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Sommario/riassunto Membrane reactors are an inherently multidisciplinary concept

combining chemical reaction engineering, separation technology, materials science, and mathematical modelling aspects. They couple chemical reactions with membrane separation and provide a more compact and less capital intensive system design, but also often improved performance in terms of enhanced selectivity and/or yield. This authoritative work encompasses a broad treatment of the field, including the basic principles of membrane reactors, a comparative study of these and other classical reactors, modelling, industrial applications, emerging applications, etc. This is the first point of reference when it comes to applying the membrane reactor concept to research or to production: The novice can grasp the elementary concepts, and the professional can familiarize themselves with the most recent developments in the area. For the industrial practitioner the book covers all important current, and potential future applications.