



**SERVICE SOLUTIONS
& MAINTENANCE**
FOR PUMPS





At Berg, we provide clients value-adding solutions that reduce operating costs, maximise performance and extend asset life. We achieve this by applying holistic, responsive engineering solutions at every stage of an asset's lifecycle and by staying true to what makes us unique: precision, collaboration, trust, and experience.

Pump repairs and refurbishment

Berg believes in working in partnership with our clients in order to better understand their assets and maintenance issues. We utilise this information to provide tailor-made solutions that reduce costs and improve reliability. In addition to this our clients receive unparalleled service from our highly skilled technicians and access to 24-hour response services.

Whether the project is large or small, we offer a range of services and solutions for the following types of pumps and equipment to various standards - ISO / ANSI / API

- Centrifugal
- Split Case
- Submersible & Borehole
- Slurry
- Sump
- Helical Rotor
- Rotary Lobe
- Piston (positive displacement)
- Liquid Ring Vacuum Pumps & Compressors
- Turbine (Vertical & Horizontal)

Machining and welding repairs

Berg provides machining, mechanical fitting and repair welding services whilst ensuring all parts and components are manufactured in accordance with the latest design standards such as AS, ISO, ASTM and ASME.

Typical engagements include:

- Equipment removal and handling
- Equipment transportation
- Maintenance activities
- Equipment installation
- Start-up and commissioning

Specific pump service capabilities include:

- Complete pump & motor overhauls
- Component repairs & modifications
- Pump & motor pedestal modifications
- Baseplate frame modifications
- Lubrication systems





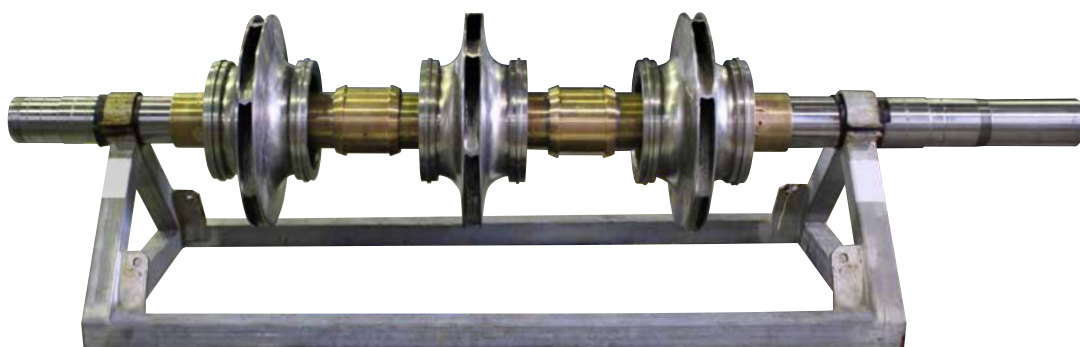
Commissioning and decommissioning

Berg can manage equipment removal, dismantling and decontamination services while protecting plant personnel from physical and environmental hazards. You can trust Berg to take the hassle out of managing sub-contractors by allowing us to manage the entire commissioning or decommissioning process to achieve the best result.

Our experienced team of engineers and senior inspectors can work on-site with plant personnel or independently to provide solutions to problematic equipment and component issues. By reviewing operating data, performing non-destructive examinations and conducting performance tests, we can identify the root causes and recommend and implement corrective actions.

Troubleshooting solutions

In an effort to avoid breakdowns or maintenance issues, Berg can provide various troubleshooting solutions including risk based inspections to help minimise machine downtime, thus saving valuable resources.



ROTATING ELEMENT TKL 450 /400 3 STAGE ECSD PUMP

Our findings:

- Shaft and critical dimensions were out of tolerance
- Excessive runout
- Mechanical and corrosion damage to critical areas
- Excessive clearance between interstage bushes & shaft sleeves
- Excessive runout on impeller rings
- Incorrect running clearances on wearing rings
- An original design fault was found in the interstage bushes which risked early failure

Work carried out:

- Manufactured new shaft
- Manufactured new wear rings
- Manufactured new keys
- Assembled rotating element
- Balanced rotor to ISO 1940 G1
- Manufactured an improved interstage bush design



All Berg parts and components are manufactured to meet or exceed the latest design standards. By using Berg, our clients receive the highest quality parts and components for reliable operation and the lowest equipment ownership costs.

Pump replacement parts and components

Berg can manufacture a large range of axial flow, turbine and centrifugal pump bowls and impellers of various material grades to improve toughness, erosion resistance and corrosion resistance in client-specific applications. With access to an established international supply chain, your raw materials and finished components are more economical, without compromising on quality.

Re-engineering

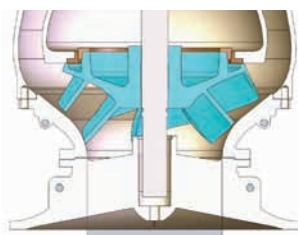
Berg can re-engineer and produce components for equipment that is obsolete or where the original equipment manufacturer is unable to assist or cannot meet the operating demands of your business, e.g. lead times, cost.

Berg utilises 3D scanning technology with advanced modeling software and metrology to re-create pump components, such as vertical turbine pump bowls/diffusers, impeller and suction bowls.

Incremental design and metallurgical improvements can be applied to increase the life of assets. For example, to increase the life of a pump, the use of duplex alloys in place of conventional aluminium-bronze is used in sea water applications.

Quality assurance

Berg provide a series of high quality non-destructive testing methods to identify flaws in equipment such as LPI, MPI and UT. We also have the capability to provide mechanical and chemical analysis. This allows for higher quality control checks of all incoming raw materials ensuring compliance with national and international standards and client specifications.



Our unique approach allows us to manage assets at every stage of the lifecycle, thereby creating a tailored solution for each of our clients.

www.bergengineering.com.au