

Indar Electric, an Ingeteam company, has worked for over 75 years in the design, manufacture and supply of electrical rotating machines.

— The experience acquired during this time (since 1940) allows us to provide a wide range of products, developed from **our own technology**, placing us in a **position of leadership** in those sectors in which we operate.



— The more than 25,000 generators for wind application, **more than 23 GW of installed power** throughout the world are a clear exponent of our competitiveness and productive capability and of the trust our clients have shown in the company.

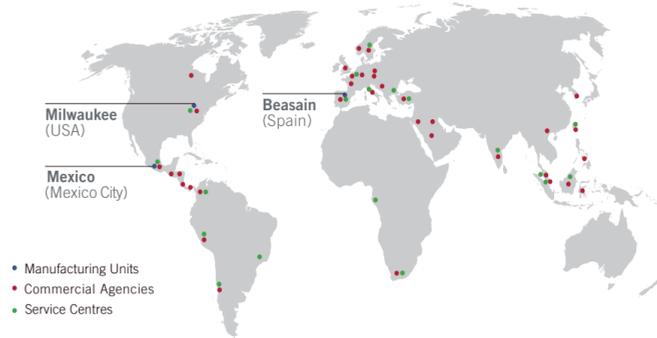
— At Indar Electric, the quality of our products and services, respect for the environment, and occupational hazard prevention are all essential to our work. With this in mind, we have achieved management systems certification in compliance with the **ISO-9001, ISO-14001 and OHSAS-18001** international standards, with the aim of establishing continuous improvement bases on the involvement of all parties.



— In this context, Indar Electric has decidedly opted for the **LEAN Manufacturing Philosophy** and systems of self-control and bar code traceability as a framework for competitiveness in the coming years, with the aim of offering excellence in our products and services.



Indar
An *Ingeteam* brand



2017/11



INDAR WIND ENERGY GENERATORS

Your driving force

Cooperation with the client forms part of the philosophy of the company, with a personalized and unique treatment forming the basis of the relationship, and with a clear common purpose.

SYNCHRONOUS AND ASYNCHRONOUS WIND GENERATORS



World class testing facilities

INDAR has one of the best test benches in the world. The main capabilities are:

- On load tests up to 9 MW.
- Back to back configuration testing up to 65 MW.
- LVRT (Low Voltage Ride Through) testing capability.
- Self generated grid of 50/60 Hz 20 MVA.
- Combined tests of electrical and thermal insulation ageing.
- Climatic chamber (-30°C to 80°C) extreme ambient conditions.

The test bench allows INDAR to fully test his designs for all kind of environmental conditions and to guarantee the best quality on his products.

INDAR develops products and services adapted to the characteristics of each project and client. For this purpose, the R+D+i support unit is made up of highly qualified personnel, and has the most advanced computer resources for the design and development of generators.

The range of generators is adapted to the requirements of our clients based on state-of-the-art technology for Onshore and Offshore applications

Features

- Taylor made solutions according to customer specifications.
- Generators of power levels from **1MW up to 9MW.**
- Asynchronous doubly fed or synchronous with permanent magnets.
- Direct Drive, medium or high speed.
- **Air or water** cooled.
- Up to insulation class H for all types of machines.
- Voltages from **690 V up to 12000 V** for DFIG Technology.
- Voltages from **690 V to 6600 V** for PMG Technology.
- **Onshore & Offshore** applications.
- Various fabrication structures and forms.
- Noise level adjusted to client needs.
- Compliance with international standards: IEC, UL CSA, USTC, etc.

Customized design solutions for different environment applications:

Cold Temperatures

-30 °C, 50 °C

High Corrosion Resistant

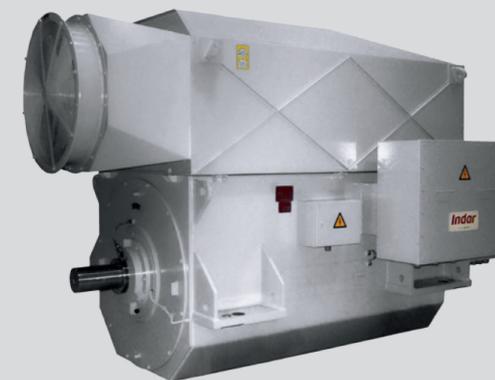
CH3, C4H, C5MH

Desert Conditions

Sandstorm

Frequency

50 Hz / 60 Hz



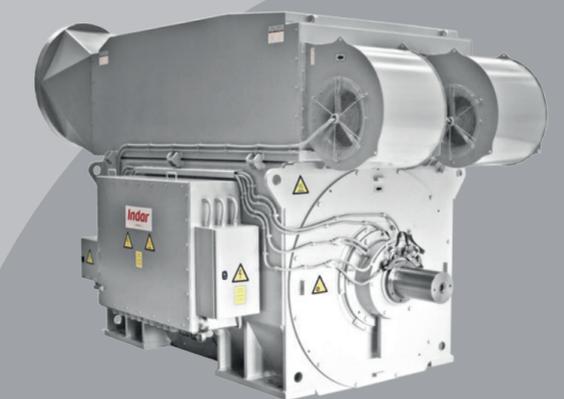
DFIG Series

Doubly Fed Induction Generators



PMG Series

Permanent Magnet Generators



IG Series

Squirrel Cage Asynchronous Generators



The main philosophy of the company is to guarantee the quality and the reliability with in-house fully proven solutions.