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| Job Title: | Electro-Mechanical Design Engineer (Cryogenic) | Position Type: | Full time |
| Location: | East Sussex | Travel Required: | 10% |
| HR Contact: | personnel@quorumtech.com | Date posted: | July 6, 2020 |

Job Description

MAIN PURPOSE OF JOB

To ensure that Quorum Technologies Ltd. maintains its position as the leading provider of Cryo-SEM preparation chambers and EM coaters by developing new products, particularly in the Cryo-EM area. A new position has been created to meet increased demand for new product development, with a focus on working with electron microscope manufacturers to develop integrated products.

RELATIONSHIPS

REPORTS TO: Engineering Manager

RESPONSIBLE FOR: NA

INTERACTS WITH: Marketing, Production, Microscope Manufacturers

ROLE AND RESPONSIBILITIES

The Electro-mechanical Design Engineer will be responsible for designing new products for Cryo-EM sample preparation. Tasks will include:

- Liaising with Sales, Marketing and OEM customers to define customer needs and document them in technical requirements.
- Producing 3D models and 2D CAD drawings to BS888.
- Create CAD (SolidWorks) BOMs and Assembly structures, allocating new part numbers from development models for new products.
- Manufacture/Assembly/Test of Prototypes.
- Generate BOMs and support documentation prior to release of product to Production.

Quorum is one of the leading suppliers of Cryo-SEM sample preparation equipment and the Electro-mechanical Design Engineer will be responsible for maintaining that reputation for excellence. Tasks will include:

- Advising engineers at OEM design departments in the UK and overseas on the best way to integrate Quorum's cryogenic sample prep products into their microscopes.
- Proposing possible solutions for critical sample prep problems based on a deep understanding of thermal dynamics and material properties.
- Training sales representatives and distributors on the capabilities of the Quorum solution.
- Analysing designs for thermal performance, calculating heat loads and thermal conductivity of components.
- Promoting Quorum's technical solutions at scientific conferences and technical trade fairs.

The above is not an exhaustive list of duties and you will be expected to perform different tasks as necessitated by your changing role within the organisation and the overall business objectives of the organisation.

PERFORMANCE MEASUREMENT

- Successful completion of new product development projects, on-time and within budget.
- Concise, detailed and accurate reporting of past results, future forecasts and departmental KPIs as required by senior management.
- Ability to meet customer expectations and to maintain Quorum's established reputation for excellence.
- Ability to ensure that all established administrative routines and records are kept accurately and up to date.

QUALIFICATIONS AND EDUCATION REQUIREMENTS

Degree or HND in Mechanical Engineering or similar discipline.

REQUIRED EXPERIENCE AND SKILLS

The successful candidate must have:

At least 5 years mechanical design experience working within vacuum technology or cryogenic sectors.

Must be competent in using SolidWorks & PDM.

High Vacuum Systems: design, build & testing (in order of 1×10^{-7} mbar).

Design of LN₂ cooled systems.

Design calculations for vacuum system components (conductance, pump-down times, etc.) and for thermal components (thermal conductivity, radiative heat load, etc.).

Proficiency in Microsoft Office Suite, especially Microsoft Excel.

Ability to cope with rapidly changing demands on time and prioritise jobs according to urgency.

Excellent communication skills, the ability to challenge and question while maintaining positive relationships.

PREFERRED EXPERIENCE AND SKILLS

SAP Business One.

Conductive coating technology.

Able to produce manufacturing drawings for vacuum flanges, machined components and welded assemblies.

BOM structuring and maintenance.

Experience in automating transfer of samples through a system.

ADDITIONAL NOTES:

This role includes overseas travel. Valid driving licence and passport required.

Attendance at trade shows and customer sites means that ability to sit/stand for long periods is required.

Assisting with packing/unpacking products will require bending, lifting and carrying heavy equipment.

Key Words: design engineer | cryogenics | UHV | electro-mechanical | cooling | SolidWorks