



# Power Transducer and Piezoelectric Pump

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**Power transducer and piezoelectric pump**  
Modeling, simulation, design and characterization



After decades of the research and development, the piezoelectric materials have been integrated into interdisciplinary fields of research and applied in many branches of the industries. Today, due to the high demand on precise, compact and low power consumption devices, the fields of piezoelectrics are still growing very fast. This book covers a wide range of topics, including equivalent circuit theories, finite element analysis (FEA), failure analysis and piezoelectric pumps (diaphragm and cavitation). Many new approaches and concepts, such as resonant testing of force factor, finite electrical circuit element modeling (FECM), vibration control of diaphragm pump and cavitation driven flow, etc are described in the book. They are useful for the development of various piezoelectric devices and technologies. Overall, this book serves as a good reference for engineers and researchers, who are in the field of piezoelectric materials and devices, especially for those who design, fabricate, characterize, model and simulate high power transducers, actuators, pumps, ultrasonic motors, resonators, fluid transportation, microfluidics, and acoustic devices.

- [Powerdown : A Schools` Climate Change Toolkit - Secondary](#)
- [The Power of the Smile : Humour in Spanish Culture](#)
- [Power Systems and Renewable Energy : Design, Operation, and Systems Analysis](#)
- [Power Knowledge and Geography : An Introduction to Geographic Thought and Practice](#)
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