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Mechanical Energy

For Sales & Service:

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MECHANICAL ENERGY CO.

Mechanical Energy is an Iraqi company established in 2019, specializing in industrial, commercial and services, the certificate of incorporation of the company registered in the Iraqi Ministry of Trade and Identification tax number 901697228 and guarantee number 95061533, The company applies the Iraqi labor law in commercial dealings and services it provides in the Republic of Iraq.

COMPANY PROFILE

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OUR VISION

Movement and change are constant, if you are not growing then you are shrinking, that is the overall guiding principle we live by at **Mechanical Energy**.



We strive every day to grow as individual, to grow our company and to help our customer grow.



We are grunion, we act with integrity, and we are consistently open, honest, and ethical.



We are relentlessly accountable. we deliver what promise. by living up to our commitments, other come to trust and count on us.

ABOUT US

Mechanical Energy is an Iraqi company has been established since 2019 by Iraqi multidisciplinary skilled engineers in Oil, Gas and power plant sectors.

As Iraqi Oil, Gas and Power industry are quickly expanding with many projects on national level. This has put a strain on the market for skilled and experienced labor, that led Mechanical Energy to recognize this shortage and has been founded to provide engineering and turn-around support to oil & gas and power generation operators.

We deliver outstanding customer services. we are committed to exceeding customer expectations by delivering quality, innovation, tailored solutions.

We develop our team, we foster a culture where we share, learn, and encourage one another to develop and achieve common goals as a community.

Our strength lies in the diversity of our people and our services. We operate together as one company sharing best practices, leveraging each other's strengths, and living our core values.

Deliverables high Quality is a Mechanical Energy approach, that put our ultimate target to be connected to quality.

MACHINE RELIABILITY SOLUTIONS

Our team are specialized in protecting assets and driving reliability improvement for rotating machinery using proven solutions and in-depth application expertise. We leverage internal engineering, manufacturing, and project management capabilities, as well as the resources of leading manufacturing partners, to yield meaningful improvements in productivity, longevity, efficiency, cost-effectiveness, safety, and environmental compliance.



WHO WE WORK WITH...

At Mechanical Energy, we strive to improve operations for companies that are passionate about advancing their growth and productivity. We don't simply provide solutions. Instead, we serve as partners and advocates for maintenance and reliability professionals in a variety of industries. Guided by our expertise and customized reliability solutions, our clients discover a better way to work, increasing efficiency and delivering lasting results

Currently, Mechanical Energy are playing important role in Oil, Gas and Power Plants in Iraq by deliver Engineering services and products to world class performance companies.

OVERVIEW OF SERVICES

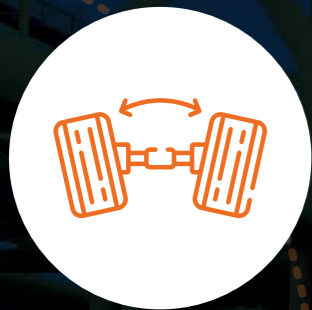
Mechanical Energy specializes in:



Turnaround



Installation



Alignment



Open Clean
Inspect Close



Balance of
Plant Maintenance



Machining
and Fabricating



Preservation

SERVICES

TURNAROUND

Mechanical Energy specializes in maintaining rotating and reciprocating equipment during entire process unit shutdowns of industrial plants. Critical process equipment such as compressors, blowers, fans, turbines, and pumps are our specialty. High speed rotating & reciprocating process equipment is our expertise. Whether your facility needs one knowledgeable FSE to align a pump or multi-disciplinary teams of FSEs to complete your campaign, we are the Group you need for plant outage services.

TYPICAL TURNAROUND TIMELINE

Turnaround Preplanning, Scheduling start and parts/equipment Procurement (9-18 months in advance)

Turnaround Unit Specific Parts, Tooling, Acquired and Staged

Turnaround Logistics/Resources staged & Supervision Meetings

Turnaround Kickoff Meetings

Turnaround LOTO (Mechanical Maintenance Start)

SERVICES

INSTALLATION

We have increasingly specialised in the installation of machinery systems in various industries. For example, we install and grout pumps and reciprocating compressors in conformance with API RP 686 in the Oil & Gas industry.

