

## **Patterson Pump Co**

### **Product Design Engineer 2B**

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**Department:** Engineering

**FLSA Status:** Exempt

**Grade/Level:**

**Job Type:** Regular

**Work Schedule:**

Weekdays M-F 8:00 am to 4:30 pm Additional hours as required.

**Job Status:** Full Time

**Reports To:** Engineering Manager

**Amount of Travel Required:**

**Positions Supervised:** None

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#### **POSITION SUMMARY**

Perform engineering duties in planning, designing, and applying rotodynamic pumps and ancillary equipment. Support others in the manufacturing, testing, installation, operation, maintenance, and repair of same.

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#### **ESSENTIAL FUNCTIONS**

##### **Reasonable Accommodations Statement**

To accomplish this job successfully, an individual must be able to perform, with or without reasonable accommodation, each essential function satisfactorily. Reasonable accommodations may be made to help enable qualified individuals with disabilities to perform the essential functions.

##### **Essential Functions Statement(s)**

- Read and interpret blueprints, technical drawings, schematics, or computer-generated reports.
- Assist drafters in developing the structural design of products using drafting tools or computer-assisted design (CAD) and Finite Element (FEA) software.
- Research, design, evaluate mechanical products, equipment, systems and processes to meet requirements, applying knowledge of engineering principles.
- Understand and apply engineering theology such as strength of materials, fluid mechanics, thermodynamics, dynamics, and machine design to the development of pumps and pumping systems.
- Experience and or understanding of electronic sensors (pressure, flowrate, speed, kilowatt meters) use and electronic data acquisition systems in laboratory or industrial environments.

- Confer with engineers or other personnel to implement operating procedures, resolve system malfunctions, or provide technical information.
- Recommend design modifications to eliminate machine or system malfunctions.
- Conduct research that tests or analyzes the feasibility, design, operation, or performance of equipment, components, or systems.
- Investigate equipment failures and difficulties to diagnose faulty operation, and to make recommendations.
- Specify system components or direct modification of products to ensure conformance with engineering design and performance specifications.
- Research and analyze customer design proposals, specifications, manuals, or other data to evaluate the feasibility, cost, or maintenance requirements of designs or applications.
- Provide feedback to design engineers on customer problems or needs.
- Establish or coordinate the maintenance or safety procedures, service schedule, or supply of materials required to maintain machines or equipment in the prescribed condition.
- Write performance requirements for product development or engineering projects.
- Design integrated mechanical or alternative systems, to improve energy efficiency.
- Investigate and disposition issues related to manufacturing and purchase parts non-conformance.
- Prepare documents including, but not limited to, project design data, operation & maintenance manuals, training manuals, etc., required for submittal and customer approval.
- Perform project design reviews in order to ensure projects are constructed according to customer specifications.
- Support others in troubleshooting, documenting, and correcting shop problems.
- Support others in installation, operation, maintenance, or repair to ensure that machines or equipment are installed and functioning according to specifications.
- Support others in problems associated with product assembly and test.
- Support sales to solicit new business.
- Support industrial engineering to determine where and how application of equipment can be made.
- Design test control apparatus or equipment or develop procedures for testing products.
- Aid in personnel functions such as supervision of drafters, technologists and other engineering personnel, or design of evaluation programs.
- Act in accordance with Patterson's Company policies (ex. Harassment, Equal Employment Opportunity, Ethics, etc.).
- Comply with established safety policies and procedures. Wear required Personal Protective Equipment as directed. Use appropriate tools designed for their specific job tasks. Provide feedback related to hazard assessments and/or accident investigations.

## POSITION QUALIFICATIONS

### Competency Statement(s)

- Accountability - Ability to accept responsibility and account for his/her actions.
- Accuracy - Ability to perform work accurately and thoroughly.
- Communication, Written - Ability to communicate in writing clearly and concisely.
- Detail Oriented - Ability to pay attention to the minute details of a project or task.
- Analytical Skills - Ability to use thinking and reasoning to solve a problem.
- Familiar with machine design and machining principles
- Strategic Planning - Ability to develop a vision for the future and create a culture in which the long range goals can be achieved.
- Project Management - Ability to organize and direct a project to completion.
- Problem Solving - Ability to find a solution for or to deal proactively with work-related problems.
- Conceptual Thinking - Ability to think in terms of abstract ideas.
- Self-Motivated - Ability to be internally inspired to perform a task to the best of ones ability using his or her own drive or initiative.

## SKILLS & ABILITIES

**Education:** Bachelor's Degree Required, Field of Study: Mechanical Engineering or equivalent engineering discipline.

**Experience:** 3 plus years of experience in Engineering

**Computer Skills:** Excel, Syteline, SharePoint, CAD (Solid Edge preferred), FEA

**Certifications & Licenses:** EIT or PE preferred

**Other Requirements:** Perform all duties as required by manager.

## PHYSICAL DEMANDS

N (Not Applicable) Activity is not applicable to this position.

O (Occasionally) Position requires this activity up to 33% of the time (0 - 2.5+ hrs/day)

F (Frequently) Position requires this activity from 33% - 66% of the time (2.5 - 5.5+ hrs/day)

C (Constantly) Position requires this activity more than 66% of the time (5.5+ hrs/day)

**Physical Demands**

Stand	F
Walk	O
Sit	F
Manually Manipulate	O
Reach Outward	O
Reach Above Shoulder	O
Climb	O
Crawl	N
Squat or Kneel	O
Bend	O
Grasp	O
Speak	F

**Lift/Carry**

10 lbs or less	O
11-20 lbs	O
21-50 lbs	N
51-100 lbs	N
Over 100 lbs	N

**Push/Pull**

12 lbs or less	O
13-25 lbs	O
26-40 lbs	N
41-100 lbs	N

**Other Physical Requirements**

- Vision (Near, Distance, Color, Peripheral, Depth)
- Sense of Sound - Normal
- Sense of Touch
- Ability to wear Personal Protective Equipment (PPE) - Hearing and Eye
- Sense of Balance

**WORK ENVIRONMENT**

Office and shop environment, including manufacturing machinery and temporary or permanent test stands having structures or equipment that must be worked around.

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The company has reviewed this job description to ensure that essential functions and basic duties have been included. It is intended to provide guidelines for job expectations and the employee's ability to perform the position described. It is not intended to be construed as an exhaustive list of all functions, responsibilities, skills and abilities. Additional functions and requirements may be assigned by supervisors as deemed appropriate. This document does not represent a contract of employment, and the company reserves the right to change this job description and/or assign tasks for the employee to perform, as the company may deem appropriate.