Weir Oil & Gas provides superior products and service solutions which make our upstream customers more efficient. More customers choose our pressure pumping solutions than any other. We provide well service and stimulation pumps, flow control products and replacement expendable parts from leading brands including SPM, Mesa and Novatech. Pressure Control includes trusted brands such as Seaboard, which provides wellheads, valves and frac trees, and Mathena, which delivers drilling mud-gas separation equipment including chokes, separators, and environmental containment equipment. Engineered mechanical and rotating equipment repairs and upgrades, oilfield and drilling equipment repair and certification, rapid prototyping of spares parts, including robust asset management and field engineering services, are delivered globally by Weir Oil & Gas Services [based in Dubai, UAE].

Founded in 1871, The Weir Group PLC is one of the world’s leading engineering businesses. Weir designs, manufactures and services innovative solutions for minerals, oil and gas, power and other process markets. The Group aims to be a partner of choice to our customers with a worldwide network of around 200 manufacturing and service facilities.

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Pump Repair Services

Weir improves the reliability and availability of pumps with a proven track record for upgrades and re-rates.

**Capabilities**
- Dynamics and structural analysis of equipment and parts
- Root cause analysis
- Authorized repair facilities for various brands under the Weir range: Gabbioneta™, Begemann®, Floway®, Hazleton®, Weir Specialty pumps Lewis®, Roto-jet®, Warman®, GEHO®, SPM® and Wemco®
- Hydraulic upgrade and re-rates to optimize pump performance and efficiency

**Services**
- Detailed inspections, non-destructive testing and precision dimensioning
- Condition monitoring and reliability services
- On-site complete refurnish and retrofit of pump stations
- Installation and commissioning
- Material upgrades to increase equipment reliability

**Benefits**
- Increase equipment performance and efficiency
- Mechanical seal repairs
- Reduction of mechanical related issues, increasing mean time between failure
- Capability to manufacture parts to reduce delivery time and mitigating impact on production loss
- Reliable alternative for OEM
Gas Turbine Repair Services

Weir provides a one-stop-solution for gas turbines and generators with a network of services for turbo-machinery overhaul and repair. Services also include supplying spares and repairing a range of Siemens TA and TB light industrial gas turbines, service exchange, installation and commissioning option.

Capabilities
- Inspection and overhaul
- Noise and vibration analysis
- Computational fluid dynamic and finite element analysis
- Material and coating development
- Root cause analysis
- Upgrades and re-rates
- Field service support

Services
- Inspection and site overhaul/repairs
- Spare part management
- Machine Monitoring System (MMS)
- Third party inspection
- Detailed appraisal reports
- Site survey

Benefits
- Ensure optimal performance and availability
- Improved coatings for extended life and abradable coating
- Fast turnaround during outage
- Full assessment of operational issues
- Re-engineering for obsolete and non OEM supported spare parts
Steam Turbine Services

Weir delivers high quality services for steam turbines and provides a one-stop-solution for manufacturing, overhaul, repairs, upgrades, re-rate and spare parts supply. All designs are engineered to minimize operational cost, extend product life and increase efficiency.

Capabilities

- Repair and service capability for steam turbines and supplementary products—gearboxes, power recovery turbines, blowers, fans, pumps and ancillary equipment
- Controlling systems upgrades/retrofits
- Dynamics and structural analysis of equipment and parts
- Field service support
- High customization upgrade and re/de-rates in response to changes in operating conditions

Services

- Precision spare part manufacturing
- Condition and residual life assessments
- Machine Monitoring System (MMS)
- Energy audits for ensuring optimal performance of assets

Benefits

- Increase equipment efficiency
- End-to-end assessment of operational issues
- Improve equipment reliability and availability
- Reengineering for obsolete and non OEM supported spare parts
Gas Compressor Services

Weir’s expertise and OEM experience in aerodynamics, rotor-dynamics, mechanical design and materials technology are all designed to minimize operational cost, extend product life and increase efficiency.

Capabilities
• Aerodynamic and thermodynamic assessments
• Material development
• Complete upgrade and re-rate of existing compressor trains including drive equipment

Services
• Site overhauls including bundle changes and dry gas seal replacement
• Bundle and rotor workshop overhauls
• Replacement of wet gear couplings with modern flexible element alternatives
• On-site complete refurbish and retrofit of gas compressor stations

Benefits
• On-site troubleshooting: in-situ balancing or identification of areas of concern
• Re-rate services: up-rate or de-rate
• Downtime reduction
• Quantification of manpower needs to reduce downtime
• Reliable alternative for OEM

Repaird impeller
Electric Motor Repair Services

Weir has the capability to test for LV, HV and submersible motors at customer sites for overhauls and repairs of electric motors and alternators. We have experience in repair and rewind capability for electric motors up to 12.8kV and 10 MW.

