



**Electric Machinery Company Inc.**  
800 Central Avenue NE  
Minneapolis, MN 55413 USA  
Phone Dial: (612) 378-8000  
[www.electricmachinery.com](http://www.electricmachinery.com)

Position: R&D Mechanical Engineer  
Department: Engineering  
Reports to: Engineering R&D Manager  
Date: January 2012

### **Description/objective:**

Engineer will carry out/support R&D projects covering a wide range of rotating electrical machine design and product development. Projects will involve analysis and test verification, as well as presentation of the results. The successful candidate will be a highly motivated, self-sufficient individual who is able to apply engineering analytical skills to a wide array of problems and eager to learn and master new engineering skills.

### **Required experience/skills:**

1. BS in Mechanical Engineering required.
2. 3-5+ years' experience carrying out development or research projects. (Ph.D./M.S. may be an acceptable substitute for industry experience.)
3. Must be proficient in both modeling and simulation. Simulation will include structural, fluid, and thermal dynamics – experience in all or most analyses required.
4. Must be able to design and carry out experiments on prototype and production machines to verify analyses.
5. Must be able to effectively manage open-ended development projects and manage both allotted project time and budget.
6. Must have excellent written/verbal/oral presentation skills. Periodic presentations of development projects to upper management will be required.
7. Must have the ability to provide technical support to other departments as required resolving technical issues to meet special customer requirements.
8. Must be able to facilitate transfer of prototype or analysis models to production design.
9. Must have the ability to effectively multitask, working on multiple projects concurrently.

### **Preferred experience/skills:**

1. M.S. or Ph.D. in Mechanical Engineering (or related field) strongly preferred.
2. Experience with rotating machinery, especially turbo-machinery.
3. Proficiency in ANSYS workbench.
4. Experience in experimental modal, operational deflection shape and general vibration analysis.
5. Experience with acoustic treatment and noise mitigation.
6. Experience with CFD analysis and experimental validation, especially fan/blower design.
7. Experience writing technical papers for conferences and journals.



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**General expectations:**

1. Working knowledge of Microsoft office products, Word, Excel, etc.
2. Physical ability to travel freely within manufacturing and office facilities. This requires climbing stairs and moving over, around, and about shop machinery.
3. Physical ability to lift and carry 25 pounds.
4. Must be able to obtain a valid passport, have driver's license, and be able to travel worldwide on short notice.

