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Nota di contenuto   Intro -- Contents -- Preface -- About the authors -- Part A: Multiphase reactors: chemical reaction engineering -- 1 Introduction -- 2 Overview of multiphase reactors -- Part B: Fundamentals -- 3 Scale-independent basics relevant for all reactors -- 4 Residence time distribution and mixing theory -- 5 Inter- and intraphase mass and heat transfer -- 6 Quantification of mass transfer in G-L(-S) reactors -- 7 Heat management -- 8 Multiphase reactor modeling -- Part C: Stage-gate innovation methods -- 9 Stage-gate innovation methods -- 10 Multiphase reactor selection -- 11 New reaction systems through all innovation stages -- Part D: Education -- 12 Education guidelines -- 13 Industrial cases -- 14 Education case study: polyolefin CRE and scale-up -- Index.

Sommario/riassunto   This Multiphase Reactors book is about fundamentals, selection, design, development (scale-up) and applications of two- and three-phase reactors. It is a graduate textbook focused on creating understanding of the fundamentals, as much as possible without resorting to mathematics. It also is full of real-life industrial applications and examples from the authors' own experiences. The target audience comprises students and industrial practitioners who

may or may not have had formal training in chemical reaction engineering. Each chapter explains the subject and contains take home messages, examples, worked out cases, quiz questions, and exercises.