By combining various fields of expertise, such as measurement, alignment, epoxy grouting, construction and vibration measurements, we are able to offer a unique service that can prevent transmission errors and guarantee the best quality for your installation.

Grouting is important components of the modern era concrete construction industry. We use one of the best epoxy grout CHOCK FAS RED.

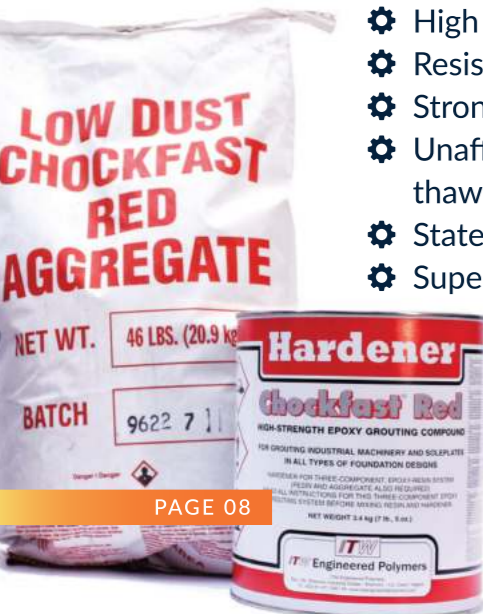
CHOCKFAST® Red is a three-component, high strength, 100% solids, epoxy grouting compound used to grout large machinery and to support soleplates in all types of foundations.

CHOCKFAST® Red has an extremely high compressive strength. This along with negligible shrinkage makes it ideal for installing critically aligned machinery within very close tolerances.

USE AND BENEFITS:

CHOCKFAST® Red has the following advantages when compared to conventional cement grouts:

- ⚙ Impervious to oil
- ⚙ Cures at least three times as quickly
- ⚙ No mixing ratios to measure
- ⚙ Grouts machinery in final aligned position
- ⚙ High physical strength
- ⚙ High impact strength
- ⚙ Resistance to many more chemicals
- ⚙ Strong bond to metal and concrete
- ⚙ Unaffected by weathering and freeze/thaw cycling
- ⚙ Stated physical properties assured
- ⚙ Superior resistance to fatigue



SERVICES

ALIGNMENT

Shaft misalignment is a common cause of machinery failure. Generally, misalignment is caused by inadequate measurement techniques, an improper foundation, or degradation of the foundation. An optimal shaft alignment increases the life of bearings, seals, and couplings, but also reduces energy consumption, noise, vibrations, and excessive wear. This, in turn, reduces the chance of costly downtime.

Mechanical Energy offers shaft alignment services for the full range of machinery by using more than one method like Rim and Face method or by Laser Alignment.

Mechanical Energy Team has long and strong experience with shaft alignment on various rotating equipment such as Gas Turbines, Compressors and Pumps.









SERVICES

OPEN CLEAN INSPECT CLOSE

Mechanical Energy is a complete rotating machinery service provider. Our company specializes in Open Clean Inspect Close Services (OCIC). If you are delaying your next equipment inspection, do not hesitate to call us. Our Technical Direction can perform basic or detailed machinery inspections to fit your need.

The competitiveness of today's industries & sectors requires complete "Turnkey" management at an affordable rate. Having a general contractor to streamline activities, procedures, resources, and schedules is the best way to approach a competitive maintenance environment that might be out of your expertise.

