

Design Engineer Job Description

Position: Design Engineer

Department: Design

Reports to: Director Innovation & Technology

FLSA Status: Salary

Summary of Position

Under the direction of the Sr. Engineer and reporting to the Director of Innovation & Technology this position is responsible for the design/development and testing of prototype components, fixtures and assemblies utilized in the research and development of our products. This “hands-on” position interacts regularly with our Customer Service, Quality, Tool Room and Production teams and provides intellectual property for our vertically integrated, privately-held company.

Primary Duties and Responsibilities:

- Responsible for projects in multiple areas of the business. These can include the following:
 - New production technology
 - Ongoing quality of current production parts
 - New product development
 - New IP development
 - Cost reduction and product simplification
- Design of parts may include the following areas
 - Injection molded parts
 - Sheet metal components
 - Production fixturing
 - Tooling component design
 - Complex Assemblies
- Work with Junior Engineers to develop support documentation for the products we are designing. Some examples of this are:
 - Assembly work instructions
 - Engineering changes
 - Bill's of Materials
- Create prototype parts through 3D printing, machining (by working with tool room, or machinists) or sending out for quote.
- Create validation plans and execute tests.
 - Generate associated test reports and results
- Create molding plans for parts being designed.
 - Determine necessary tooling components and locations
 - Gate Locations
 - Ejector locations

- Interface with suppliers to manage quality and development issues, as well as quoting new parts
- Responsible for ISO tracking of active projects
 - Update and maintain projects with Knapp tracking documents
 - Process ECN and Deviations using Knapp's ISO tracking documents
- Create and develop new IP in conjunction with the engineering team to further gain business for Knapp Manufacturing.
- Contribute to process improvement in the engineering space as well as the Knapp ISO system

Minimum Education & Experience Requirements

Education

- Bachelor's Degree in Mechanical Engineering or related discipline with experience in a manufacturing environment (preferred) or an Associate's Degree in Mechanical Engineering Technology with 3-5 years of progressive work experience or 7 to 10 years of related work experience in the field.
- High degree of mechanical aptitude.
- Autodesk Inventor / 3D modeling software experience is preferred, other CAD experience will be considered.
- Other applicable backgrounds may be considered as well

Desirable Experience(s)

- Experience with precision measuring devices including micrometers, Vernier/calipers, optical comparator, gauge pins and thread gauges
- Experience with manual and power hand tools.
- Preferred but not required, experience using tool room machines to produce or modify parts which may include Lathe, Knee Mill, Drill Press and grinders (pedestal or surface).
- Design of plastic injection molds for parts developed for in-house production.
- Experience developing / leading DFMEA, PFMEA's & Control Plans.
- Experience in Lean/Six Sigma projects, Green Belt Certification preferred.
- Experience using various data processing software. :IE Python, VBA, Excel
- Knowledge of ERP business systems (Global Shop Solutions preferred).
- Knowledge of ISO documentation practices.
- Above-average computer skills to utilize database, spreadsheet, word processing, and statistical programs as well as Computer Aided Drafting programs.

Critical Thinking

- Demonstration of good project management experience.
- Must be able to think critically and be detail-oriented to solve problems and follow complex instructions.
- Must be comfortable using computers and applications necessary to perform the job.
- Read, work from, and/or create blueprints, schematics and bill of materials (BOMs).
- Ability to read and interpret documents such as safety rules, operating and maintenance instructions, and procedures manuals. Ability to write routine reports and correspondence.

Language

- Candidate should have excellent verbal and written communication skills and must be able to function in a multi-tasking capacity.

Required Values

- Considers multiple factors (Safety, Quality, Delivery, Cost & Inventory) when making recommendations/decisions.
- Demonstrates high levels of positive energy and enthusiasm and a willingness to take on new challenges, responsibilities and assignments - strives to go beyond what is expected.
- Projects a professional image in appearance, communication, and behavior even during times of stress, instills trust and is open, honest and approachable.
- Seeks and takes advantage of opportunities to learn from others and share own knowledge so others may benefit.
- Involves and informs others as appropriate in identifying issues, problems, opportunities and developing solutions.
- Acts and communicates in an ethical and truthful manner, leading by example and earning the respect and trust of co-workers, customers, and other stakeholders.
- Effective problem solving and critical thinking skills.

Working & Environmental Demands

- Frequently works extended hours (9+ per day).
- Occasionally required to work weekends per project or company needs.
- Infrequently exposed to moving machinery such as forklifts.
- Frequently exposed to loud noise from forklifts and machinery.
- Occasionally exposed to temperature extremes in the warehouse.

Physical Demands

Vision

- Peripheral Vision-ability to observe an area that can be seen up and down or the left and right while eyes are fixed on a given point.
- Depth Perception – Three-dimensional vision, ability to judge distances and spatial relationships.
- Colour Vision – the ability to distinguish objects based on the wavelengths of light they reflect, emit or transmit for detecting and differentiating between objects.

Lifting

- Frequently lift and/or move up to 35 pounds.
- Occasionally lift and/or move up to 50 pounds.

Carrying

- Infrequently front carry up to 40 pounds.

Pushing and Pulling

- Pushing/Pulling: Static Pushing and Pulling (Frequently) 25-pound force required to initiate box movement.

Ambulatory Activity

- Standing/Walking (Frequently) on variable surfaces throughout entire shift in the facility.
- Step up/down from 12-40” heights to reach products at variable heights in warehouse
- Ability to sit for extended periods of time

Repetitive Movement

- **Repetitive use of hand/grasping:** (infrequently) Light to forceful manipulating/grasping of product, carts, doors.
- **Repetitive forward bending stand:** (infrequently) Up to 32 inches in front of body at floor to 60” heights while reaching for product.
- **Forward bending standing:** (Occasionally)
- **Reaching for and grabbing product for sorting** (infrequently)
- **Squatting/Stooping/Kneeling:** (infrequently) To as low as ground level while picking/stocking product.



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Work Authorization/Security Clearance

Knapp Mfg., Inc. & Air Logic requires that all employees be legally authorized to work in the United States, and it abides by all laws that prohibit the employment of undocumented foreign nationals. Any person employed by the company must complete the Federal Employment Eligibility Verification Form (I-9) within three days of hire and will be entered into the Federal E-Verify system.

EEO Statement

It is the policy of Knapp Mfg., Inc. & Air Logic to provide Equal Employment Opportunity (EEO) to all persons regardless of age, color, national origin, citizenship status, physical or mental disability, race, religion, creed, gender, sex, sexual orientation, gender identity and/or expression, genetic information, marital status, status with regard to public assistance, veteran status, or any other characteristic protected by federal, state or local law. In addition, Knapp Mfg., Inc. & Air Logic will provide reasonable accommodations for qualified individuals with disabilities.

Acknowledgement

The above statements are intended to describe the general nature of work performed by employees assigned to this position. They are not intended to be construed as a complete list of all job duties performed by persons in the position.

Management reserves the right to revise or amend duties at any time as the needs of the company and requirements of the job change. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions of this job.

This will acknowledge that I have read and understand the requirements and duties of the job. I further acknowledge that I can perform the essential duties listed and that I possess the knowledge, ability, skills, education, experience and other requirements as stated above.

Employee Signature

Date

Witness Signature

Date