

# Pump and Retrofit Services and Parts Your Service Partner for Innovative Solutions





## **Pump service centers**

Performance-critical equipment needs reliable and innovative repair and maintenance solutions. Sulzer is the leading service provider for rotating equipment. Founded in 1834, Sulzer is a global company with over 150 locations. Sulzer's comprehensive pump service centers are fully equipped to maintain and repair a wide range of large centrifugal, vertical and horizontal pumps for customers in power generation, oil and gas, petrochemical and heavy industries. We help you keep your equipment operating. Every solution is unique and tailored to the equipment needs of each application.



### Capabilities

- Complete services for centrifugal, vertical, and horizontal pumps as well as retrofit services with tailored solutions
- · Best-in-class customer service
- Full machine shop
- Quick turn pump cell
- Complete inspections
- Reliability and performance testing
- Reverse engineering and upgrades
- Specialized coatings for abrasive service
- High-quality aftermarket parts
- 24/7 emergency response
- Turnkey field services and testing
- Customer training



### **Your Partner**

- Optimize your operational efficiency with customized solutions
- Capitalize on a collaborative advantage that delivers highquality, cost-effective, customized and turnkey solutions to improve equipment reliability

### **Facilities**

**US Service Centers** 

- Houston (Headquarters)
- Baton Rouge
- Bridgeport
- Denver
- Joliet
- Los Angeles
- Mobile
- Odessa
- Piedmont
- Salt Lake City

Canada Service Centers

- Burnaby
- Edmonton (Headquarters)
- Toronto

### Certifications

ISO certifications 9001:2008



### Close to our customers

Implementing a cost effective and efficient maintenance regime requires an experienced and reliable partner that has the proven expertise and facilities worldwide. Sulzer can service all brands of rotating equipment such as turbines, compressors, expanders, generators, motors and pumps. With over 100 service centers around the world, Sulzer is close to our customers with easily accessible locations.





# Reliable service solutions for leading industries

Supporting customers 24/7, Sulzer is the leading worldwide, independent service provider for the repair and maintenance of critical rotating equipment. Our footprint spans the globe and provides outstanding and dedicated service solutions for leading industries.

### **Power Generation**



### Oil and Gas Refining



**Heavy Manufacturing** 



**Petrochemical Processing** 



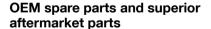


# Minimizing your downtime through reliable services for centrifugal, horizontal and vertical pumps including superior parts

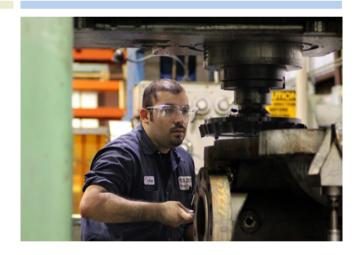
Our combination of in-depth technical expertise and first-class facilities ensures high-quality and reliable services for large centrifugal horizontal and vertical pumps with rapid turnarounds. Our customers benefit from performance restoration, improved reliability, minimized downtime and lower maintenance costs. As an original equipment manufacturer (OEM) with worldwide presence, we have acquired the following: Dowding & Mills, Johnston pump, Bingham Pumps to present a strong product line and comprehensive service offering.

# Complete services for centrifugal horizontal and vertical pumps

- Complete centrifugal horizontal and vertical maintenance and repair
- · Full machine shop
- Best-in-class customer service
- Quick turn pump cell
- Complete inspections
- Reliability and performance testing
- · Reverse engineering and metallurgical upgrades
- Hydraulic modifications
- · Cleaning, polishing and painting
- · Specialized coatings for abrasive service
- 24/7 emergency response
- Turnkey field services and testing
- Customer training



- OEM spare parts
- Aftermarket pump parts
- Customer service support and field parts specialists to analyze and rationalize inventory in stores, provide critical recommended spares and interchangeability services







# Quick turn pump cells and complete turnkey field services to improve your equipment's availability

With 24/7 emergency response, Sulzer is dedicated to improving your equipment's availability through a quick turn pump cell with rapid turnaround and turnkey field services that provide testing, specialized machining and welding services and technical services support. Sulzer field services can provide on-site expert support to assist customers with experienced personnel and test equipment to perform a full evaluation of pump, driver, and system to solve rotating equipment problems.

### Quick turn pump cell workflow

- · Receive, disassemble and inspect
- Pressure wash
- · Pictorial report and analysis
- Parts replacement with customer-supplied or pre-ordered parts and/or enhancement or upgrades
- Reassemble and air-test mechanical seals
- Paint, ship and deliver within seven days



### Turnkey field services, testing and machining

- On-site evaluation by experienced and expert engineers and personnel to identify the root cause, review pump, and recommend corrective actions
- 24/7 emergency response
- Experienced field services teams
- Mechanical troubleshooting, inspections, data, collection and recommendations report
- On-site equipment installation, commissioning and removal
- Optical alignment
- Vibration Analysis
- Flow testing





# Comprehensive inspections along with reliability and performance testing are conducted with the highest quality standards

We are committed to providing our customers with the best solutions through comprehensive inspections along with reliability and performance testing at the highest quality standards in the industry.

### **Comprehensive inspections**

- Magnetic Particle Inspection (MPI)
- Positive Material Identification (PMI)
- Non-Destructive Examination (NDE)
- Liquid penetrant



### Reliability and performance testing

- Optimizing energy consumption
- Minimizing the risk of emergency shutdowns
- · Key parameters
  - Flow
  - Dynamic head
  - Efficiency
  - NPSH available / required
  - Temperature
  - Vibration levels
  - Piping interfaces
  - Bearing support and lubrication
  - Seal arrangement including piping arrangements





## Give your pump a second life

A wide range of conditions can lead to pump related performance problems that has caused the boom in the retrofit market over the past years. New environmental regulations, tougher competition for more efficient and reliable equipment and technological advances have contributed greatly to the popularity of retrofit as a solution to aging systems. Our retrofit services give your pump a second life by minimizing costs for maximizing revenue generation, improving reliability while adapting performance to changing processes, and providing tailored solutions that add sustainable value to your equipment.

# Improved hydraulic design and mechanical design upgrades

- State-of-the-art hydraulic achieve optimum efficiency and smooth hydraulic operation
- Computational Fluid Dynamics, using our own unique software, verify and fine tune performance
- Model testing, when necessary, both virtually and in the test lab, to validate real world performance
- Upgrades at component level through full pump modernization/cartridge replacement applying cuttingedge design methods
- All work conducted in accordance with industry and Sulzer in-house design standards, with critical design loadings and stress levels fully assessed
- Advanced rotordynamic modeling capabilities ensure rotating element stability and smooth running under all anticipated performance conditions

# Re-engineering and higher-grade materials and coatings

- 3D coordinate measurement tools are utilized to capture complex component geometry as a process to augment our capabilities during overhaul, repair and/or retrofit of third-party equipment
- Process fully controlled and documented from initial findings through design and manufacture to final inspection
- Fundamental understanding of the root causes of corrosion and erosion issues within pumps is applied to overcoming wear problems in service
- Improvements to detail of internal flow paths, in conjunction with modern wear resistant materials, are utilized to achieve significant life extensions
- Detailed knowledge on materials and coatings and metallurgical failure analysis applied to resolving corrosion and/or component failures





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