Common Equipment Serviced For OCIC:

-  Turbomachinery Rotors inside the Cocoon
-  Gas Turbine with Auxiliary Systems ie. Valves, Servos, Lubrication Systems, Gearboxes
-  Motors, Gearboxes
-  Pumps, Valves, Lubrication Systems
-  Fans, Gear Reducers
-  Compressors (Reciprocating and Rotating)



SERVICES

BALANCE OF PLANT MAINTENANCE

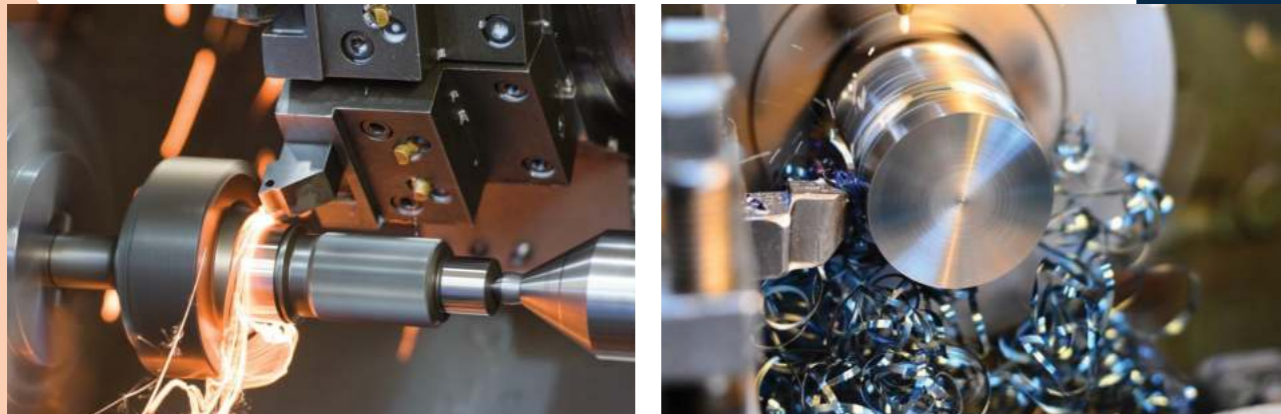
Regular maintenance intervals through Balance of Plant Services (BoP) is paramount in today's industries & sectors. BoP maintenance is using a combination of internal and external resources (contractors) to maintain your facilities equipment. The goal for BoP maintenance is to achieve minimum downtime for the lowest possible cost. Your facility or plant might not have enough resources or FSE to complete some regular "inhouse" type maintenance. This is where Mechanical Energy comes in. Combine Long Term Service Agreements with flexible, knowledgeable craftsmanship and you have your plant running with minimal downtime. This need for external resources is where Mechanical Energy thrives. Weather your company needs 2 or 20 FSEs, tool sets, or other resources, we are the Group to call for balance of plant services.

SERVICES

MACHINING AND FABRICATING

At Mechanical Energy, our goal is to provide every customer with dynamic machining and manufacturing services and solutions while maintaining our operational focus on quality, value, and excellence. Through our dedication to innovative manufacturing practices and superior customer service.

Mechanical Energy is versatile in its production capabilities and can quickly and easily manufacture small orders to validate the engineer's designs before ramping up into full scale production. With a dedicated staff and equipment available, quick turn manufacturing becomes hassle free. We can work with engineers to develop and design products that will work, while offering a high quality of work at a competitive price.



ME machining Solutions, includes such processes as turning, milling, drilling, and threading of bar material to detailed specifications. Using Bar Feed Lathes, and reverse engineering capabilities, the professional staff at ME can manufacture custom components for numerous applications. Our machining processes include turning, drilling, boring, tapping, burnishing as well as various forms of turning.

From multi-axis equipment to custom fixturing and tooling, ME facility houses everything needed to produce highly precise with minimal tolerances of (+/-) 0.02 mm.

SERVICES

PRESERVATION

We offer a full professional preservation consultancy service. The term "Preservation" covers all processes that are involved in extending the physical life of an item or the information contained in it. This includes best practices in care and handling, preventive conservation measures, storage and accommodation provisions, preservation policies, reformatting and conservation treatments.

We can give advice on all of the above aspects of preservation including condition assessments reports and conservation plans for single items or complete collections.



