit.

Our drive systems portfolio
Ensuring reliability, flexibility and availability at highest efficiency

Go gearless for highest availability

The ABB gearless mill drive is the most powerful mill drive system on the market. It provides highest availability, long-term reliability, flexibility and efficiency at competitive cost. This is achieved by eliminating all mechanical components of a conventional mill drive system (ring-gear, pinion, gearbox, coupling, motor shaft and motor bearings).

Features

- Power rating: 5–36MW
- Mill diameter: Up to 44’
- The mill is the rotor
- Elimination of couplings, gearboxes, pinions and ring-gear
- Variable-speed drive

Benefits

- Highest availability, long-term reliability, flexibility and efficiency at competitive cost
- Optimized grinding process
- Minimized number of wearing parts
- Reduced maintenance and overall costs
- Off-loop optimization

Ensure smooth operation for ring-geared mills

ABB continuously extends technical and performance frontiers of ring-geared mill drive (RMD) technology to fit your site requirements. We provide optimized mill drive solutions for all types of ring-geared mills: low and high speed, single and dual pinion, with and without a gearbox — all designed for reliable, long life and low maintenance operation.

Features

- Power rating: Up to 9MW per pinion
- Single and dual pinion solution
- Frozen charge protection
- Creeping and automatic positioning
- Smooth starts, controlled rollback
- Fast and accurate torque control
- Variable-speed drive

Benefits

- High availability, reliability, flexibility and efficiency
- Optimized grinding process
- Reduced mechanical stress on ring gear
- Reduced maintenance and overall costs
- Network friendly

Achieve reliable high pressure grinding

ABB’s variable-speed drive (VSD) systems are ideal for thorough process optimization even at the crushing stage. VSDs allow you to adjust the speed of your high pressure grinding rolls to match actual ore conditions. Consequently achieving reliable grinding conditions, while being network friendly and energy efficient.

Features

- Power rating: Up to 5 MW per roll
- Dynamic slip control
- Continuous drive load monitoring for overload protection
- Fast and accurate torque control
- Rapid response to heavy load fluctuations
- Variable-speed drive

Benefits

- Increased availability, reliability, flexibility and efficiency
- Optimized grinding process
- Maximum throughput
- Reduced roller wear
- Enhanced inter-particle comminution

Main Technology Center for grinding solutions
5405 Baden 5 Dättwil, Switzerland
minerals@ch.abb.com

For contact details, please visit our website: **www.abb.com/mining**

Power and productivity
for a better world™