

# HARPER INTERNATIONAL

## POSITION DESCRIPTION

The Position Description is the tool used by Harper International to communicate and clarify the essential job functions, establish the basis for performance expectations, and identify training needs for each position.

### **Part I - Reporting Structure**

**Date of last revision:** July, 2017

**Job Title:** Design Engineer

**Reports To:** PE Supervisor

**Department:** Engineering

**Status:** Exempt

**Completed By:** HR

### **Part II – Position Objective**

Design Engineers provide broad-based engineering and technical support for custom OEM projects (high-temp industrial furnaces & related equipment) and to use best practices such as design for manufacturing. The role includes manufacturing support and assembly guidance, customer support for start up and repairs, and support of developmental programs in our lab(s).

### **Part III – Job Responsibilities**

#### Essential Duties

1. Under the direction of project engineering, review project system requirements, technical specifications, and reference drawings to prepare layouts for parts/sub-assemblies from concept phase through detailed design & drawings.
2. Execute and design sub-assemblies, drawings, and details, identifying necessary requirements for purchase, fabrication, and assembly.
3. Investigate purchase parts or subassemblies through vendor communications enhancing technical specifications - to source suitable, cost-effective material supplies.
4. Perform or work with in collaboration with others who perform the FEA analysis, heat transfer, fluid dynamics, statics and strength of material calculations.. Utilize knowledge about design considerations for heat-resistant alloys.
5. Create and maintain accurate and complete Bill of Materials Enter B.O.M in company's ERP/MRP system.
6. Evaluate equipment & make recommendations regarding design improvements.
7. Provide onsite support and advise manufacturing subcontractors to ensure that project deliverables are met.
8. Provide system engineering support to our technology center(s) including equipment upgrades, system integration, test set up and lab event oversight.
9. Provide onsite customer support for new equipment installation, start up, troubleshooting and repair. Provide similar role for existing equipment field retrofits.
10. Capable of acting as client's primary or sole on site point of contact, comprehensively assessing field situations, relaying key information back to home office and follows their advice. Can maintain a professional presence even in difficult situations.
11. Assemble, operate, inspect, and test machinery & components.

#### **IV – Knowledge, Skills, Education**

1. Bachelor's degree in Mechanical engineering preferred. May consider Bachelor's degree in related field with relevant experience.
2. Must possess mechanical knowledge of custom OEM equipment, machines, and components including their design, uses, repair, and maintenance.
3. Familiarity welding, weld symbols, fabrication (especially large structural equipment), sheet metal, and mechanical drive components necessary. Ideally familiar with high temperature materials.
4. Knowledge of the practical application of engineering science and technology and the ability to apply that knowledge to custom, innovative design concepts.
5. Proficient with 3D CAD systems, such as AutoCAD and/or Inventor.
6. Knowledge of best practice design techniques such as DFM, GD&T, etc. with an ability to read and interpret technical drawings. Experience creating and interpreting P&ID drawings a plus.
7. Must possess excellent verbal & written communication skills with a focus on providing excellent customer service. Strong commitment teamwork and integrating information from multi-disciplined teams.
8. Strong "hands on" bias. Enjoys building large and complex equipment. Propensity to take things apart to figure out how they work. Curious by nature.
9. Up to 15% travel required-both domestic & international

#### **V – Physical Requirements**

The job requires the following less than 1/3 of the time:

1. Standing
2. Walking
3. Reaching with arms/hands
4. Climbing or balancing
5. Stooping, kneeling, crouching or crawling
6. Talking or smelling
7. Lifting or moving up to thirty pounds

The job requires the following 1/3 – 2/3 of the time:

1. Sitting

The job requires the following more than 2/3 of the time:

1. Using hands
2. Talking
3. Hearing