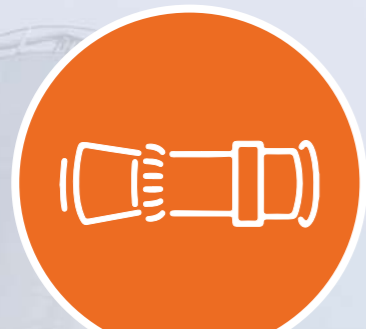
Mechanical Energy provides preservation services with a team of industry application experts. ME can also assist by writing preservation processes, procedures, or providing preservation training to your team. ME can also providing preservation services for all your needs. ME stands ready to provide door to door preservation/asset management services specifically tailored to meet your preservation needs. ME preservation teams utilize Cortec Products providing Best in Class Preservation management for all your assets.

Cortec is recognized around the world as Expertise in Corrosion and Rust prevention!

Cortec VpCI products are the go-to corrosion preventatives in the Oil & Gas, Manufacturing, Military, Mining, Renewables and Water industries. Whether it's Cleaners, Coatings, Emitters, Additives, or protective Films, Cortec is the name you can trust.

OVERVIEW OF EQUIPMENT SERVICES

Mechanical Energy also provide equipment services:



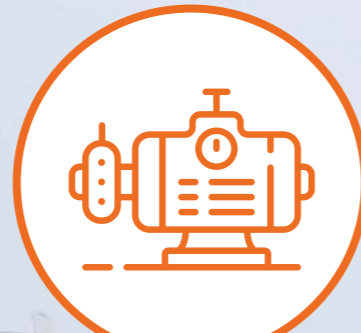
Gas Turbines Services



Compressor Services



Gear Box



Pumps Services



Cooling Fans



Supplying

COOLING FANS

Mechanical Energy provides services on various types of fans, for example:



FAN SERVICES

Our services range from standard inspections and repairs to complete overhauls. A repair or overhaul of a fan generally consists of an Inspection, Repair/Modification and a final Report.

INSPECTION

The first step when repairing a fan is the inspection. Fan inspections include:

- Visual inspection
- Alignment check
- Checks of belts and couplings
- Measurement of axial clearances
- Disassembly + visual inspection of parts
- Dimensional measurements

When the inspection is finished, an inspection report is drawn up with recommendations for repair.

