

Role Profile

Role:	Principal Engineer	Reporting to:	General Manager
Location:	Bedford	Department:	Engineering
Rev No:	0	Date:	09/12/2025

Overall Purpose:

We are seeking a highly experienced and innovative Principal Engineer to provide technical leadership, guide architectural decisions, drive engineering excellence and best practice across the organisation.

As a senior technical authority, you will shape technology strategy, mentor engineering teams, and ensure the delivery of scalable and high-quality pumping solutions.

Collaborating with customers, sales and the cross-functional organisation to define and refine product technical requirements throughout contract lifecycles, the role will drive technical excellence, best practice and innovation across product development and the full project lifecycle, delivering value engineered solutions for both new and existing products.

Key Responsibilities:

Principal duties performed in collaboration with general manager and engineering manager consist of, but are not limited to:

- Lead R&D initiatives to drive innovation, integrate emerging technologies and shape strategic growth across the organization.
- Enhance project toll gates from bid/no-bid scenarios supporting lessons learned, future bid strategies and continuous improvement.
- Translate customer technical requirements and specifications to aid product selection, design, procedures and testing in close collaboration with contract management, engineering, quality, and production.
- Ownership over product strategy aligned with Sales to ensure market driven decision making.
- Own/facilitate integration of applicable technologies from parent company range of products and modules.
- Implement product standardisation strategy to reduce costs and accelerate time to market.
- Contribute to the development and implementation of lower cost sourcing strategies to reduce supply chain expenses and enhance overall product cost efficiency.
- Provide expert technical support and oversight to clients and end users in the installation, operation and maintenance of Bedford Pumps manufactured equipment.
- Hold technical authority for structural integrity and hydraulic design of pumps and pump equipment to ensure technical accuracy and compliance with industry standards.
- Oversee quotation and selection processes for motors and pumps ensuring optimal fit and compliance with application.

- Delivery of DFM and/or value engineering initiatives to deliver competitive advantage.
- Lead root cause analysis using appropriate methodologies such as FMEA and 8D to identify underlying issues and implement corrective actions.
- Maintain Bedford Pumps products leading position for conformance to and/or establishing of key regulatory requirements, such as those of the EA & Ofwat.
- Influence specification development within the industry for emergent technology such as condition monitoring.
- ATEX competency lead in collaboration with Engineering Manager, overseeing quality conformance and adherence to the regulatory standards for selected pump products.

Person Specification – Qualifications and Experience required:

- Minimum bachelor's degree in mechanical engineering.
- 10+ years of mechanical engineering design and analysis specializing in industrial rotating machinery including pumps and motors.
- Demonstrate solid commercial and business acumen, consistently aligning engineering solutions with market needs, customer expectations and strategic objectives.
- Comprehensive understanding of mechanical engineering principles related to the design, analysis and operation of centrifugal pumps.
- Knowledge in pump engineering related disciplines such as hydraulics and application, material science and integrity, thermal dynamics, electromechanical systems, rotodynamics, vibration analysis and failure diagnostics.
- Well versed in industry standards such as ISO, API and HI with hands-on experience in design validation and product testing.
- Strong technical proficiency with the ability to interpret drawings and technical specifications.
- Proficient in approval of technical reports using analytical and computational methodologies.
- Strong interpersonal and problem-solving skills.
- Highly pro-active and self-motivated with attention to detail and quality.

Desirable Skills and Experience (But not essential)

- Experience of water industry markets.
- Product Management
- Solidworks, MathCAD and Ansys FEA & CFX.
- Vibration and noise analysis including condition monitoring equipment and failure diagnostics.
- Electrical MCC panel operation, installation and testing knowledge.
- Chartered Engineer (CEng) by an organisation such as IMechE or push for development within.