Capabilities
- Fully equipped machine shops for reclamation and manufacturing of spare parts
- Full rewinding facilities from fractional H.P. to 10 MW
- Dynamic balancing for rotors up to 12 tons
- Every motor is test run at its rated voltage (up to 6600 volts) prior to dispatch
- Authorized repair facility for: Weir, Mather and Platt, Brooke Crompton, Alstom, ABB, Harland and AEMT–UK for explosion proof motors

Services
- High voltage, medium voltage and low voltage motor rewinding and overhaul
- D.C. motor repair
- Repair and overhaul of explosion proof motors by trained and certified personnel
- Vacuum Pressure Impregnation (VPI)
- Submersible motors repair

Benefits
- Reduced downtime
- Increase equipment life and efficiency
- Residual life expectancy analysis
Asset Management

Weir extends and improves equipment life by managing assets from design phase through installation and maintenance including repair and upgrades.

Capabilities
- Expertise from a team of engineers and developed processes in the following areas:
  - Planned Maintenance Routines (PMRs)
  - Maintenance strategy
  - Conditioning monitoring
- Vast experience as OEM and service provider of rotating equipment, valves and flow control
- Network of service centers around the world to support our customers
- Competency matrix model to cover your needs

Benefits
- Improve equipment efficiency, performance, availability and reliability
- Reduced deferment (production losses)
- Optimized utilization of resources and maintenance cost
- Increased HSE performance
- KPI driven contracts
- Workshop repair, overhaul and upgrade services
- Reduced inventory
Operations and Maintenance

Weir has developed a life-cycle management process for operation and maintenance with supporting OEM capabilities. The process is aimed to provide preventative maintenance to extend the life of equipment and operation management to improve plant and workforce efficiencies. Weir’s expertise can be applied to brownfield projects for oil and gas, power and water industries.

Capabilities
- Overhaul and upgrade of rotating and flow control equipment and valves
- Mechanical, instrumentation and electrical modifications
- Project management
- Revamp and modernization of plants

Services
- Complete turnkey operation models
- Maximization of uptime and efficiency of oil and gas and power installations
- Maintenance planning and scheduling
- Execution of scheduled outages

Benefits
- One-Stop-Solution provider for Weir and non-Weir OEM products
- Mitigation of risk associated with mechanical failures
- Support preventative maintenance requirements
- Optimization lifecycle costs
Advanced Part Solutions

Weir advanced part solutions offer full manufacturing capability of high quality engineered parts, material upgrades and redesign of components that improve equipment reliability and availability.

Capabilities
• 6 axis coordinate measurement machines, including laser scanners
• Worldwide network of casting facilities
• Computer-aided design and manufacturing
• Application of super duplex steels (UNS S32760), HVOF spray, fusion bonded epoxy and erosion/corrosion resistance coatings

Benefits
• Enhance efficiency and improve performance (upgrade/re-rate)
• Life extension of critical rotating equipment
• Modify the hydraulic performance to new requirements
• Reduce operational expenditure and lead time
• Material upgrades to extend component life

Services
• On-site scanning of sample parts, either from stores or equipment being repaired
• 3D models of components for manufacture, computational fluid dynamics and casting simulation
• Analysis of plant operating problems
• State-of-the-art laser scanning technology
Upgrade and Re-rate

As an OEM and service provider of critical equipment, Weir is able to support our customers with equipment upgrades and re-rates. Our technical capability increases operational efficiency and extends the life of products while reducing corrosion and erosion. Weir’s capabilities provide cost reduction throughout the life of equipment.

Case Study 1: Split Casing Multi-stage Pump High Erosion

The Challenge
- Sand/erosion issues: pumping produced water 77°C with formation sand particles
- Service life typically 6-8 months
- Impellers–Zeron 100 heavy erosion

The Solution
- Material enhancement to prevent wear, corrosion and failure
- Shaft drive-polygon bore
- Impellers-solid stellite
- Casing wear ring carriers:
  - Adjacent carriers combined
  - Anti swirl vanes incorporated
  - Locations to casing reduced
  - Sealed to casing

The Result
- After 10 months operation wear was negligible
- No sudden failures have been registered

Case Study 2: Sea Water Lift High Flow Re-rate

The Challenge
- Improve existing reliability and performance by design
- Resizing of impeller diameters to satisfy target duty

The Solution
- Fundamental design verification of load ratings of components based on Finite Elements Analysis (FEA)

The Result
- Flow and head increase by 40% and 20% respectively
- Impeller dimension increase 35mm