



Motor & Generator

Products & Services

Comprehensive Solutions Partner



Why take chances with your critical processes and equipment? Since 1937, Magnetech has provided repair, reconditioning, and remanufacturing of electrical-mechanical equipment for customers throughout North and Central America. Our broad experience with all types and brands of electrical, mechanical, and power system equipment will keep you up and running. To ensure safe and reliable services, choose a trusted partner. Choose Magnetech.

Field Service Offerings

- ▶ Dry Ice Cleaning
- ▶ Emergency Call Out, 24/7
- ▶ Equipment Installation, Commissioning, & Removal
- ▶ Field Machining
- ▶ Generator & Motor Testing Preventative & Predictive Maintenance
 - ▶ Borescope Inspections
 - ▶ Emax™ Electrical Testing
 - ▶ Field Balancing
 - ▶ Infrared Thermal Imaging
 - ▶ Laser Shaft Alignment
 - ▶ Oil Analysis
 - ▶ PdMA Motor Circuit Evaluation (MCE™)
 - ▶ Vibration Analysis
- ▶ On-Site Rewinds
- ▶ Scheduled Outage Service
- ▶ Total Motor Management®
- ▶ Ultrasonic Examination

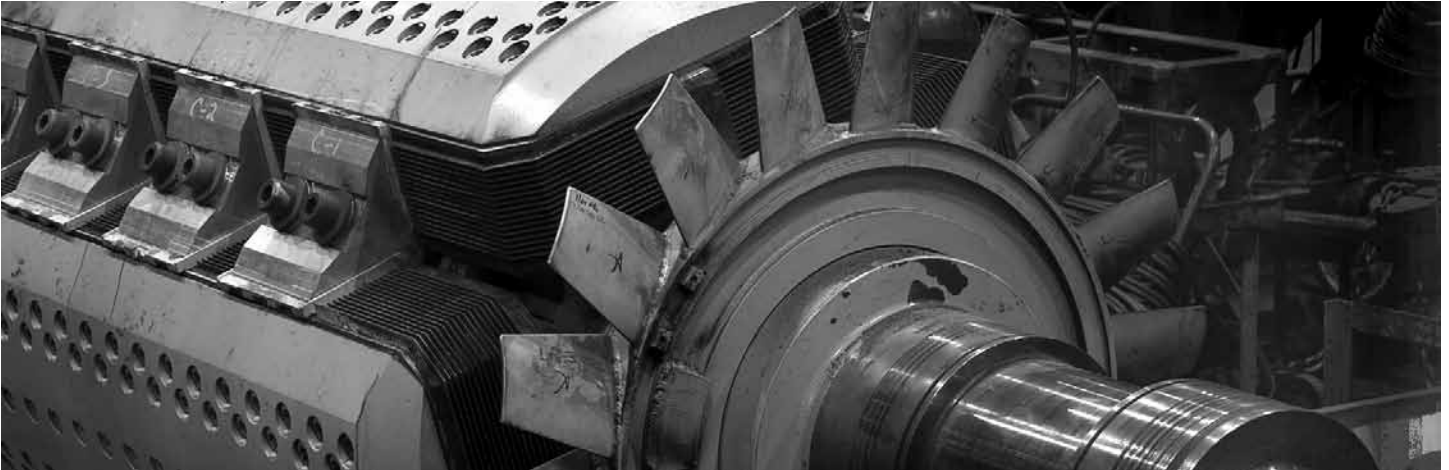
Capabilities

- ▶ Auxiliary & Control System Testing
- ▶ Cable Testing
- ▶ Generator & Motor Testing
- ▶ Ground Grid Measurements
- ▶ Insulating Fluid Testing
- ▶ Protective Relay & Metering Tests
- ▶ Switchgear, Circuit Breaker & Disconnect Switch Testing
- ▶ Transformer Testing

In-Shop Rewind, Repair & Remanufacturing

- ▶ AC Motors up to 60,000 HP (13.8 kV)
- ▶ DC Motors & Generators 1/4 HP to 10,000 (750 V)
- ▶ Complete Mechanical Repair
- ▶ Dynamic Balancing to ANSI & ISO Standards
- ▶ Dynamometer Load Testing
- ▶ UL Listed Explosion-Proof Motors

Motor & Generator Services



When your motor is down, you want someone you can count on to get you back up and running in the shortest amount of time possible at a reasonable price. Magnetech is able to work with you to create the best solution to fit your equipment needs. Magnetech offers comprehensive, single source responsibility for all brands and vintages of rotating electrical equipment. Whether you need an emergency repair to get back into production, equipment remanufactured to better than new condition, or advance warning of impending equipment failure, we offer complete support. Interested in making your downtime even shorter? Consider speaking with a Magnetech team member about our Total Motor Management®.

