



Position: Mechanical Designer IV
Department: Development Engineering
Reports to: Director, Development Engineering
Classification: Full time, Exempt

Work Schedule: Regular Business Hours + other as needed
Direct Reports: None
Location(s): Portsmouth NH / Dover, NH
Travel: None

Summary of Position:

Mechanical Designer IV has responsibility for generation of design layouts, models, drawings, and Bill of Materials under minimal supervision. Mechanical Designer IV is accountable for drawing and BOM accuracy with regard to fit, tolerance, and compliance with divisional standards. Develop CAD design layouts, models and engineering drawings including detailed drawings, assembly drawings, and sub-assembly drawings to support the final product design, production of prototypes, manufacturing specifications and quality control specifications. Responsible for the creation of detailed product and tooling CAD models and drawings as well as assist engineers and manager in achieving department goals. Provide support to other departments such as manufacturing, assembly, quality assurance, etc. as required.

Duties and Responsibilities:

- Support Company Equal Employment Opportunity (EEO) policy including implementation of component Affirmative Action Plans in order to assure compliance with all Federal, State, and local legislation
- Comply with OSHA, EPA, other regulations and FlexEnergy housekeeping and safety rules applicable to job activities
- Comply /FlexEnergy standards and ISO 9001 procedures and work instructions
- Complete the assignments on schedule, meeting all technical specifications and customer requirements
- Produce candidate CAD design layouts and models and recommend optimum solution. Scope may be conceptual, trade off or final design. Incorporate divisional standards such as material sizes, punches, bend radii, leg length, etc.
- Perform design analysis and calculations (such as weight and center of gravity) with accuracy. Follow good engineering practices and develop practical solutions
- Calculate part tolerances, virtual conditions and tolerance stack-up analysis to ensure fit, function and economical manufacture
- Produce and check drawings for design intent, completeness, correctness and compliance with divisional drafting standards
- Select parts to maximize economical common usage
- Preparation of drawings, BOM, EC Notice and SAO releases consistent with Engineering Department Procedures and Work Instructions
- Work closely with Suppliers in selected technical matters
- Assist engineering laboratory personnel on assembly. Make observations throughout the development and integrate them appropriately
- Provide technical assistance for product literature, decal, technical manual, etc.
- Stay current on drafting and GD&T standards and CAD design technology. Assist in development of divisional drafting, CAD, BOM, and ECN standards, procedures, and training
- Provide support to other departments such as Assembly, Manufacturing, Marketing, Quality Assurance, etc. as requested
- Investigation of engineering change (or product improvement) requests, non-conforming material reports and supplier deviation change requests
- Maintain documentation of high quality that can be put into project file, design manual, and can meet ISO 9001 requirements
- Assist in resolving warranty and field problems. Design field kits as required
- Assist engineers and manager in achieving department goals
- Present positive company image to customers and suppliers. Promote teamwork and improve morale
- Author and maintain currency of assigned sections of design manuals and/or standards

- Promote design and drafting professionalism and visibility. Encourage continuous improvement of skills, productivity, and versatility

Minimum Qualifications:

- **Formal Education Requirement:**
 - Two year mechanical or electromechanical engineering technology degree plus additional specialized courses or training. A 4-year degree in engineering or electrical technology is preferred, but not mandatory.
- **Minimum Years of Experience Necessary:**
 - Twelve years or more in layout, design, and detailing experience of new, standard or special products for production.

Competencies:

Comprehensive understanding of product function fundamentals at both component and system levels

Demonstrated expertise using drafting standards

Demonstrated depth of knowledge and skills proficiency in at least 8 specialty areas such as:

- Design of formed sheet metal and welded assemblies, design for high temperature applications a plus.
- Tubing, hose and fitting design
- Fasteners
- Non-metallic part design
- Corrosion control and finishes
- ASME pressure vessel code
- Structural / flow analysis model design
- FEM/FEA
- Design for assembly and manufacturing
- Wiring harness design
- Electrical and instrumentation components
- Ferrous and aluminum casting design and manufacturing processes
- Printed wiring design
- Bearing system design
- Gasketed joints and static seals
- Gear design
- Pneumatic controls
- Vibration isolation design and analysis

Demonstrated excellent proficiency of CAD skills including 3-D modeling, drafting, and other advanced application software on Pro-Engineer/Creo design software.

Working Conditions:

This job operates in a professional office environment. This role routinely uses standard office equipment such as computers, phones, photocopiers, filing cabinets and fax machines.

Physical Requirements:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job.

While performing the duties of this job, the employee is regularly required to talk or hear. The employee frequently is required to stand; walk; use hands to finger, handle or feel; and reach with hands and arms.

The employee is occasionally required to sit; climb or balance; and stoop, kneel, crouch or crawl. The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.

Job description statements are intended to describe the general nature and level of work being performed by employees assigned to this job title. They are not intended to be construed as an exhaustive list of all responsibilities, duties and skills required.

Flex Energy Solutions is an equal opportunity employer inclusive of female, minority, disability and veterans, (M/F/D/V). Hiring, promotion, transfer, compensation, benefits, discipline, termination and all other employment decisions are made without regard to race, color, religion, sex, sexual orientation, gender identity, age, disability, national origin, citizenship/immigration status, veteran status or any other protected status.

To inquire about or apply for a position, please submit a cover letter and resume/CV to: hr@flexenergy.com