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Nota di contenuto	Front Cover; Related titles; Developments in Turbomachinery Flow: Forward Curved Centrifugal Fans; Copyright; Dedication; Contents; List of figures; List of tables; About the authors; Preface; 1 - General introduction of forward-curved squirrel-cage fan; 1.1 Introduction; 1.2 Fan geometry; 1.3 Flow field; 1.4 Fan performance and noise measurements; 1.5 Fluid-flow simulation in centrifugal fans; 1.6 Velocity measurement techniques and their considerations; 1.7 Final remarks; Further reading; 2 - Inlet configuration; 2.1 Why the inlet is important?; 2.2 Bell-mouth inlet; 2.3 Outward inlet 2.4 Final remarks Further reading; 3 - Rotor; 3.1 Half-cone rotors; 3.2 Lean angle in rotor blades; Further reading; 4 - Volute; 4.1 Volute flow; 4.2 Slip factor; 4.3 Volute optimization; 4.4 Volute width; 4.5 Double-outlet volute; 4.6 Final remarks; Further reading; 5 - Noise in forward-curved centrifugal fans; 5.1 Sound parameters; 5.2 Different types of noise; 5.3 Modelling of sound generation in fans; 5.4 Effect of fan components on sound generation; 5.5 Sound generation of double-outlet squirrel-cage fans; 5.6 Final remarks; Further reading 6 - Contribution of jet-wake-volute interactions to flow characteristics and turbulence models 6.1 Role of nonintrusive measurements on examination of complicated turbulent flows; 6.2 Jet-wake interactions with the volute flow; 6.3 Geometrical characteristics of tensorial-flow

quantities; 6.4 Challenges in turbulence modelling; 6.5 Final remarks; References; Index

Sommario/riassunto

Developments in Turbomachinery Flow: Forward Curved Centrifugal Fans explores the forward curved squirrel cage fan as an excellent instrument for fluid mechanics research in turbomachines. The book explores phenomena such as jet/wake interaction, circulation, separation and noise in turbomachines, also addressing the characteristics that are specific to this fan and applications in other centrifugal turbomachines. Chapters begin with a general introduction that includes research techniques and a survey of older research, and then proceed into a detailed description of improvements for d