All brands & types of motors and generators

- ▶ AC motors up to 60,000 HP (13.8 KV)
- ▶ DC motors & generators up to 10,000 HP (750 V)

Definite Purpose Motors

- ▶ Auxiliary equipment, tachs & brakes
- ▶ Boiler feed pump motors
- ▶ Circulating water pump motors
- ▶ Induced draft & forced draft fan motors, including Westinghouse PAM motors
- ▶ Light rail traction motors & alternators
- ▶ MG sets & test stand motors
- ▶ Reactor coolant pump motors
- ▶ Shaft assemblies & rolls
- ▶ Shredder motors
- ▶ Submersible motors
- ▶ Synchronous motors
- ▶ Wound rotor & mill-type motors

Definite Purpose Generators

- ▶ Class 1 rail main generators, alternators & auxiliary equipment
- ▶ Hydroelectric turbines & generators
- ▶ Steam or combustion generators
- ▶ Wind generators



Diagnostic Services

- ▶ In-House engineering staff
- ▶ Motor redesign & UL re-rating
- ▶ Performance verification & analysis
- ▶ Project management
- ▶ Root cause failure analysis

Design and Diagnostics



Motor Testing Capabilities

Magnetech thoroughly tests every motor that comes through our shop or is repaired on site. Our technicians test every motor at inspection, in progress, and at completion to maintain quality control at every major step. We ensure your motor complies with nameplate rating, and more importantly, your specifications. Some of our routine testing includes: high-potential ground tests, high-potential turn tests, dynamometer load tests, no-load tests, speed tests, balance tests, and high-potential voltage tests. We document and retain all test data, and are more than willing to provide copies of the results per customer request.

Redesign and Upgrades

Magnetech can redesign and upgrade your nuclear reactor coolant pump motors to meet your specifications and to improve winding life. We specialize in solving your equipment problems on-time, to specifications, and within budget. Our highly skilled shop personnel offer expertise to repair to like new condition.

Services Include:

- ▶ Upgrades on stator winding
- ▶ New Stator lamination/restacking
- ▶ Reduced core losses
- ▶ Rewind using coils manufactured for VPI
- ▶ Double VPI
- ▶ Final test including AC Hipot
- ▶ Rotor end ring replacement



Total Motor Management



What is Total Motor Management?

At a fixed negotiated price, Magnetech assumes responsibility for a location's or an organization's entire motor fleet which includes: corrective and proactive maintenance, replacement of motors not performing as needed, stock and provision of spare parts for motors, and on-call 24/7 emergency service.

Magnetech and the customer agree on contract values and objectives. Total Motor Management® is not a price list. It is a contract wherein Magnetech and the customer agree on the scope and objective of the contract, the duration, and set annual cost.

The goal of the Total Motor Maintenance® system is to help our clients avoid equipment failures and associated downtime. If you outsource repair and replacement services, it makes sense to let the experts manage the entire process for you, ensuring experts are watching your bottom line.

Benefits:

- ▶ Reduce costs to maintain equipment
- ▶ Decrease number of unexpected failures
- ▶ Increase availability of replacement equipment

Dedicated Warehousing:

- ▶ Climate controlled warehouse
- ▶ Long term storage and monitoring program
- ▶ "Ready Spare" programs



Case Studies

MOTOR FIELD SERVICE JOB

Client Type: Electric Utility

Equipment Involved: 24 motors

Challenge: During a 12 day outage, test and inspect 19 motors; remove 5 and transport to service center for refurbishment, then return and reinstall.

Solution: Pre-Plan outage activities, including job safety analysis, deploy required personnel, vehicles, tools and supplies to complete outage.

Project Scope: Remove 5 motors and transport to Massillon, OH service center for refurbishment and repairs. Proceed with field services of other motors, including electrical testing, mechanical inspections, bearings, alignment, and cleaning. Reinstall refurbished motors and verify alignment.



ALASKA HYDRO PROJECT

Client Type: Hydro Utility

Equipment Involved: Two 12,500 KVA Stators

Challenge: Plan logistics to separately remove and transport each stator to Massillon, OH shop, rewind, then transport back and reinstall within a 2-month time period.

Solution: Design and order sample stator coils for application, pre-order coils, pre-plan transportation logistics. Design and build lifting device and shipping cover.

Project Scope: Deploy team to Alaska, remove first stator, transport to Massillon, OH shop, rewind and test, transport back to Alaska. Deploy team to reinstall stator, test, align and balance. Repeat for second stator.



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