

Magnetech

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.

Capabilities

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

In-Shop Remanufacturing

- ▶ Retrofit, repair and reconditioning of circuit breakers and switchgear
- ▶ Motor control centers, starters and contactors
- ▶ MCC bucket retrofits and upgrades
- ▶ Match-in-line for legacy switchgear

Field Service Offering

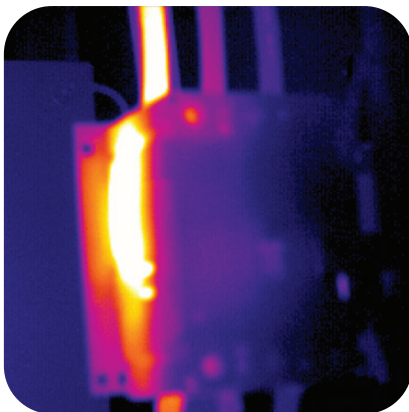
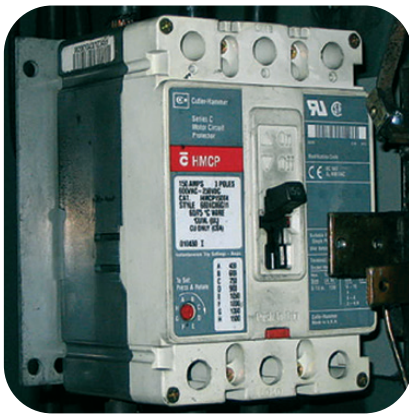
- ▶ Scheduled testing and maintenance services for electrical systems
- ▶ Installation, start-up and commissioning of new equipment
- ▶ Circuit breakers, switchgear and MCC's
- ▶ Generators and controls, auto switching
- ▶ Transformers, power cable and bus systems
- ▶ Protective relaying; testing and upgrades
- ▶ Field and site testing of motors, motor contactors and starters
- ▶ Thermographic scans and infrared surveys

Maintenance & Testing

Commissioning

Why take chances in not properly commissioning new equipment? Magnetech can confirm the equipment is installed correctly, meets applicable codes and passes all IEEE/UL tests to help minimize any unexpected events in the future. Our qualified technicians provide commissioning on any brand of equipment.

- ▶ Visual Inspection
- ▶ Electrical & mechanical testing
- ▶ Protective relay setup & testing



Predictive Maintenance

Predictive maintenance solutions can provide an early warning of impending issues between regular maintenance intervals and help prevent downtime. Regular monitoring of equipment and trending the results, helps prevent unplanned events.

- ▶ Thermographic scans and infrared surveys
- ▶ Infrared windows
- ▶ Oil testing and analysis



Preventative Maintenance and Testing

A comprehensive preventative maintenance program can reduce the risk of unplanned outages on your electrical system. The failure rate of electrical components is three times higher for systems where preventative maintenance is not performed, per statistics from the Institute of Electrical and Electronics Engineers. The two conditions below account for nearly half of all electrical failures*, both can be corrected during regular preventative maintenance.

- ▶ Loose Connections – provide a high resistance path, leading to overheating
- ▶ Moisture – humidity and water ingress, leading to dielectric breakdown

*Source: Hartford Steam Boiler Inspection and Insurance Company

To help mitigate these issues periodic cleaning, maintenance and testing is required. Magnetech's qualified field service technicians provide this preventative maintenance and testing service, as outlined in below:

- ▶ Visual Inspection
- ▶ Cleaning & Adjustment
- ▶ Electrical testing of equipment
- ▶ Relay and Trip Unit testing

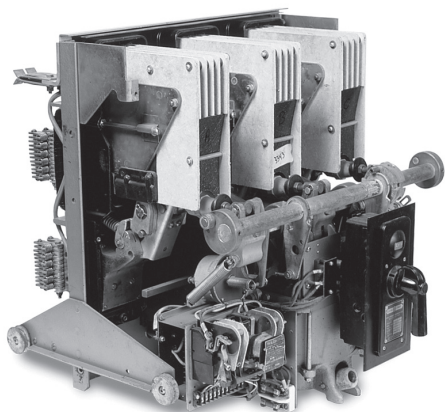


Power Services

Transformer Remanufacturing

Magnetech is a transformer repair and remanufacturer service provider that has the advantage of being able to do comparative analysis and design on all manufacturers worldwide. With our years of experience, we are able to see what works and what does not. Our unique position allows us to perform reverse engineering to verify that the unit meets the stated nameplate data, and then offer design improvements.

- ▶ 100 KVA to 25,000 KVA (Base Rating), up to 69 KV
- ▶ Rectangular layer, Circular layer, Circular disc, Circular Helical and Shell Form design
- ▶ Substation Transformers
- ▶ Unit Substation, Padmount, Distribution Transformers
- ▶ Furnace Transformers
- ▶ Specialty Transformers (Rectifier, Network, Precipitator and Train)
- ▶ Mobile Substations



