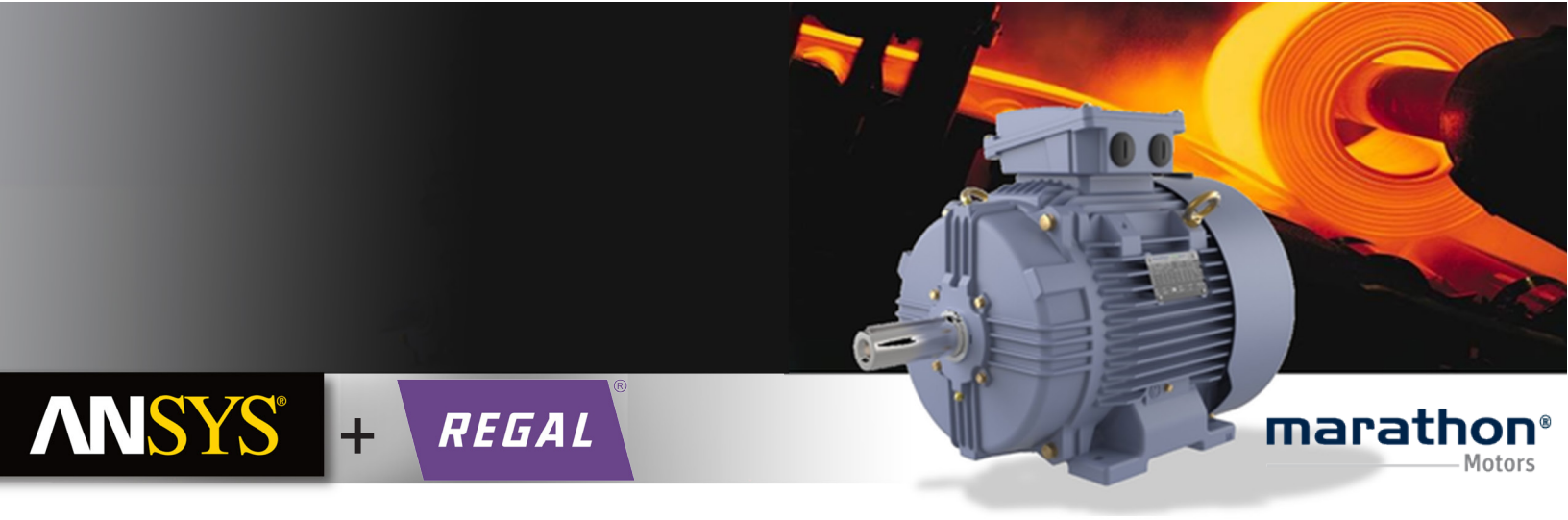


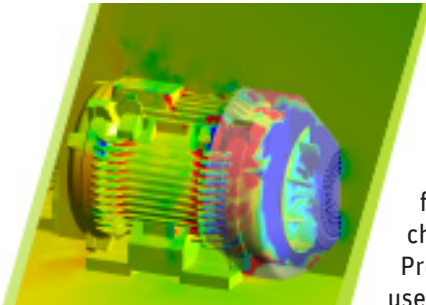
Case Study



“The ANSYS Mentoring Service helped us to accelerate simulation-based noise estimation for our new cooling fan design to be used on TerraMAX® premium and high efficiency motor platform for our Marathon brand motors”

*Shivanand Khot
Director of Technology
Global Technology Center - Hyderabad, India*

Simulation-based noise estimation for cooling fan designs



Marathon Electric India Pvt. Ltd., a subsidiary of Regal Beloit America, Inc., needed to develop a simulation-based method of estimating noise levels for their electric motors due to changes in cooling fan design. Previously, physical testing was used to predict the noise levels. As part of a new development platform, they decided to use a simulation-based noise prediction method at the preliminary design stage. In order to accelerate the development of the simulation-based noise method, Marathon Electric India Pvt. Ltd. engaged with ANSYS Mentor Expert Services to provide explicit training on developing a methodology for aeroacoustics simulation.

Challenges

Using ANSYS® Fluent® software for aeroacoustics simulation, Marathon Electric India Pvt. Ltd had challenges in developing a simulation model to predict noise. Hence, they decided to seek expert mentoring from ANSYS, which helped them to quickly solve the existing problem and develop a methodology for future cases.

Technology Used

ANSYS Mentor Expert services were used for aeroacoustics simulation using ANSYS Fluent.

Engineering Solution

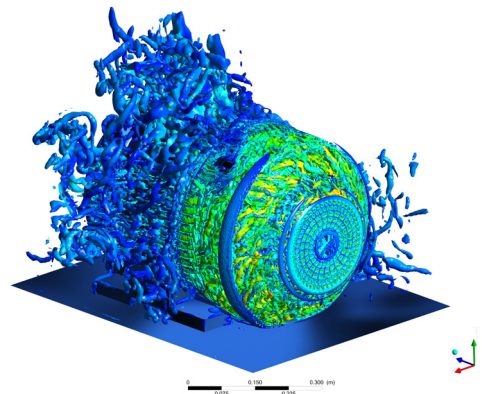
- CFD simulation techniques were used to predict noise from the new fan design for TerraMAX® IE2 efficiency motor.
- Advice from ANSYS Mentoring Experts provided insight into noise prediction, the sources of noise generation and ways to reduce the noise levels.

Benefits

- ANSYS Mentor Expert services helped Marathon Electric India Pvt. Ltd. in predicting fan noise for TerraMAX® IE2 efficiency motor at the preliminary design stage.
- The ANSYS Mentor Expert Services helped the team to develop an aeroacoustics simulation methodology in ANSYS Fluent and gain in-house expertise for doing future simulations in the acoustic domain.

About Regal Beloit Corporation

Regal Beloit Corporation (NYSE: RBC) is a leading manufacturer of electric motors, electrical motion controls, power generation and power transmission products serving markets throughout the world. The company comprises three business segments: Commercial and Industrial Systems, Climate Solutions, and Power Transmission Solutions. Regal is headquartered in Beloit, Wisconsin, and has manufacturing, sales and service facilities throughout the United States, Canada, Latin America, Europe and Asia. For more information, visit RegalBeloit.com



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