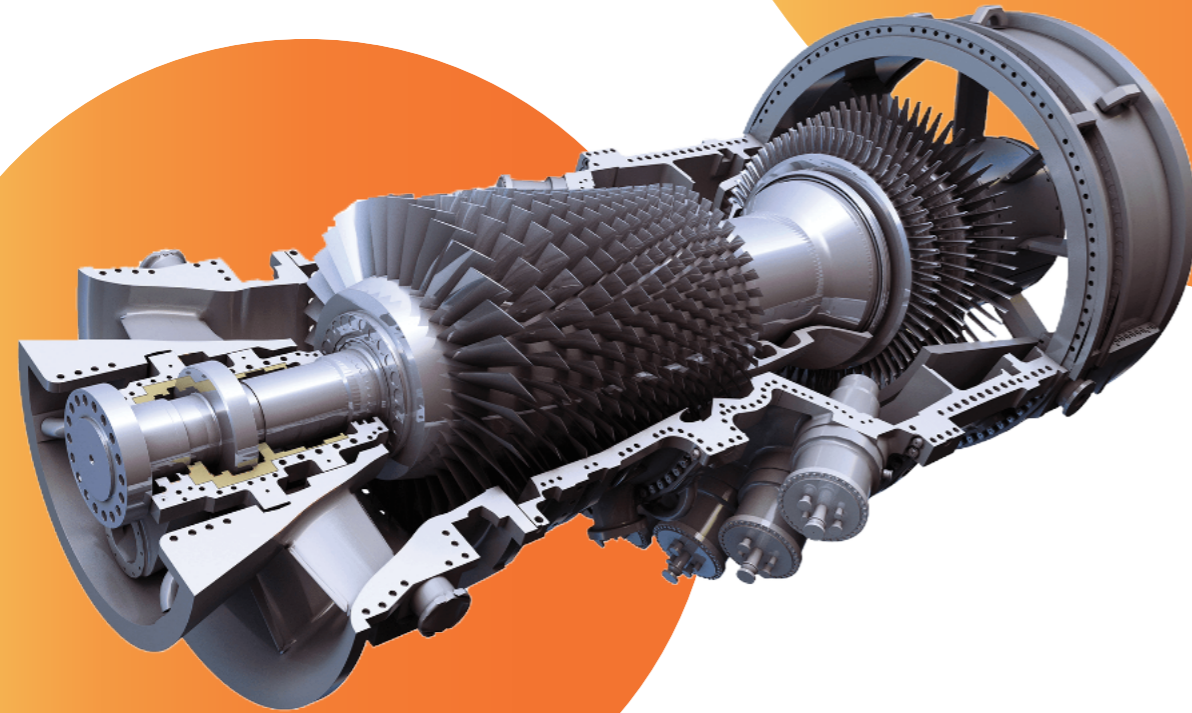
EXECUTION OF WORKS

After approval of the recommendations for repair, the execution of the repair / overhaul works begins. The scope of work may vary, but can include:

- Cleaning & steaming
- Sandblasting
- Preparation of technical drawings for machining by in-house engineering team
- Machining of parts (bearing housings, rotors, ...)
- Balancing of rotating parts
- Assembly
- Alignment (in case of motor-fan combination)

FINAL REPORT

The final report is written after testing and includes measurements from before and after the repair. If possible, recommendations for operating, inspecting and maintenance are also included, resulting in more reliable operations and less unforeseen breakdowns.



EQUIPMENT SERVICES

GAS TURBINES SERVICES

We offer services for heavy duty frame type Gas Turbines and packages. A highly qualified team with unmatched experience in service and site management will be at your disposal. They are flexible and reliable throughout the (Project life cycle) entire process, from planning, performing (execution Phase), and closing out the outage.

Outages such as Major Inspection (MI), Hot Gas Path Inspections (HGPI), Combustion Inspections (CI) or Borescope Inspections (BI) are standard practice. Beside of this we carry out (new) installation of your plant, commissioning and even operate it. Also, relocations are very complicated and challenging jobs, this is where we can assist you with our experience.

Your heavy-duty Gas Turbine/package will be in reliable and good hands!

Mechanical Energy was set up by highly skilled and qualified Gas Turbine Field Service Engineers and Supervisors with over 15 years' experience within Gas Turbine maintenance, service, site management and site relocations.

Mechanical Energy is known as a reliable supplier for Gas Turbine FSEs and Supervisors. We offer our customers Long Term Service Agreements providing you the opportunity for regular inspections, maintenance, and repairs on Gas Turbines.

Our Field Services Engineers master all levels of Maintenance on the GE Gas Turbines Modules: MS1002, 3002, 5001, 5002, 6001 and 9001 Frame engines.

Service performed by our engineers include inspection, trouble shooting, repair, servicing, alignment, Preventive Maintenance, and overhauls on engines as well as package installations. Engineers at ME have developed their skills by extensive training and experience over the years.

At Mechanical Energy, we want to find solutions for cost effective and reliable operation of your Gas Turbine equipment. That's the reason why we offer Inspection, Maintenance and Repairs on Gas Turbines. Our experienced and qualified technicians have extensive knowledge on Gas Turbines and frame engines. With the help of ME, you will be able to always work quickly and efficiently.

