

1. Record Nr.	UNINA9910299619703321
Autore	Kiciski Jan
Titolo	Steam Microturbines in Distributed Cogeneration // by Jan Kiciski, Grzegorz ywica
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-12018-2
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (227 p.)
Disciplina	620 621.042 621.8
Soggetti	Energy harvesting Machinery Vibration Dynamical systems Dynamics Energy Harvesting Machinery and Machine Elements Vibration, Dynamical Systems, Control
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Distributed cogeneration. Civic power engineering. New ideas -- Introduction to microturbines vibration analysis -- Unconventional bearings -- Modelling and analysis of vibrations of microturbines -- Measurements of vibrations of microturbine elements.
Sommario/riassunto	This book presents the most recent trends and concepts in power engineering, especially with regard to prosumer and civic energy generation. In so doing, it draws widely on his experience gained during the development of steam microturbines for use in small combined heat and power stations based on the organic Rankine cycle (CHP-ORC). Major issues concerning the dynamic properties of mechanical systems, in particular rotating systems, are discussed, and the results obtained when using unconventional bearing systems,

presented. Modeling and analysis of radial-flow and axial-flow microturbines are addressed in detail, covering rotor analysis with different bearing systems, simulation modal analysis, and stress analysis. Furthermore, experimental studies of the dynamic properties of microturbine elements are extensively described. Interest in distributed generation and CHP-ORC is growing rapidly, and the potential market for such systems promises to be very large. This book will be of value for engineers and scientists involved in the design, modeling, operation, and diagnostics of various types of turbomachinery, especially steam microturbines.
