INNOMOTICS

Failure is not an option.

Lifecycle Services for Innomotics Gearless Mill Drives (GMD)

innomotics.com

We've got your service needs covered.

Robust, reliable, and indispensable: Gearless Mill Drives are impressive machines. But as rugged as they are, they still need to be maintained. We've got just the right services for you after commissioning, including regular staff trainings on-site or remotely, a variety of spare part packages, dedicated tool containers equipped with the maintenance tools you need, and customized maintenance workshops on-site. To ensure that your assets are always in top shape, we support your critical machinery over the entire lifecycle with service plans perfectly matched to the age and condition of your applications.

To prevent unexpected malfunctions and keep downtime to a minimum, remote access will make troubleshooting fast and efficient. The DigiMine AssetAnalytics preventive analysis goes beyond mere status reporting, and the AI-supported preventive analysis enables better planning, decision-making, and targeted implementation of the customer's maintenance activities.

And because a state-of-the-art drive always delivers optimal performance, we offer professional upgrade services to keep your gearless mill drives up to date with improved SW features, for example, and updated measurement technologies. We cover everything from simple component and subsystem upgrades to complete modernization of the power-, automation-, and drive-control systems.

We take good care of your assets.

Your gearless mill drives deserve the best care possible over the entire machine service life. They'll thank you for it with efficient and reliable operation. Our service intervals are designed to offer state-of-the-art service with minimum downtime, and the work can performed during regular planned downtime. The following service intervals are manufacturer recommendations and are aligned with your operating conditions based on your requirements and availability. The scope of work below lists the most important items that will be integrated into a service package customized for your assets' lifecycle.

Interval	Service interval	Scope of work
Monthly **Check-up**	Done by the customer and regional support	- Data analysis - Inspection for leaks, wear and tear on parts, and general condition - DigiMine AssetAnalytics
Yearly **Preventive maintenance**	3 days/GMD (day shift) 1 x Mechanical Engineer 1 x Drives Engineer 1 x Automation Engineer	**Includes all previous interval measures plus:** - Air gap measurement - Electrical measurement rotor and stator - Overall inspection of the motor (foundation, mechanical condition of components, dirt, pollution, condition of accessories) - Inventory and condition of special tools and spare parts - Inspection of transformers, rectifier, cyclo converter, and motor monitoring equipment: testing of protection circuits and check of closed-loop control (CLC) software
Detailed **Preventive maintenance**	3 days/GMD (day/night shift) 2 x Mechanical Engineers 1 x Drives Engineer 1 x Automation Engineer	**Includes all previous interval measures plus:** - Visual inspection of stator slots - Inspection of cable connections and insulation - Inspection of brush holder and support unit parts - Inspection of welding seams - Inspection of screwed connections - Inspection of ring cable - Inspection of slip-ring

Operational challenges

during the service life of your application.

There's a lot that can happen during a motor's lifecycle. Contamination, changes in the power supply, mechanical faults, demanding operating conditions, and tight production plans all put extra pressure on your application.

Motor contamination

- Decreases cooling efficiency and increases motor temperature
- Clogged cooler reduces heat transfer from motor cooling circuit

Increased winding temperature accelerates winding aging and component wear

Power supply/ grid faults and changes

- Uncontrolled loss of voltage from grid (power outage) can cause undetected and progressive damage to the winding

Increased aging of motor insulation

External mechanical faults

- Start-up at increased counter torque, frozen charge, and mill drum load
- Impact of bearing failure

More stress on mechanical connections

High-stress operating conditions

- Increased load, torque peaks
- Operation beyond thermal capacity limits
- Delayed maintenance measures due to tight production schedule

Our services keep your assets up and running.

We believe in reliable motion.
Our customer services are designed to keep your gearless mill drives in optimal working condition – for efficient, reliable, and sustainable production.

With our services, you benefit from:

- **Expert trainings from the manufacturer**
- **Custom spare part and maintenance strategy**
- **Scheduled preventive maintenance for plannable downtime**
- **Remote access for fast problem-solving**
- **Condition monitoring with DigiMine AssetAnalytics**

Get the service you need.

Innomotics *serves!*

Our services for Innomotics GMD provide everything you need to keep your assets in the best shape possible. In addition to our high standards for repair, parts, and field services, we can offer special services for your gearless mill drive:

Support and Consulting Services

- Start-up support
- Winding expert support
- GMD Maintenance Workshop

Field and Maintenance Services

- On-call service
- Remote service
- Embedded Engineer

Spare Parts Services

- Spare part packages
- Stator / pole-coil repair kits
- GMD tool container

Training Services

- GMD Maintenance On-site Training
- GMD Training Simulator

Service Agreements

- Lifecycle Service Agreements
- Custom service packages
- Digital services with DigiMine AssetAnalytics

Upgrade Services

- Upgrades to equipment, components or complete systems and subsystems
- Software upgrades
- Modernizations of complete power-, automation- and drive control-systems

reliable motion for a better tomorrow

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