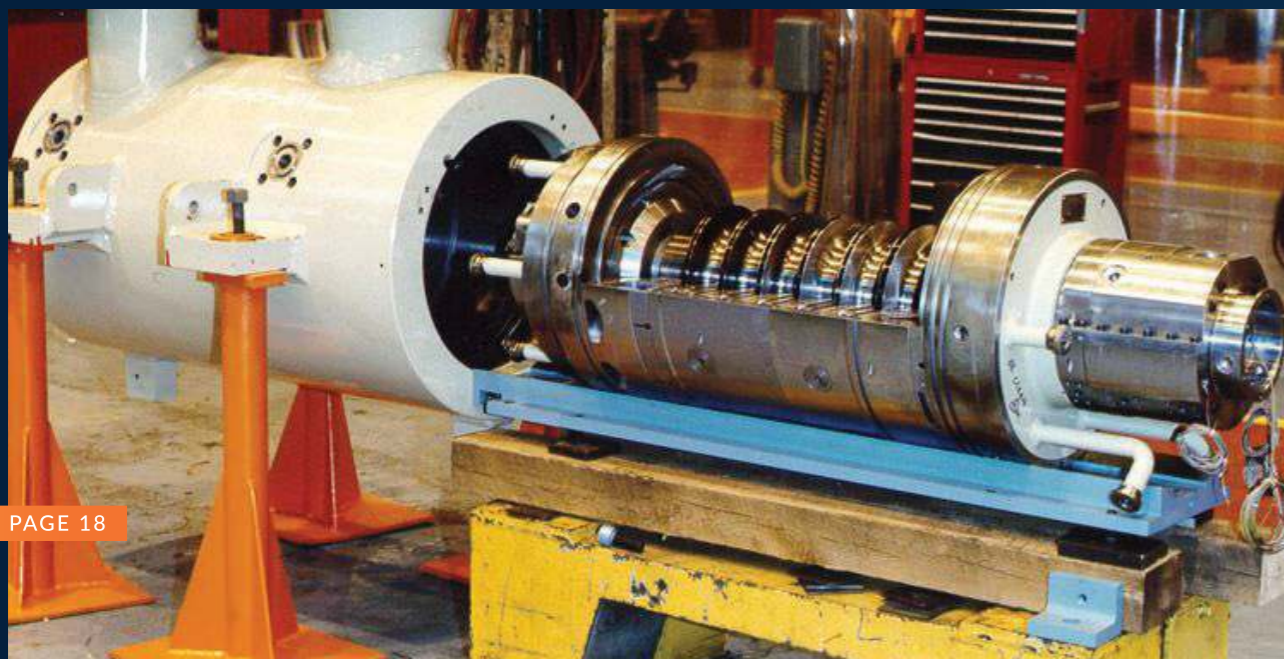
We focus on the overall outage schedule, technical performance, and cost management to complete your Projects on time and within budget.

EQUIPMENT SERVICES COMPRESSOR SERVICES

Mechanical Energy is one of the specialists in critical rotating equipment repair and maintenance, incorporating state-of-the-art technology and services. Mechanical Energy can inspect, repair re-build centrifugal and axial compressors from any OEM. Uncover hidden assets in your turbomachinery and turn repair headaches into bottom-line benefits. We used to rebuild equipment to improved reliability, enhanced efficiency, and output.

Mechanical Energy has the field-service resources of a major OEM and is built on a reputation of responsiveness and resolving issues often missed by others. We provide complete outage planning, safety planning, inspection, overhaul services, full-time engineering support, project implementation. Our technicians average more than 15 years' experience and have the expertise to get the best out of your equipment.

Mechanical Energy is your partner for complete overhauls, repairs, reconditioning, upgrades, revamps, and relocations of centrifugal compressors, both on site as well as in workshops.



SERVICE PACKAGES

The range of services that we provide for Centrifugal Compressors allow you to benefit from the expertise and skills developed by the Field Service Teams.

- 24 – hour service
- Full general overhauls
- Repairs
- Engineering
- Parts supply
- Field service
- Upgrades
- Relocations
- Service agreements
- Partnership agreements
- Condition monitoring
- Used machinery
- Technical consultancy

FIELD SERVICE

- Minor and Major overhauls of turbo compressors
- Provision of Supervisors, Technicians and Mechanics required to perform the activities
- Turnkey jobs
- Troubleshooting
- Emergency interventions
- Condition monitoring

Whether your compressors require a routine service, general repairs/inspection, major overhaul, controller/instrumentation upgrade, specialised installation advice and technicians will be able to accommodate your needs.

