

## DMI - DC motors for peak performance Metals Industry

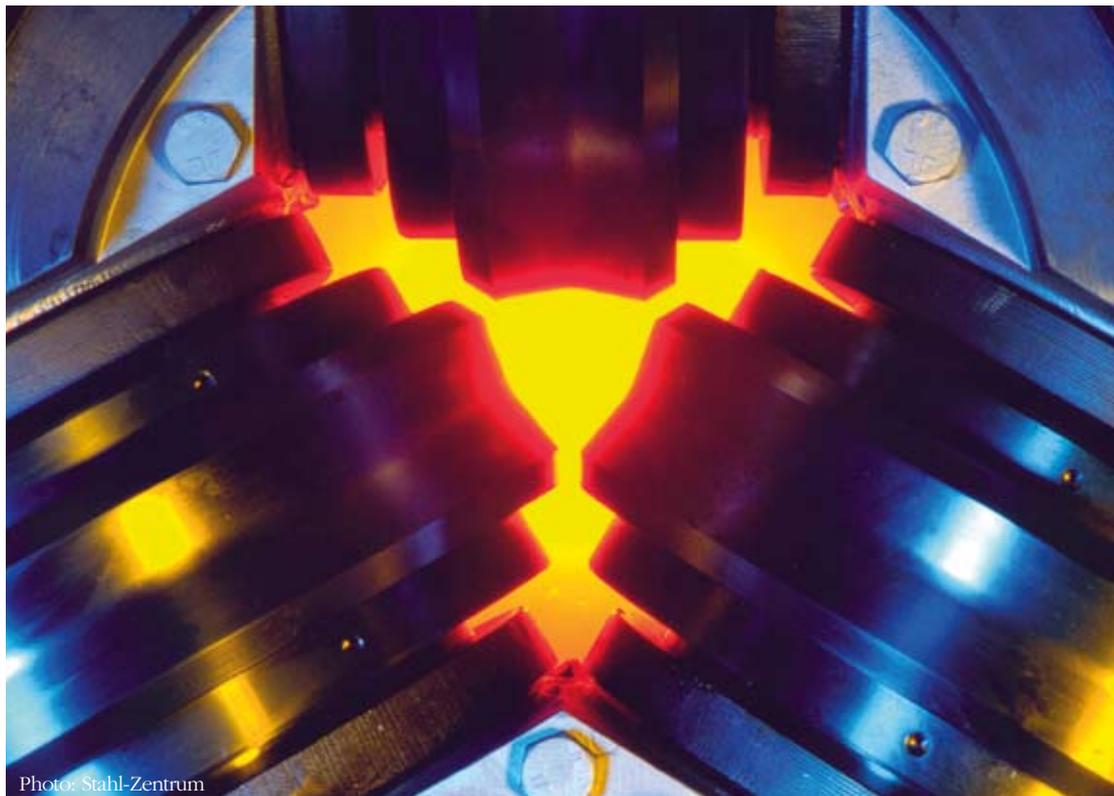


Photo: Stahl-Zentrum

The DC motors type DMI from ABB are designed to meet the highest demands for output performance, mechanical adaptability and reliability combined with reduced maintenance in the metal industry. ABB's extensive experience and history of innovations helps our customers around the world to increase productivity and enhance production safety.

### What can ABB offer for the metals industry?

ABB has provided DC motors, drive products and systems for more than 120 years to customers in different industries. ABB's vast experience in DC technology, combined with its long experience in the metals industry results in innovative drive solutions with superior performance, less maintenance, high mechanical adaptability and reliability.

ABB's reliable drive products and systems operate and integrate seamlessly into the customer's automation world to maximise total plant performance.

### What kinds of DC solutions are offered for metals applications?

DMI's high power and torque output, superior field weakening range with constant power, good overload qualities, high maximum speed, low moment of inertia and fast acceleration makes it comply with the severe demands made by the metal industry.

Together with ABB's high performance DCS series converters ideal DC solutions can be offered for practically any application in the metal industry, like:

- Mill stands
- Coilers and Winders
- Shears and Cutters
- Wire rod mills
- Bolt machines
- Friction welding applications
- Press machines
- Reamers
- Pinch rolls

**What is the DMI motor?**

The DMI motor series is ABB's latest DC product range in the market. It combines improved output performance with less maintenance, higher reliability and adaptability compared to conventional DC motors. This means increased productivity and a smooth integration in almost any application. The DMI benefits from all the know-how and experience embodied in its highly successful predecessors, and represents the next step in the evolution of DC motors.

**What are the main features?**

- Frame sizes IEC 180, 200, 225, 250, 280, 315, 400
- Comp. wind frame size  $\geq 250$
- Power up to 1400 kW / 1910 HP
- Torque up to 22 kNm
- Voltage up to 810 V
- Field voltage 110-440 V
- IM Horizontal or vertical, foot or flange
- IP 23-55
- IC 06, 17, 37, 86W, 666, 410
- Insulation Class 200
- Standards IEC, CE, CSA (up to 710 V)

The DMI DC motor is designed to allow fan cooling, air/water and air/air heat exchangers, external cooling or frame cooling. The wide selection of options and built-in flexibility means that these motors can be tailored for any application and industry.

DMI motors comply with the requirements of class 200 insulation. The insulation system is moisture resistant and has a temperature index well above class H. The built-in extra margin is substantial, which ensures a very long life.

During the development of the DMI's patented cross-section, efforts were taken to increase the power output, torque and speed range uniquely combined with lowered electrical stress. The key behind DMI's peak performance lies in optimization of the electromagnetic circuit, reduced flux intrusion from the cooling ducts and improved efficiency of the cooling

The DMI has positive environmental characteristics. In fact it was the first rotating machine in the world which was granted the Environmental Product Declaration certificate, issued by BVQI.



*DMI 315 tandem motor designed for a rolling mill application*

Due to the smart mechanical design the DMI can be designed for tandem or even triple installations. ABB has an unsurpassed experience in delivering tandem solutions to different customers in the metals industry.

The rotor's skewed coil slots give the motor excellent low-speed characteristics and also a lower noise level.

**What are the customer values?**

- High output and small dimensions
  - Increased productivity and capacity
- High output over a wide speed range
  - More flexible solution and wider commutation margins
- Smooth running at low speeds and low moment of inertia - Shorter cycle times and smaller converters
- Simplicity of DC and the minimum of maintenance

**What is ABB's total DC offering?**

ABB's DC motors and drives are rated from 10 kW up to 2,0 MW and are among the industry's best performers in terms of power output, torque and speed. All products conform to ISO standards. ABB's intensive R&D programme for DC products has resulted in motors and drives that are compact and modular in design. This, coupled with a high power density, has provided numerous applications with the ideal solution.

Along with its manufacturing and assembly plants around the world, ABB has sales and service facilities in over 140 countries.



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