



## Thermal Sciences: An Introduction to Thermodynamics, Fluid Mechanics, and Heat Transfer (with CD ROM)

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CL Engineering, 2003. Book Condition: New. Brand New, Unread Copy in Perfect Condition. A+ Customer Service! Summary: Part 1: THERMODYNAMICS. 1. CONCEPTS, DEFINITIONS, AND BASIC PRINCIPLES. Introduction. Thermodynamic Systems and Control Volumes. Macroscopic Description. Properties and State of a System. Equilibrium Processes and Cycles. Units. Density, Specific Volume, Specific Weight. Pressure. Temperature. Energy. 2. PROPERTIES OF PURE SUBSTANCES. Introduction. The p-T-v Surface. The Liquid-Vapor Region. Steam Tables. Equations of State. Equations of State for a Nonideal Gas. Summary. 3. WORK AND HEAT. Introduction. Definition of Work. Quasiequilibrium Work Due to a Moving Boundary. Nonequilibrium Work. Other Work Modes. Heat Transfer. Summary. 4. THE FIRST LAW OF THERMODYNAMICS. Introduction. The First Law of Thermodynamics Applied to a Cycle. The First Law Applied to a Process. Enthalpy. Latent Heat. Specific Heats. The First Law Applied to Various Processes. General Formulation for Control Volumes. Applications of the Energy Equation. Transient Flow. The First Law with Heat Transfer Applications. 5. THE SECOND LAW OF THERMODYNAMICS. Introduction. Heat Engines, Heat Pumps, and Refrigerators. Statements of the Second Law of Thermodynamics. Reversibility. The Carnot Engine. Carnot Efficiency. Entropy. Entropy for Ideal Gas with Constant Specific Heats. Entropy for Ideal Gas with Variable Specific

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