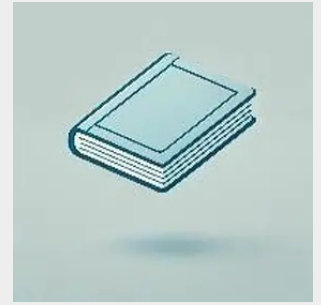


Distillation

Design, Optimization and Control of Distillation Processes

Distillation: Design, Optimization, and Control of Distillation Processes, Second Edition provides a comprehensive overview of modern methods for the systematic development of efficient, intensified, and operable distillation processes, emphasizing the importance of energy efficiency and sustainability. The chapters address the modeling and optimization of individual columns and separation sequences, as well as the conceptual design of batch, zeotropic, azeotropic, and extractive distillation processes. Further sections examine dividing wall columns, systematic entrainer selection, hybrid separation processes, and reactive distillation. The volume concludes with practical guidance on the control and operation of conventional and intensified distillation systems. Throughout, particular emphasis is placed on technical feasibility, energy efficiency and economically viability. This updated edition builds on the success of its PROSE award-winning predecessor, integrating new developments and research. It is tailored for chemical engineers, process designers, researchers, and students in chemical engineering and related fields. Whether you are involved in energy efficiency, sustainability, or advanced process design, this book serves as a vital reference, empowering you to enhance your expertise and drive innovation in distillation technology.

Distillation: Design, Optimization, and Control of Distillation Processes, Second Edition builds on the success of its PROSE award-winning predecessor and offers a comprehensive exploration of the latest advancements in industrial distillation. With contributions from recognized experts, this collection integrates essential information on understanding, analyzing, and performing distillation, while emphasizing the importance of energy efficiency and sustainability. The updated structure remixes key chapters from the original series, ensuring a cohesive presentation of both foundational principles and cutting-edge practices. Delve into detailed discussions on critical topics such as modeling and optimizing distillation columns, conceptual designs for various distillation processes—including batch, zeotropic, azeotropic, and reactive distillation—and the selection of separating agents. Each chapter is meticulously crafted to provide practical insights and the most current research, covering all steps in process design from feasibility studies to experimental validation, alongside operation and control aspects. Distillation: Design, Optimization, and Control of Distillation Processes, Second Edition is tailored for engineers, researchers, and students in chemical engineering, process design, and industrial applications. Whether you are involved in academia or industry, this book equips you with the knowledge to enhance your understanding and application of distillation processes, paving the way for innovative solutions in energy efficiency and sustainability.



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