

## Job Description – Mechanical Engineer

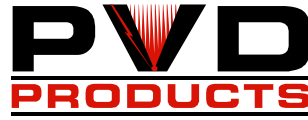
**Position Reports To:** Engineering Manager

### Responsibilities:

- May work as a team lead, team member or independently.
- Concept development – complex mechanical and vacuum systems.
- Develop performance requirements. Conduct trade-off studies and conduct design reviews.
- Select and size components and equipment including but not limited to vacuum equipment, drive components, actuators, motion stages, process and mechanical control sensors.
- Develop test plans and may conduct testing.
- Create full suite of engineering documentation, including but not limited to detail drawings, assembly drawings, P&ID's, and renderings.
- May be required to check drawings and models of other team members.
- Part creation and management in ERP.
- Work with vendors. Assist with inspection and vendor selection.
- Support assembly and testing operations as required.
- Select OEM components based on design input requirements.
- When required perform analyses by FEA/CFD and classical methods. Generate the computations as required for equipment sizing, data reduction, kinematic motion studies, and definition of mechanical utilities.

### Qualifications:

- 7+ years of design experience: semi-conductor, vacuum technology, and/or robotics experience preferred: enterprise level capital equipment may be acceptable as an alternate.
  - The engineer must be seasoned enough to be aware of significant factors relating to performance and be able to exercise judgement in choosing the appropriate technical approach as a solution.
  - Creation and management of large assemblies.
  - BOM generation and management.
  - Machine design such as precision multi-axis translation/positioning devices, drives, alignment apparatus.
  - Experience with fluid, gas and vacuum sealing techniques.
  - Piping design for pneumatic, gas, and water systems.
  - Sheet metal design of enclosures, panels, and structural supports.



### **Qualifications (cont.)**

- Weldments: frames, machine components, structural components. Vacuum chambers (pressure vessel design acceptable as an alternate), piping, and tubing fabrication.
- Knowledge of mechanical fasteners and adhesives.
- Thorough knowledge of manufacturing process related to the above.
- Knowledge of testing protocols used in equipment validation and development.
- Documentation
  - Creation of layouts, ability to develop manufacturable products from engineering concepts.
  - Knowledge and experience with design for form, fit, and function.
  - Working knowledge of ANSI Y14.5 GD&T as well as drafting standards such as ANSI Y14, DoD 100.
  - Experience with ECO/ECR process.
- Experience with ERP Systems
- Solidworks V15 or higher (preferred)
- BSME or equivalent