



ELECTRICAL ROTATING MACHINES

Assessing high-voltage motors and generators at different stages of their life cycles

- > Profitability increase
- > Damage prevention
- > Maintenance optimization

CONDITION ASSESSMENT OF ELECTRICAL ROTATING MACHINERY

Electrical rotating machines, such as motors and generators, are vital assets for any power plant or large industrial company. Laborelec can help ensure the proper functioning of your machinery. We provide a complete condition assessment service that covers every aspect of your equipment.

ONE-STOP SHOP FOR A COMPLETE CONDITION ASSESSMENT

What is the exact condition of your motor or generator? Laborelec has the multidisciplinary expertise needed to investigate every aspect that can affect the state of your machinery:

- > Electrical phenomena
- > Material integrity
- > Mechanical behaviour

Based on on-site measurements, analyses in our state-of-the-art laboratories, and/or offline or online condition monitoring, we offer you expert advice to ensure the proper functioning of your electrical rotating machines.

QUICK RESPONSE OF AN EXPERT

Do you have a question concerning your motor or generator? At Laborelec you can immediately contact the most appropriate expert. In this way, we offer you a quick response to your request.

EXPERTISE BASED ON YEARS OF RESEARCH AND EXPERIENCE IN THE FIELD

Laborelec has experts in every domain of electrical power, from material specialists to electrotechnicians. They are very active in the field, as well as in standardization committees and international research projects. In this way, they keep up-to-date on:

- > New designs and materials used in electrical rotating machines
- > New condition assessment techniques

ASSISTING POWER PLANTS AND INDUSTRIES WORLDWIDE

Laborelec's service offering is available for all electrical rotating equipment with a rated voltage higher than 6 kV: from small to large electrical motors, from hydro to turbo-generators.

Our activities cover a wide variety of industrial sectors worldwide, including metallurgy, chemistry, and electrical power generation.



ENSURING AVAILABILITY THROUGHOUT THE LIFE CYCLE

Motors and generators can encounter problems at any given moment, even before commissioning. Laborelec offers a complete service that involves assessing the machine's condition at all stages of its life cycle.



MANUFACTURING / REFURBISHMENT

- > **Defining specifications.** Do you need a new machine or want to refurbish an existing one? Our experts help you review the specifications (e.g. the type of insulation material) and the design to ensure that the new equipment fits your specific context.
- > **Quality assurance.** We monitor the manufacturer's construction process and carry out the necessary analyses to verify that they are meeting the appropriate quality standards. We can also assist in the witnessing of specific tests.
- > **Reference measurements.** We can install monitoring sensors and carry out reference measurements, which are crucial for the quick and correct interpretation of future monitoring data.



OPERATION

- > **Condition monitoring.** During the commissioning and further operation, we closely monitor the machine's behaviour through online, remote monitoring or periodic, offline measurements.



OVERHAUL

- > **Planning maintenance** monitoring enables us to identify potential problems and recommend the necessary actions that need to be conducted during the next overhaul. Thanks to this monitoring, we are able to plan for each overhaul (e.g. determine which parts need to be ordered).
- > **Monitoring / Conducting** inspections. We can monitor the inspection process, either by the manufacturer or contractor, using our tools and the expertise of our experts. We can also perform the inspections ourselves, including the inspection of the insulation material, and chemical tests.

CONDITION MONITORING MAXIMIZES EQUIPMENT AVAILABILITY

PREVENTIVE APPROACH

Through measurements and/or monitoring, our experts can quickly detect potential issues and advise on the appropriate preventive maintenance actions.



activities. Permanent quickly identify potential and the inspections that during overhaul. Thanks to able to help you prepare determining which spare (in advance).

inspections. Laborelec tions carried out by the ctor. We also have the e needed to conduct ves: visual, electrical, ests, for example.

OPERATION

- > **Overhaul quality check.** After the overhaul, we check the results of the interventions carried out during the overhaul.
- > **Condition monitoring.** We continue to monitor the condition of the machine and expand our historical database.

FAILURE

- > **Root cause analysis.** We can perform a wide range of analyses to identify the root cause of a problem. We have the multidisciplinary expertise required to effectively evaluate various possible causes.
- > **Overhaul.** We always provide a detailed report of our analyses, which you can use in discussions with the manufacturer or the insurance company. Our independence from manufacturers guarantees the objectivity of our conclusions.

QUICK RESPONSE TO ALARMS

If our monitoring department picks up an alarm signal concerning one of your machines, we immediately offer you the appropriate advice to minimize any damage and identify the cause of the problem.

LIFETIME EXTENSION

Periodic condition monitoring makes it possible to follow the ageing process of your motor or generator. Based on this insight, our experts can provide the recommendations that can help you maximize the lifetime of your rotating machinery.

ENHANCED RELIABILITY OF YOUR EQUIPMENT



Laborelec's service offering for electrical rotating machines aims to enhance the reliability of your motor or generator. We help you increase your profitability, prevent damage, and optimize maintenance.

INCREASED PROFITABILITY

The profitability of your business depends upon the availability of your production process. Our condition assessment service helps ensure the proper functioning of your motors and generators, thus maximizing production capacity.

COSTLY DAMAGE AVOIDED

A damaged motor or generator can have serious financial consequences. Our services enable you to prevent such damage. Checking machine quality before commissioning, for instance, ensures that the machine will operate safely and efficiently upon installation. In addition, our monitoring, measurement, and analysis activities throughout the machine's operating life enable us to identify potential problems in a timely manner and recommend preventive actions before damage occurs.

OPTIMIZED MAINTENANCE

Our services enable you to optimize your maintenance interventions. We provide the information that can help you meticulously plan overhauls, so that the inspections can be conducted as efficiently as possible.



Five reasons for you to choose Laborelec

- > One-stop centre for all of your energy-related needs
- > 50 years of experience
- > Increased profitability of your installations
- > Independent and confidential advice
- > Internationally recognized and certified laboratory

The Technical Competence Centre
In energy processes and energy use
From innovation to operational assistance

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