

Contents

1	Introduction	1
	Juan Gabriel Segovia-Hernández and Adrián Bonilla-Petriciolet	
2	Fundamentals of Process Intensification: A Process Systems Engineering View	7
	Deenesh K. Babi, Mauricio Sales Cruz, and Rafiqul Gani	
3	Systematic Synthesis of Intensified Distillation Systems	35
	Massimiliano Errico and Ben-Guang Rong	
4	Process Intensification in Heat and Mass Exchanger Networks . . .	65
	José María Ponce-Ortega	
5	Heat-Integrated Intensified Distillation Processes	83
	J. Rafael Alcántara-Avila and Hao-Yeh Lee	
6	Process Intensification by Reactive Distillation	131
	Alvaro Orjuela, Miguel A. Santaella, and Paola A. Molano	
7	Process Intensification in Biotechnology Applications	183
	Oscar Andrés Prado-Rubio, Ricardo Morales-Rodríguez, Paloma Andrade-Santacoloma, and Héctor Hernández-Escoto	
8	Process Intensification: Industrial Applications	221
	Anton A. Kiss	
9	Stochastic Optimization for Process Intensification	261
	Claudia Gutiérrez-Antonio and Adrián Bonilla-Petriciolet	

**10 Process Intensification in the Production of Liquid Biofuels:
Strategies to Minimize Environmental Impact 279**
Fernando I. Gómez-Castro, Irene Cano-Rodríguez,
and Zeferino Gamiño-Arroyo

**11 Dynamics, Controllability, and Control
of Intensified Processes 293**
Rafael Maya-Yescas, Ricardo Aguilar-López,
and Gladys Jiménez-García

Index 327



<http://www.springer.com/978-3-319-28390-6>

Process Intensification in Chemical Engineering

Design Optimization and Control

Segovia-Hernández, J.G.; Bonilla-Petriciolet, A. (Eds.)

2016, X, 336 p. 159 illus., 94 illus. in color., Hardcover

ISBN: 978-3-319-28390-6