



**Patterson Pump Co**

## **3D Solid Surface Drafter**

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**Department:** Engineering  
**FLSA Status:** Non-Exempt  
**Grade/Level:** 7  
**Job Type:** Regular  
**Work Schedule:**  
8:00 a.m. to 4:30 p.m.

**Job Status:** Full Time  
**Reports To:** Drafting Asset Manager  
**Amount of Travel Required:** None  
**Positions Supervised:** None

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### **POSITION SUMMARY**

The 3d Drafter will create drawings, complex pump component models, and assemblies using computer graphic design software for engineering and manufacturing projects.

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### **ESSENTIAL FUNCTIONS**

#### **Reasonable Accommodations Statement**

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. Reasonable Accommodations may be made to enable qualified individuals with disabilities to perform the essential functions.

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

- Develop detailed CAD (computer-assisted drafting models) design drawings, models, and specifications for fabricated, machined, and cast components using CAD equipment.
- Understand rotodynamic pump design characteristics and pump component drawings utilizing radial developments, board lines, and volute sections.
- Work to design, lay out and detail components and systems and to resolve design or other problems with minimal input from others.
- Check dimensions of materials and compare to both cast and machined items for deviations
- Review and analyze specifications, sketches, drawings, ideas, and related data to assess factors affecting component designs and the procedures and instructions to be followed.
- Modify and revise designs to correct operating deficiencies or to reduce production problems.
- Compute mathematical formulas to develop and design detailed specifications for components or machinery using computer-assisted equipment.
- Possess extensive free-form surfacing experience and it's implementation in the CAD program Solid Edge.
- Develop and transfer legacy hand-drawn hydraulic developments into new solids models.
- Provide mylar or cardboard templates as necessary to the quality team, production floor and vendors.

- 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.
- Act in accordance with Patterson's Company policies (ex. Harassment, Equal Employment Opportunity, Ethics, etc.).

## **POSITION QUALIFICATIONS**

### **Competency Statement(s)**

- Time Management - Ability to utilize the available time to organize and complete work within given deadlines.
- Accuracy - Ability to perform work accurately and thoroughly.
- Conceptual Thinking - Ability to think in terms of abstract ideas.
- Creative - Ability to think in such a way as to produce a new concept or idea.
- Deductive Reasoning - Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems.
- Detail Oriented - Ability to pay attention to the minute details of a project or task.
- Goal Oriented - Ability to focus on a goal and obtain a pre-determined result.
- Persistence - Ability to complete tasks or continue in a course of action in spite of opposition or discouragement.
- Organized - Possessing the trait of being organized or following a systematic method of performing a task.
- Reliability - The trait of being dependable and trustworthy.
- Problem Solving - Ability to find a solution for or to deal proactively with work-related problems.
- Working Under Pressure - Ability to complete assigned tasks under stressful situations.
- Analytical Skills - Ability to use thinking and reasoning to solve a problem.
- Innovative - Ability to look beyond the standard solutions.
- Accountability - Ability to accept responsibility and account for his/her actions.
- Communication, Written - Ability to communicate in writing clearly and concisely.
- Customer Oriented - Ability to take care of the customers' needs while following company procedures.

## **SKILLS & ABILITIES**

**Education:** High School Graduate or General Education Degree (GED): Required  
Associate's Degree (two year college or technical school) Required, Field of Study:  
Drafting

**Experience:** 3 plus years of experience in Drafting, 1 year in Surface modeling (provide examples surfacing work)

**Computer Skills:** CAD (2D & 3D modeling), Windows, Excel, Word, Outlook, Syteline, Solid Edge, Adobe, Sharepoint, Solid Edge Surface Modeling

**Certifications & Licenses:**

**Other Requirements:** Perform all other duties as required by supervision.  
Overtime as required.

## 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	O	<b>Lift/Carry</b>	
Walk	O	10 lbs or less	O
Sit	F	11-20 lbs	O
Manually Manipulate	F	21-50 lbs	O
Reach Outward	F	51-100 lbs	N
Reach Above Shoulder	O	Over 100 lbs	N
Climb	O		
Crawl	N	<b>Push/Pull</b>	
Squat or Kneel	O	12 lbs or less	O
Bend	O	13-25 lbs	N
		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) - Eye and hearing protection. Any other as required by standard.

## WORK ENVIRONMENT

Office environment, some time on the shop floor.

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Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_  
Approval: \_\_\_\_\_ Date: \_\_\_\_\_  
Approval: \_\_\_\_\_ Date: \_\_\_\_\_  
Approval: \_\_\_\_\_ Date: \_\_\_\_\_  
Employee  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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.