We make it easy to plan, budget and control your service maintenance program. Our aftermarket specialists will help you choose the best service option by listening closely to you and visiting your facilities to ensure we fully understand your requirements and expectations. Together, we'll find the best and most economical centrifugal compressor maintenance plan for you, ensuring that your equipment maintains efficiency and that your production remains uninterrupted.

Our field services teams are experts in inspecting, repairing, and rebuilding centrifugal compressors from any original equipment manufacturer. We have access to most OEM centrifugal compressor components, bearing overhaul kits parts, instrumentation, and compressor controllers.

We deliver total solutions for turbo compressor service. With our in-depth compressor knowledge and proven technical capabilities, we support customers in repairing, maintaining, and optimizing their production facilities in the oil & gas and petrochemical industries.

EQUIPMENT SERVICES

PUMPS SERVICES

we are qualified, experienced, and well equipped to help with all of your pump repair and installation requirements.

Whatever type of pump you have, we will be happy to visit your site and investigate before advising on the best course of action. We are experts in pump repairs and provide regular maintenance visits where appropriate. We can also install or replace a pump if needed.

Prevention is better than cure, so we always recommend having a pump maintenance schedule in place. Low-cost regular inspections and cleaning do much to ensure that your pump station continues to run smoothly and helps prevent any unexpected blockages or interruptions to your business. We can provide you with a tailored plan to ensure work is carried out at a time that suits you.

A range of onsite services and a vast array of technical and diagnostic expertise, we are ideally placed to service all your pump overhaul and repair requirements.

We manage all the required works in site: dismantling, transport, overhaul, repair, replacement (if necessary), reinstallation and commissioning of pumps and electric motors.

Overhaul means your pump is returned to 'as new' condition. All bearings and seals are replaced as standard. The mechanical seal is inspected and depending on condition, repaired, or renewed. This typically includes changing the bushings and shafts, re-establishing register fits and restoring impeller clearances. If any component needs to be repaired (e.g. the pump casing or impeller), this work can be carried as well.



Repair work would typically look to rectify a specific issue such as a failed seal or a broken shaft.

OUR OVERHAUL AND REPAIR PROCESS INCLUDES:

- Disassemble and all components prepared for cleaning
- All critical clearances and dimensions recorded
- Inspection undertaken for wear, corrosion, erosion, and cavitation
- Identify if damage caused is due to pump not operating at B.E.P
- Any repair work identified, and quotation supplied to customer for approval (hold point)
- Repair work undertaken and any required parts, such as seals, bushings, O-rings, or impellers replaced with OEM parts or reverse engineered when required
- Re-assembled, painted to customer specification, balanced and performance tested before being returned to the customer



GEAR BOX

Regular industrial Gearbox inspections are critical to prevent production loss and missed deadlines due to gearbox failures. Our engineers can go on-site quickly and are able to perform a broad range of inspections. The inspections can be customized, depending on the operational significance of your installation.

After assessment of the general condition, an inspection report is finalized, and we can immediately start the repair process to make sure the installation has minimal downtime.

Inspections, diagnostics & monitoring, preventive maintenance, and overhauls at regular intervals are key ensuring long-lasting performance of an industrial Gearbox. Preventive and Proactive maintenance will help avoid downtime of Gearboxes used in your industrial facility.

Whether you need advice or support in inspecting, maintaining, repairing, or replacing your Gearbox, bring in the ME experts who can guide you and help you ensure your industrial Gearboxes are working to their maximum operational efficiency.

OUR INSPECTION METHODS:

- Visual and videoscope inspections
- Measuring shaft and gear tooth clearances
- Measuring and analyzing gear contact patterns
- Disassembly + visual inspection of parts
- Dimensional measurements
- Blueprint
- Oil sampling & check

SUPPLYING

Our Petroleum Supplies business unit is able to provide a variety of equipment to support the oil, Gas and Power plants industry in upstream, midstream and downstream activities. We are able to source the right products to our client requirements by covering a variety of equipment ranges from exploration, drilling, completion to production and processing applications.

