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ISBN	3-031-37886-5
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (403 pages)
Disciplina	621.199
Soggetti	Production engineering Fluid mechanics Thermodynamics Heat engineering Heat transfer Mass transfer Thermal Process Engineering Engineering Fluid Dynamics Engineering Thermodynamics, Heat and Mass Transfer
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Power Generation -- Binary Fluid Properties and Processes -- Binary Fluid Power -- Binary Fluid Cooling -- Vapour Compression Refrigeration -- Humidification-Dehumidification Desalination -- Binary Fluid Polygeneration -- Heat Pump Polygeneration -- Polygeneration – A Comparative Study.
Sommario/riassunto	This textbook discusses the development and analysis of polygeneration systems to generate electricity, fresh water, hot air, cold air, and hot water from a source of energy. Topics covered in this book are desalination with no pressure or vacuum components; combined use of refrigerator and heat pump with a vapor compression refrigeration (VCR) cycle; binary fluid polygeneration; compact units; and flexible operation. It covers four polygeneration configurations, viz. binary fluid polygeneration with single-stage HDH, binary fluid polygeneration with double-stage HDH, heat pump polygeneration with single-stage HDH, and heat pump polygeneration with double-stage

polygeneration. End-of-chapter problems and solved examples aid in self learning of the students. The textbook is useful for graduate and advanced graduate students studying courses such as polygeneration, sustainable energy, power generation, and alike. This book is also a useful supplementary text for researchers in fluid dynamics, thermal engineering, and allied fields.
