Membrane Contactor Technology: Water Treatment, Food Processing, Gas Separation, and Carbon Capture
Mohammad Younas (Editor), Mashallah Rezakazemi (Editor)

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DESCRIPTION

An eye-opening exploration of membrane contactors from a group of industry leaders

In Membrane Contactor Technology: Water Treatment, Food Processing, Gas Separation, and Carbon Capture, an expert team of researchers delivers an up-to-date and insightful explanation of membrane contactor technology, including transport phenomena, design aspects, and diverse process applications. The book also includes explorations of membrane synthesis, process, and module design, as well as rarely discussed process modeling and simulation techniques.

The authors discuss the technical and economic aspects of this increasingly important technology and examine the geometry, flow, energy and mass transport, and design aspects of membrane contactor modules. They also cover a wide range of application opportunities for this technology, from the materials sciences to process engineering.

Membrane Contactor Technology also includes:

• A thorough introduction to the membrane contactor extraction process, including dispersion-free membrane extraction processes and supported liquid membrane processes

• Comprehensive explorations of membrane transport theory, including discussions of diffusional mass and heat transfer modeling, as well as numerical modeling

• In-depth examinations of module configuration and geometry, including design and flow configuration
• Practical discussions of modes or operation, including membrane distillation, osmotic evaporation, and forward osmosis

Perfect for process engineers, biotechnologists, water chemists, and membrane scientists, *Membrane Contactor Technology* also belongs in the libraries of chemical engineers, polymer chemists, and chemists working in the environmental industry.

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**ABOUT THE AUTHOR**

*Mohammad Younas, PhD,* is Department Head of Chemical Engineering at the University of Engineering & Technology, Peshawar, Pakistan. His research is focused on the modeling and simulation of membrane contactors.

*Mashallah Rezekazemi, PhD,* is Professor of the Faculty of Chemical and Materials Engineering at the Shahrood University of Technology. His research is focused on membrane-based processes for energy-efficient desalination, CO2 capture, gas separation, and wastewater reuse.

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