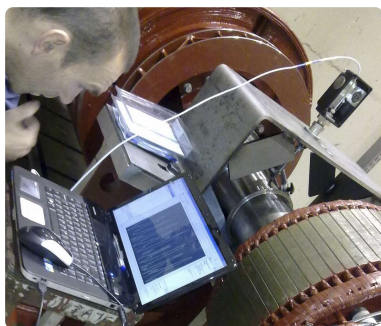


INDAR

CIM

Diagnostics, Maintenance, Repairs
and Servicing of Electrical Machines



Since it was founded in 1940, besides building electrical rotating machines, INDAR Electric has been offering all of the elements needed for them to function correctly, carrying out repairs, providing support and commissioning.

Quality and reliability

- Indar's commitment is to offer a quick and effective service, besides personalised preventive and predictive maintenance programmes.
- Through of our spare parts service, we establish specific schedules and initiatives via close partnership between our client and our support team.
- Manufacturing and supplying in-house spare parts as well as third-party ones also forms part of our CRS 360° customer support.
- The common elements that are part of the service include sets of rings and coils, complete rotors, spare part stators, poles, shafts, etc.
- State-of-the-art testing facilities worldwide, together with support from the technical office of the original equipment manufacturing divisions enable us to meet complex challenges with total assurance.

We analyse your requirements and adapt ourselves to them, providing added value to our service beyond conventional repairs.

Our technical team has marked experience and knowledge of a wide range of fields of application (the marine industry, hydraulic energy, biomass, cogeneration, combined cycle plants, thermal plants, steelmaking, the cement industry, irrigation, desalination plants, etc.) for all types of mechanical and electrical situations.

GUARANTEED

**CRS
360°**

**CUSTOMER
RELATIONSHIP
SERVICE**

by **Indar**

www.indar.net
aftersales.cim@indar.ingeteam.com

Indar
An **Ingeteam** brand

Technical Service

Yearly servicing of machines
Balancing on site
Vibration analysis
Predictive and preventive maintenance
Commissioning

Spare Parts

Supply of commercial elements, in-house components and wound coils

Repairs

Cleaning of electrical machines, alternators and motors
Mechanical and electrical repairs
Re-insulation
General rotor repairs
Analysis, manufacturing and replacement of the stator and the rotor
Electric motor (AC and DC) and generator rewind through 15 kV
Dynamic balancing of rotors up to 3,600 rpm
VPI varnishing (vacuum pressure impregnation)

Test bench

All INDAR equipment is subject to an exhaustive test programme, specific to each case and event:

- ☒ Phase balance
- ☒ Heating
- ☒ Switching and machine setting test (if the rotor is disassembled)
- ☒ Collector eccentricity test.
- ☒ Dielectric strength test (% depending on how old the machine is).
- ☒ Phase sequence and rotational direction test.
- ☒ Auxiliary elements test.
- ☒ Terminal labelling and rotational direction test (if the rotor is disassembled)
- ☒ Short-circuit curve
- ☒ Loss curve (if the rotor is disassembled)
- ☒ Vacuum curve of bearing heating test (if this has been a problem)
- ☒ Measurement with the rotor blocked
- ☒ Measurement of the stator and rotor isolation (if wound)
- ☒ Measurement of the stator and rotor resistors (if wound)
- ☒ Measurement of vibrations before overspeed
- ☒ Measurement of vibrations after overspeed
- ☒ Geometric measurements (before assembly)
- ☒ Wave form and harmonic content log
- ☒ Overcurrent
- ☒ Overspeed



Technical support

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Repaired Product Range

The facilities that Indar has for manufacturing its product lines (with a maximum crane capacity up to 80 t) also makes it possible to repair all types of third-party electrical motors and generators.

Warranty

In strict compliance with current standards, our repair programme offers a 12-month warranty for all the machines that we repair

(*) If the machine's shaft height is over 1120, each repair is subject to a feasibility study beforehand.