Solutions for mining

Over 70 years’ experience of designing and manufacturing in-house products with outstanding reliability and performance, as well as accumulated technological know-how for a wide range of sectors, make Ingeteam - Indar the best option for mining equipment. Our product portfolio in the mining sector covers everything from pumps, motors, generators, control and protection systems, and frequency converters to complete drive systems for different mining processes. This knowledge, together with our wide range of products and services, provide our clients with extensive cover.

Besides offering in-house technology and products, Ingeteam offers a series of associated services of significant added value, which allow us to design the best configuration beforehand in order to optimise the plant and make it profitable in the shortest time possible. Once the equipment has been installed, preventive maintenance, training and our wide network of services maximise the operational time.

Ingeteam

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Services

CONSULTANCY
Given the importance of processes where the motor-converter package is installed, especially with systems integration projects, consultancy is important in terms of sizing and ensuring all of the pumped currents, capacity and safety. Consultancy includes selecting grid technologies, harmonic emission analysis, electromagnetic compatibility, overload calculation, short-circuit calculation, protection logic, etc. Consultancy forms part of the philosophy of our company, with a unique, personalised approach which forms the basis of the relationship with our clients.

ENGINEERING
Chemical engineering includes the basic and detailed design as well as checking key components such as cabling, connection switchgear, etc.

TESTS
Our advanced laboratory, equipped with rotary electrical machines and power electronics, offers the possibility of performing combined full load tests on the motor-converter package. This enables it to evaluate the overall electrical and mechanical performance of the system, in order to ensure commissioning and complete the process of the project. The laboratory has the necessary expertise to perform tests at full load up to 11 MW and back-to-back up to 22 MW.

SIMULATION
With the powerful calculation and simulation tools on the system, customers can simulate the system’s operation and behaviour in different situations. This enables customers to ensure that the solutions meet all the requirements defined in the project. This is important in the mining sector, where safety is always the top priority.

COMMISSIONING AND TRAINING
Our commissioning service includes starting up the systems, checking the equipment is functioning correctly, making sure that it complies with the requirements defined in the project, and ensuring the system is working correctly. During the commissioning stage, we work closely with the client to ensure that the equipment is operating effectively. In addition to this, we also provide training to the maintenance staff, ensuring they are familiar with the system and its operation. This is important during the commissioning stage, as it enables the team to carry out maintenance in the most efficient and effective way possible.

SERVICE AND MAINTENANCE
In over 70 years, Ingeteam-Indar has built a solid, multisector knowledge base founded on the capacity for innovation and providing outstanding service. Our dedicated 24/365 technical support centre and remote diagnostic monitoring technology reduce downtime for customers by providing an online service and early detection of problems. We also offer our clients the option of carrying out preventative and corrective maintenance, reducing consumption costs and increasing productivity with the aim of increasing profits.
**Electrical Motors**

Indar’s electrical generator families are designed in accordance with the most stringent electrical and mechanical criteria. Our synchronous motors are adaptable to the primary energy source, reliability and robustness requirements and are adapted to the primary energy source, reliability and robustness requirements and are adapted to the technical demands of plants with different topologies. We offer equipment for the protection, control and automation of distribution and electrical substations. Alongside our motor and generator protection and control systems, we are able to extensively cover a plant’s electrical supply needs. We offer electromechanical hydropower generation, including regenerative solutions that ensure maximum energy efficiency and minimize environmental impact.

**Energy Generation and Distribution**

Indar offers a wide range of products and solutions with the latest technology for medium and high voltage substations, power plants and electrical distribution systems for mining installations. The solutions proposed by Ingeteam offer a custom-made system for comprehensively controlling, protecting and automating electrical substations for a wide range of flows and heights and respond to the most demanding operational and installation conditions by adapting the construction features. We also manufacture submersible pumps and motors for large vertical and horizontal construction with high pressure and high flows (HVP). We offer a complete range of low- and medium-voltage air- and water-cooled frequency converters for single- and multi-motor applications and handling, covering the power range from 0.37 to 70 MW. We also manufacture submersible equipment for pumping underground water, mine drainage, industrial effluent and mine tailings. Our submersible pumps and motors are designed for high flows without energy feedback (DFE rectifier). INGEDRIVE® is available with powers from 200 kW to 15 MVA, voltages from 15 kV to 110 kV, lower noise levels and long-lasting equipment.

**Frequency Converters**

We offer a wide range of products for mine applications: IndarDrive® converter with a common rectifier. We are able to offer our clients the best solution with single and multiple power supplies, different frequency ranges and an extensive range of supplies. We offer a wide range of products for medium and high voltage applications: IndarDrive® − Squirrel-Cage and IndarDrive® − Synchronous. Finally, we offer a wide range of products for low-voltage applications: IndarDrive® − Squirrel-Cage and IndarDrive® − Synchronous. We are also able to offer our clients the best solution with single and multiple power supplies, different frequency ranges and an extensive range of supplies.

**Submersible Motors and Pumps**

We offer a wide range of products for medium and high voltage applications: IndarDrive® converter with a common rectifier. We are able to offer our clients the best solution with single and multiple power supplies, different frequency ranges and an extensive range of supplies. We offer a wide range of products for low-voltage applications: IndarDrive® − Squirrel-Cage and IndarDrive® − Synchronous. We are also able to offer our clients the best solution with single and multiple power supplies, different frequency ranges and an extensive range of supplies.