



## Senior Design Engineer Job Description

### Overview

Designs electro-mechanical products, meeting or exceeding company production and quality standards, and customer delivery requirements.

### Essential Duties & Responsibilities

This list of duties and responsibilities is not all inclusive and may be expanded to include other duties and responsibilities as needed.

- Thorough understanding and use of the Dumore's Quality Plan in all phases of engineering
- Design electro-mechanical products (PMDC, BLDC and universal motors and gearboxes), meeting engineering standards, applicable codes, customer specifications, and cost constraints
- Work and lead with cross-functional teams to take a design from specification through design, development, test, and delivery
- Review and develop technical specifications for all products
- Create part numbers and structured bills of material in the MRP system (experience using ERP/MRP software a plus)
- Verify that designs meet or exceed all requirements and specifications
- Perform detailed technical analyses and create test and analysis reports
- Develop technical solutions to known production, reliability, or performance problems
- Generate and review design documentation to ensure delivery of quality finished products
- Facilitate design reviews with Design Engineering, Manufacturing and Quality Assurance to ensure project goals are met, including cost, manufacturability, time and resource requirements
- Work with cross-functional teams to address and resolve manufacturing, design and quality problems, and ensure continuous improvement of processes and methods
- Redesign products to improve quality and productivity, and reduce cost
- Work with Quality Assurance and Manufacturing to determine root cause analysis and corrective action for product related issues and warranty returns
- Follow departmental procedures and directives

### Qualification Requirements

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

#### Education and/or Experience

Bachelor's Degree in Electrical (BSEE) or Mechanical (BSME) Engineering from accredited educational institution and a minimum of six years electric motor and/or gear design experience. Must have experience in the development and testing of in-line, right-angle, and planetary gear drives. Requires fluent working knowledge of Solid Works, AutoCAD, MS Office, and ERP/MRP Business Software. Experience with gear design software a plus.

#### Language Skills

Able to read, analyze and interpret common scientific and technical journals, and detailed product drawings; respond to common inquires or requests from customers, regulatory agencies, or members of the business community; write reports for publication that conform to prescribed style and format; and effectively present information to top management and customer presentations. Ability to communicate with Chinese speaking vendors a plus.

**Mathematical Skills**

Able to apply all general mathematical concepts such as calculus, fundamentals of plane and solid geometry, and trigonometry. Able to apply advanced engineering mathematical concepts for design calculations and analysis.

**Reasoning Ability**

Must possess a high level of mechanical and electrical aptitude. Able to define problems, collect data, establish facts, and draw valid conclusions. Able to interpret a variety of technical instructions in written, oral, mathematical and diagram form, and deal with several abstract and concrete variables.

**Protective Clothing/Equipment Required**

Safety equipment and apparel is required and expected to meet applicable regulations and policies.

**Physical Demands**

The physical demands listed are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee is regularly required to sit, talk and hear. The employee is frequently required to use hands to finger, handle, or feel objects, tools, or controls and reach with hands and arms. The employee is occasionally required to stand walk; reach above shoulders; and stoop, kneel, or crouch.
- The employee must occasionally lift and/or move up to 25 pounds.
- Specific vision abilities required by this job include close vision, depth perception, and the ability to adjust focus.

**Work Environment**

The work environment characteristics described are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee occasionally works near moving mechanical parts and may be exposed to risk of electrical shock.
- The noise level in the work environment is usually moderate.