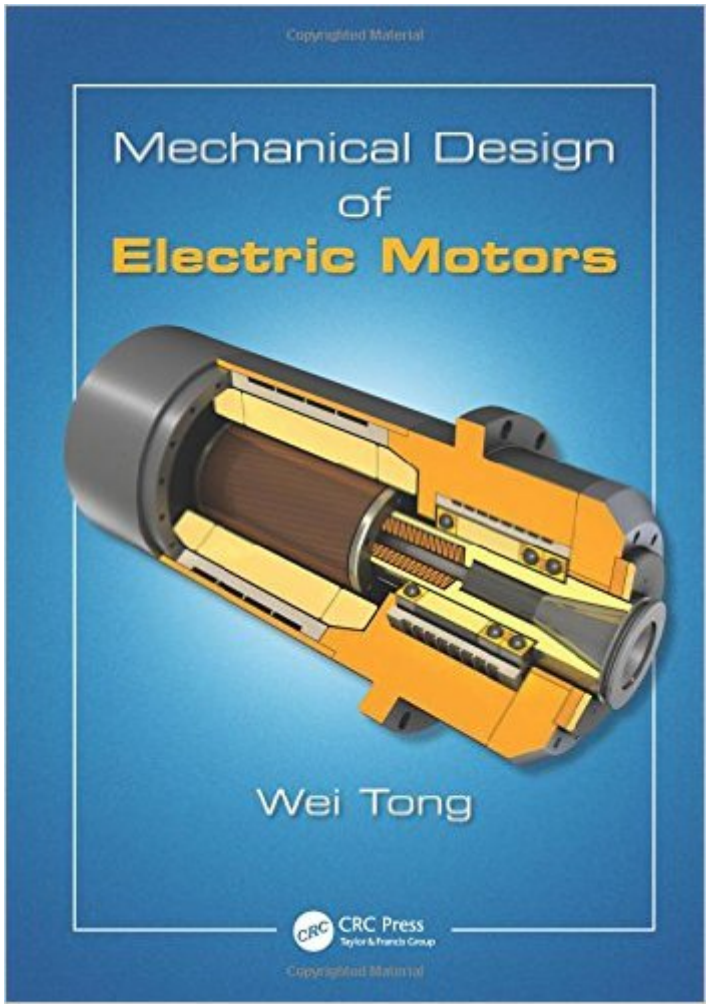
Mechanical Design Of Electric Motors



Synopsis

Rapid increases in energy consumption and emphasis on environmental protection have posed challenges for the motor industry, as has the design and manufacture of highly efficient, reliable, cost-effective, energy-saving, quiet, precisely controlled, and long-lasting electric motors. Suitable for motor designers, engineers, and manufacturers, as well as maintenance personnel, undergraduate and graduate students, and academic researchers, Mechanical Design of Electric Motors provides in-depth knowledge of state-of-the-art design methods and developments of electric motors. From motor classification, design of motor components, model setup, and material and bearing selections to power losses, motor cooling, design integration, vibration, and acoustic noise, this comprehensive text covers the fundamentals, practical design and design-related issues, modeling and simulation, engineering analysis, manufacturing processes, testing procedures, and performance characteristics of electric motors today. Focusing on the mechanical design of modern electric motors, the book: Details the design and manufacture of major components and subsystems, such as rotors, shafts, stators, and frames Reviews various cooling techniques, including forced air, liquid, and phase-change Discusses the analysis and calculation of motor power losses Addresses motor vibration and acoustic noise issues Presents engineering analysis methods and case study results Emphasizes construction, optimization, and applications Featuring research results from the authorâ ™s own personal experience and the significant contributions of others, Mechanical Design of Electric Motors highlights innovative and advanced electric motors developed in recent decades.

Book Information

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Customer Reviews

Someone wrote the first and only review, giving a "5-Star" rating, and writing these three words "It is ok." I simply could not hold myself and I wrote a comment on that review.It seems that, I as an Electric Power Engineer (now retired) owe it to the author that I should express my genuine feelings and thoughts about this uniquely wonderful, really great, exceptionally useful, First-one of its kind, destined to be the most respectable textbook as well as the reference book for the Electrical/Mechanical Engineers who design and manufacture not only the Electric Motors, but any electric machine. As a matter of fact, the event of publication of this book should have been hailed as the first one of the most significant publications in the entire history of manufacturing of Electrical Power Machines.If .com had a rating system which went from "1-star" to "100-Stars", I would have chosen "200-stars"! Ever since i graduated with myB. S.(EE) and B.S. (ME) (in 1962-63), I have fallen in love with Electric Machines. I taught EE for 7 & 1/2 years, came to U.S.A. to earn myM.S. (EE) in 1971-1973 (while I was working full time with a consulting company). But the love for Electric Machines was inspired by two wonderful teachers: one was Mr. "B. P. K". in India who introduced me to "Tensors" and to the works of Dr. Gabriel Kron, and the other was Prof. Dr. Jerome Meisel at the Wayne State University, Detroit, Michigan. Dr. Meisel has authored a wonderful textbook, "Principles of Electromechanical - Energy Conversion" which was published by McGraw-Hill Book Company in 1966.

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