Circuit Breaker Reconditioning

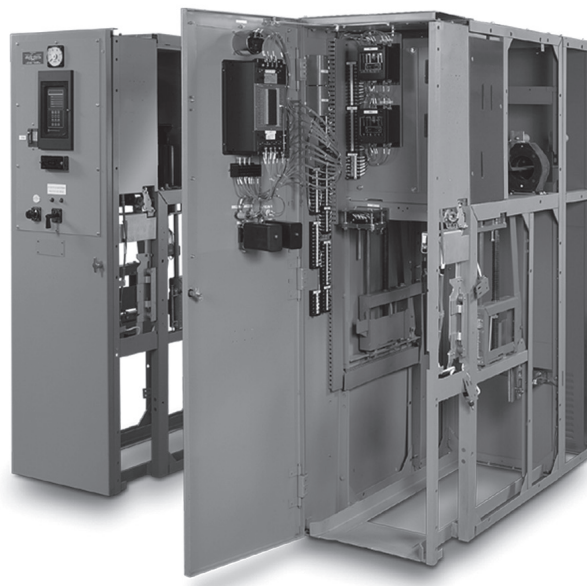
The useful life of aging circuit breakers can be extended and enhanced through Magnetech's reconditioning process. The process helps enhance coordination, improve reliability and extend the life of the circuit breaker. A cost effective solution to renew your circuit breakers without buying new equipment.

- ▶ Trained and experienced technicians
- ▶ Trip unit upgrades for enhanced selectivity
- ▶ Affordable solution for any maintenance budget
- ▶ Magnetech Factory warranty

Match-in-Line Switchgear

When you need to expand an existing switchgear line-up by add one of more feeders, match-in-line is an economical and quick solution. Expand your switchgear by adding a remanufactured vertical section and circuit breaker that are compatible with your existing line-up.

- ▶ Affordable expansion to existing switchgear
- ▶ Reduce maintenance concerns by installing common equipment
- ▶ Available for all manufacturers switchgear



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. Interesting in making your downtime even shorter? Consider speaking with a Magnetech team member about our Total Motor Management®.

Recondition, Rewind, and Remanufacturing

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

Authorized service provider for:

- ▶ ABB
- ▶ GE
- ▶ TMEIC

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

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

Capabilities

- ▶ Complete rewind, reconditioning & remanufacturing
- ▶ VPI 12' Vessel
- ▶ Dynamic balancing to ANSI & ISO Standards
- ▶ Dynamometer load testing to 13.8 KV
- ▶ Complete mechanical repair service



Diagnostic Services

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

Field Services

- ▶ Banescope Inspection
- ▶ Dry ice cleaning
- ▶ Emergency call out, 24/7
- ▶ Equipment installation & commissioning
- ▶ Equipment removal
- ▶ Infrared thermal Imaging
- ▶ Laser shaft alignment
- ▶ Oil analysis
- ▶ PdMA Motor Circuit Evaluation (MCE™) & Emax™ Electrical Testing
- ▶ Preventative maintenance
- ▶ Predictive maintenance
- ▶ Scheduled outage service
- ▶ Total Motor Management®
- ▶ Ultrasonic examination
- ▶ Vibration analysis

Magnet Services



Magnetech is your source for lifting magnet sales, repairs, and rewinds. We supply a wide range of sizes and configurations to meet your needs. Our broad experience with all types and brands of equipment coupled with knowledge of best practices in your industry provide your best assurance of quality and value. For more detailed information on makes and models, see our Magnet Brochure.

Lifting Magnet Services

- ▶ New Magnetech brand lifting magnets
 - ▶ Scrapmizer "L" Series
 - ▶ Mill Duty "H" Series
 - ▶ Scrap Star Series
 - ▶ MP Series
 - ▶ Slag Reclamation Duty "B" Series
 - ▶ Rectangular/Tri-Pole Magnets
 - ▶ Rectangular Shaped Magnets
 - ▶ Bi-Polar Magnets
 - ▶ Railroad Magnets
 - ▶ Grapple Magnet Towers
- ▶ Accessories including:
 - ▶ Hooks
 - ▶ Chains
 - ▶ Connectors
 - ▶ Controls
 - ▶ Separators
- ▶ Custom Designed and manufactured spreader beams
- ▶ On-Site lifting magnet & accessory system installation and field service
- ▶ Complete lifting magnet rewind & rebuild services for all types and brands
- ▶ Load test certification
- ▶ MagneTrac Asset Management
- ▶ Authorized Hubbell Control and EDP Conception representative
- ▶ Lifting Magnet operation awareness training
- ▶ Premier magnet system parts department

Other Available Components

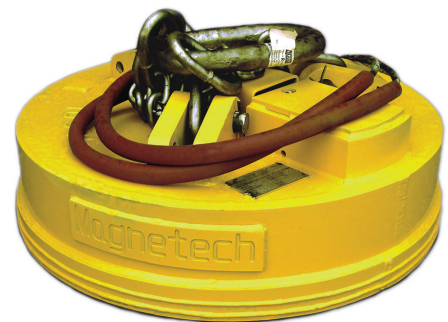
- ▶ Lift/Drop Switches
- ▶ Safety disconnect switches
- ▶ Cable reels
- ▶ Replacement batteries
- ▶ Replacement parts for DC Magnet Controllers

Battery Back Up

A battery back up system is used to continue the excitation of the magnet so that it continues to hold its load for the time specified. The system activates when there is an interruption or loss of DC power to the magnet. For DC powered cranes, an AC supply source is needed for the battery charger.

Magnet Rectifiers

When only AC power is available the rectifier is used to convert the present AC power to the required DC power for the magnet system.



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