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Autore	Kraus Allan D.
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Collana	Heat Transfer : A Series of Reference Books and Textbooks
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Nota di contenuto	Front Cover; Dedication; Contents; Preface; 1. The Thermal/Fluid Sciences: Introductory Concepts; 2. Thermodynamics: Preliminary Concepts and Definitions; 3. Energy and the First Law of Thermodynamics; 4. Properties of Pure, Simple Compressible Substances; 5. Control Volume Mass and Energy Analysis; 6. The Second Law of Thermodynamics; 7. Entropy; 8. Gas Power Systems; 9. Vapor Power and Refrigeration Cycles; 10. Mixtures of Gases, Vapors, and Combustion Products; 11. Introduction to Fluid Mechanics; 12. Fluid Statics; 13. Control Volume Analysis-Mass and Energy Conservation 14. Newton's Second Law of Motion15. Dimensional Analysis and Similarity; 16. Viscous Flow; 17. Flow in Pipes and Pipe Networks; 18.

Fluid Machinery; 19. Introduction to Heat Transfer; 20. Steady-State Conduction; 21. Unsteady-State Conduction; 22. Forced Convection-Internal Flow; 23. Forced Convection-External Flow; 24. Free or Natural Convection; 25. Heat Exchangers; 26. Radiation Heat Transfer; Appendix A: Tables and Charts; Appendix B: Summary of Differential Vector Operations in Three Coordinate Systems; References and Additional Readings; Nomenclature

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### Sommario/riassunto

Introduction to Thermal and Fluid Engineering combines coverage of basic thermodynamics, fluid mechanics, and heat transfer for a one- or two-term course for a variety of engineering majors. The book covers fundamental concepts, definitions, and models in the context of engineering examples and case studies. It carefully explains the methods used to evaluate changes in equilibrium, mass, energy, and other measurable properties, most notably temperature. It then also discusses techniques used to assess the effects of those changes on large, multi-component systems in areas ranging from mechanical, civil, and environmental engineering to electrical and computer technologies.

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