Indar

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

- **Internal Combustion Engine** (ICE) business unit takes the lead on the promotion of the **generators** to be coupled and fully adapted to the demands of reciprocating engines, serving the generation projects of any end user such as power utilities, IPPs, PPAs and operators for municipal or industrial cogeneration plants amongst others.

- Our aim is to contribute towards a **flexible** generation that provides **grid stability** by generating electricity with the **highest efficiency** wherever it is necessary, on land, at sea or even at remote and decentralized locations.

- The more than **35 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.

Human and technical resources such as its state-of-the-art power electronics and rotating machine laboratory are a reflection of the current leading position of INDAR in the global market. Its powerful design human team and production centers located in Milwaukee (USA) and Beasain (SPA), together with their clear vocation to serve the specific managed projects, make INDAR an option as no other.

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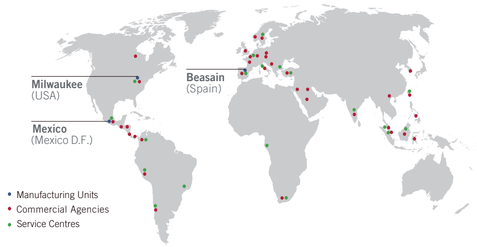
2017/11

Indar
An Ingeteam brand



Your driving force

Indar Electric, S.L.
www.indar.net

GAS & DIESEL
POWER GENERATION

Indar

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.

World class **testing facilities**

Indar Electric testing bench

To develop **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 main philosophy of INDAR is to guarantee the quality and the reliability with **in-house fully proven solutions**.

To this respect 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 (-30ºC to 80ºC) extreme ambient conditions.

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

R+D+i

INDAR counts with a wide experience in supplying static and dynamic grid code compliant generators. The combination of INDAR's technology and knowledge, together with a close cooperation with the customer, is the only way of ensuring that the complete installation complies with these grid code regulations.

GRID CODE compliance

Indar
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GENERATORS COUPLED TO INTERNAL COMBUSTION ENGINES

Features

- Optimization of efficiency, up to 98.1% at cosPhi:0.8 and 98.5% at cosPhi=1
- Project specific: Taylor made solutions according to customers specifications.
- Standardization development capability.
- Special applications development capability, such as: Nuclear Power Plant (Emergency Diesel and Ultimate Emergency Diesel) generators, synchronous compensators, rotating frequency converters, anti-shock compliant generators, generators coupled to 2-stroke low speed engines.
- Compliance with international standards: IEC, IEEE, NEMA, etc.
- Quality Management, Environmental protection and Labour risk prevention systems acc. to: ISO-9001, ISO 14001, OHSAS 18001.
- Negotiated quality control plan.
- Vibration level withstanding capability according to engine manufacturer.
- Worldwide service network.
- Operation & Maintenance training courses.

Main features	Three-Phase Synchronous Generators
Output	From 2,500 kVA to 40,000 kVA
Nº of Poles	> 6
Voltage	up to 15 KV
Insulation Thermal	up to class H (180ºC)
Cooling	Indirect cooling, air cooling, water cooling