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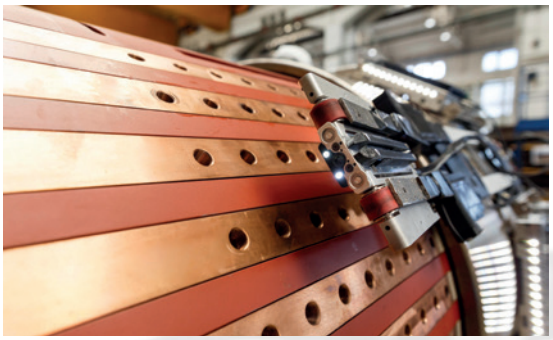
ROBIN

A generator robotized inspection and diagnostic system with rotor in situ



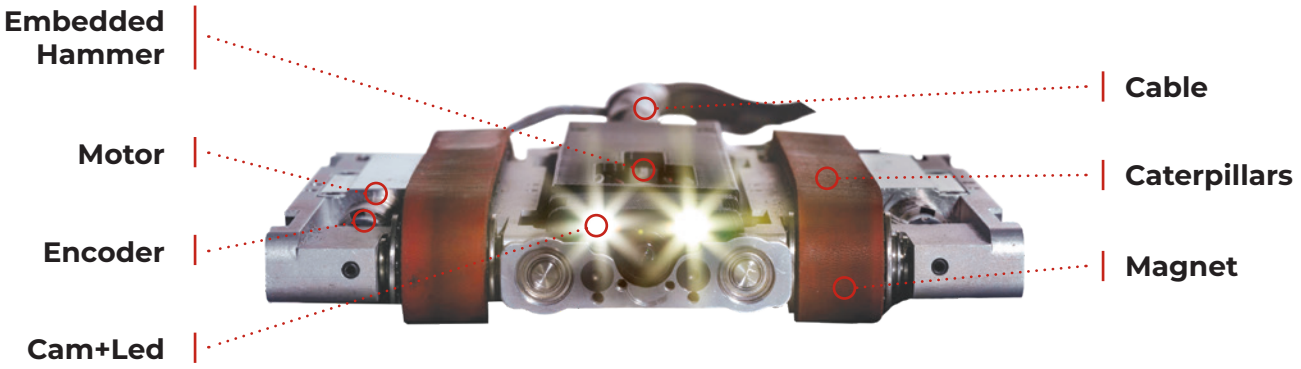
Major inspection of turbogenerators is usually performed by extracting the inner rotor.
The Ansaldo Energia ROBIN robotic system gives the Customer the possibility to perform a fully digitalized and high reliable generator analysis during a minor/medium inspection overhaul, therefore without pulling out the rotor.

The Ansaldo Energia solution

- Enhanced generator diagnostics with rotor in situ
- Innovative diagnostic techniques
- Upgraded maintenance intervals
- Cost / Risk reduction
- Reduced downtime
- Improved productivity

The ROBIN system

- ROBIN (ROBotic INspection) system comprises a crawler robot able to inspect different technologies of generators
- The crawler robot design gives the possibility to move on ferromagnetic surfaces with a wide reconfigurability in terms of mechanical add-ons and plug-and-play sensors
- The robot can be positioned on each slot manually, by the use of a specifically designed tool, or automatically, thanks to an automatic slot changer
- The automatic slot changer is supported and attached to the rotor retaining ring and provides movements and fine positioning in order to receive the crawler from a stator slot and repositioning it onto the next one



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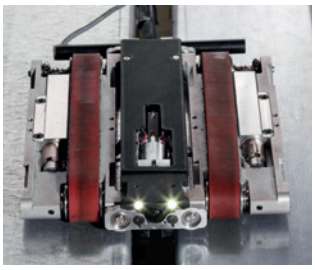
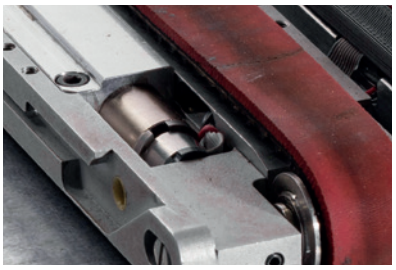
Cam frontal view

Crawler vehicle



EL-CID sensor

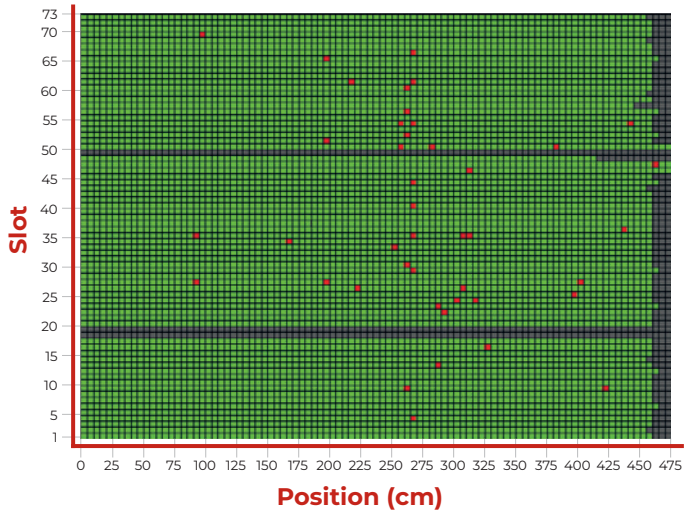
Integrated hammer



Features

- Digital cameras (frontal, upper and lower views) for visual inspection
- Micro hammer embedded design for wedge tightness test
- EL-CID sensor (or Chattock Coil) for electromagnetic core imperfection detection

Slot looseness map



Wedge tightness test

- Controlled hammer hits each wedge
- The sound produced by hitting the wedge is recorded and analysed
- Amplitude and spectral analysis allow to detect if the wedge is tight or lose, for all the inspected wedges of the stator

For more information, please visit
www.ansaldoenergia.com

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