



Additional Information on Rotating Machine Diagnostic Services

Our company specializes in diagnosing the technical condition of electric rotating machines of any type, voltage, and power. We use modern methods and equipment to detect hidden defects at an early stage and propose solutions for their elimination.

Why is Diagnostics of Rotating Machines Important?

Rotating machines (electric motors, generators, and other devices) play a key role in the operation of industrial enterprises. The reliability of their operation directly affects production efficiency. However, over time, equipment wears out, which can lead to:

- Accidents and production downtime.
- Costly repairs.
- Reduced productivity.

Timely diagnostics helps prevent these problems and extend the service life of the equipment.

Main Causes of Defect Development

To effectively diagnose the condition of rotating machines, it is important to understand the mechanisms of defect development:

- **Vibration**
Vibration causes loosening of fasteners, abrasion of the insulation layer, deterioration of contacts, and the appearance of electrical discharge phenomena. This leads to contact heating, short-circuiting of laminations in the steel core, or breakdown of winding insulation.
- **Problems in the terminal box**
Defects in the terminal box area (bushings, current leads, and their contact connections) often occur during the design, manufacturing, or installation stages.



Diagnostic Methods

We apply a multiparameter approach that provides a complete picture of the equipment's condition:

- 1. Measurement of Electrical Discharge Activity (EDA)**
 - Detect partial discharges, sparking in contacts, slot discharges, and other defects.
 - Localize each type of signal separately, allowing precise identification of the problem source.
- 2. Harmonic Analysis of Capacitive Current**
 - Evaluate the reliability of fastening current-carrying elements, the active steel core, as well as the condition of bearings and shaft alignment quality.
 - The method is completely immune to interference, as it considers only the geometric arrangement of internal machine elements.
- 3. Harmonic Analysis of Vibration Speeds**
 - Identify zones of maximum vibration for each type of defect (current-carrying elements, active steel core, or bearings).
 - Measure not the total vibration but individual contributions, improving diagnostic accuracy.
- 4. Thermal Imaging Control**
 - Detect local heating of the housing caused by internal issues.
 - Allows assessing the degree of defect development in bearings, current-carrying elements, and the active steel core.

Advantages of Our Diagnostics

- **Compliance with Standards**

EDA measurement and thermal imaging control methods comply with the international standard IEEE Std.1436.
- **Comprehensive Approach**

We consider operating conditions, number of repairs, service life, and other factors affecting the machine's condition.
- **Cable Line Diagnostics**

We separately check the cable lines feeding the motors to exclude external interference.
- **Database and Experience**

With a significant database and deep understanding of rotating machine design, our specialists can accurately characterize the condition of nodes and elements, provide recommendations for further operation, repair, or calculate residual life.



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What Benefits Do You Get?

1. Accident Prevention

Timely defect detection helps avoid serious breakdowns and downtime.

2. Resource Savings

Minimization of repair and maintenance costs through prevention.

3. Extended Service Life

Recommendations for operation and repair allow for maximum utilization of equipment resources.

4. Operational Stability

Guarantee of uninterrupted operation of rotating machines and the entire system.

Summary

Our company offers professional diagnostics of rotating machines using advanced methods and technologies. We help our clients ensure the reliability, safety, and economic efficiency of their equipment.

Contact us to order diagnostics and receive a detailed report on the condition of your equipment and recommendations on its efficient maintenance and repair.

Contact Information

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