Pump Services

Houghton International
Electro mechanical innovation

With more than 30 years' multi-industry experience in electro mechanical engineering, in house pump repair and servicing expertise, we offer:

- Repair, maintenance and life extension
- Upgrade and refurbishment
- Improved efficiency and reliability
- Reverse engineering and design capabilities
- Dynamic load testing and diagnostics
- Supply of new pumps and spares
- Condition monitoring and vibration analysis
- Laser alignment
- 24 hour, onsite support and condition monitoring
- All brands – independent of OEM

Combined with our other electro mechanical engineering services, which include motor repair and maintenance, we offer a full multi discipline service covering the whole pump and motor set.

We provide advice and guidance to specify systems based on their specific applications and specialise in fault finding, diagnosis and root cause analysis to improve performance and eliminate issues.

We use our knowledge and experience to ensure that pump systems are fit for purpose, modifying the design and upgrading the components accordingly to improve efficiency, save energy and extend the mean time between failure (MTBF).

Our range of in house fitting facilities include:

Fitting Facilities
We have a wide range of fitting facilities, including bench tools for all pumps, torque equipment, a full range of calibrated measuring equipment and a range of presses to enable the removal of impellers, couplings and bearings.

We have lifting capabilities up to 40 tonne, 5m x 6m access and a 13m (42ft) working height to handle most pumps.

Mechanical Repair
We have machining and repair facilities to cover all the mechanical aspects of a pump repair and reverse engineering capabilities for obsolete and long lead parts.

Parts can be radiographed, NDT tested, and PMI tested to ensure quality and maximise the life of the pump.

Reverse Engineering Capability
Combining our many years of experience with the latest 3D CAD technologies, Hexagon Arm 3D scanning equipment and high quality processes, we reverse engineer and upgrade key elements of the pump to modernise to current standards without having to replace.

Balancing
With multiple balancing facilities up to 10 tonnes for impeller and rotor balancing, all impellers are balanced prior to assembly. We strive to balance to as close to G1 as possible, without compromising the impeller, to ensure smoother operation and prolong bearing life.

Seals and Spares
We work in partnership with all major manufactures to ensure quick turnaround of all mechanical seals and spare parts.

Other Services
We also offer protective and performance coatings, as required, to improve pump efficiency and prolong the life of the equipment. Where parts are obsolete or original spares are unavailable, on long lead-times or no longer fit for purpose we can reverse engineer all parts for improved performance. We can also design and specify systems from scratch and have full 3D CAD capabilities in-house to support these projects.

Pump Overhaul and Repair
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 replaced. This typically includes changing the bushings and shafts, replace register fits and restoring impeller clearances. If any component needs to be repaired (e.g. the pump housing or impeller), this work can be carried out in house.

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
- Comprehensive warranty

From standard overhaul of a peps or blower motor to a full rewind and restoration of a large borehole pump and motor system, our diverse range of operations, across all OEMs, enables customers to engage one supplier to service their full array of equipment benefiting from improved efficiency and increased cost control. Ongoing condition monitoring and vibration analysis is also provided to help plan maintained activity and reduce any unexpected failures.

Pump Upgrade and Refurbishment
Our engineers excel on complex projects where obsolescence is an issue and can reverse engineer failing pump parts, restoring and often improving, the performance of aged machines to increase efficiency and reduce running costs.

A pump upgrade repair and overhaul work and typically also hydraulic modifications to improve pump performance, to increase or decrease flow, shift best efficiency point or change materials of construction.

We can also support the design and implementation of new systems providing specialist advice on how best to achieve system specific outcomes.

Pump Testing and Diagnosis
We ensure that all work is carried out to the highest standards and fully tested prior to reinstallation, providing performance analysis and pump curves for added assurance.

After pump repair or servicing, we use an array of specialised facilities to fully test each pump, including temperature and vibration. A full performance test curve is also provided prior to dispatch to confirm optimum performance and provide engineers with a datum to work from when installing the pump. Dedicated test areas include:

Small/medium test rig: full load testing up to 500kW, flow up to 10,000 igpm, + 2,700 M3/Hr and heads up to 10,000 ft, 150 Bar and 2170 PSI. Net Positive Suction Head tests can be carried out in house and our hydrostatic pressure test rig can test up to 250 Bar.

Large test rig: Bespoke testing facility for high flows that can be customised to suit your requirements. We also partner with a local dry dock to test larger pumps, submersible and vertical, up to 11kV.

All testing is carried out in accordance with BS EN ISO 9906-2000; API 610 or customers' specified standard.

We also offer on site support services including installation and removal of pump, laser alignment, condition monitoring (including vibration and thermographic analysis), balancing and repairs on site. Onsite performance analysis can also be undertaken to test the performance of the pump in operation.

New Pumps
Where a pump repair is not the most economical option, we offer support to customers by helping to specify the most suitable pump for the application.

We work with a range of suppliers, both off the shelf and custom built pumps to offer cost effective solutions in the shortest lead-times possible.

We source new pumps and spares from a wide range of OEMs including, but not limited to Ebara, Flygt, KSB, Lowara, Sulzer, Grundfos, Wilo, Mono, ABS, Calpeda and SPP pumps.

Our pump overhaul and repair facilities can accommodate the following pumps:
Axial Flow Pumps, Self-Priming Pumps, Slurry Pumps, Split Case Pumps, Liquid Ring Vacuum Pumps, Centrifugal Pumps, Air Operated Diaphragm (AOD) Pumps, Dry Vacuum Pumps, Magnetic Drive Pumps, Split Case Pumps, Submersible Pumps, Gear & Rotary Lobe Pumps, Multistage Pumps, In Line Circulating Pumps, Barrel and Container Pumps, Metering & Dosing Pumps, Progressive Cavity Pumps, Booster Sets, Peristaltic Pumps, and Rotary Vane Vacuum Pumps.

We have experience with a range of OEM equipment including, but not limited to, Ebara, Flygt, KSB, Lowara, Grundfos, Wilo, Mono, ABS, Calpeda and SPP pumps.

Contact us on +44 (0)191 234 3000 to find out more or visit www.houghton-international.com

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