1. Record Nr. UNINA9910458783003321

Autore	Oanhara Singha
Titolo	Applied thermodynamics [[electronic resource] /] / Onkar Singh
Pubbl/distr/stampa	New Delhi, : New Age International (P) Ltd., c2009
ISBN	81-224-2916-5 9786612385711 1-282-38571-2
Edizione	[3rd ed.]
Descrizione fisica	1 online resource (965 p.)
Soggetti	Thermodynamics Combustion Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	""Cover""; ""Preface to the Third Edition""; ""Preface to the First Edition""; ""Contents""; ""Chapter 1. Fundamental Concepts and Definitions""; ""1.1 Introduction and Definition of Thermodynamics""; ""1.2 Dimensions and Units""; ""1.3 Concept of Continuum""; ""1.4 Systems, Surroundings and Universe""; ""1.5 Properties and State""; ""1.6 Thermodynamic Path, Process and Cycle""; ""1.7 Thermodynamic Equilibrium""; ""1.8 Reversibility and Irreversibility""; ""1.9 Quasi-Static Process""; ""1.10 Some Thermodynamic Properties""; ""1.11 Energy and Its Forms""; ""1.12 Heat and Work"" ""1.13 Gas Laws""""1.14 Ideal Gas""; ""1.15 Dalton's Law, Amagat's Law and Property of Mixture of Gases""; ""1.16 Real Gas""; ""1.17 Vander Waals and Other Equations of State for Real Gas""; ""Examples""; ""Exercises""; ""Chapter 2. Zeroth Law of Thermodynamics""; ""2.1 Introduction""; ""2.2 Principle of Temperature Measurement and Zeroth Law of Thermodynamics""; ""2.3 Temperature Scales""; ""2.4 Temperature Measurement""; ""Examples""; ""Exercise""; ""Chapter 3. First Law of Thermodynamics""; ""3.1 Introduction""; ""3.2 Thermodynamic Processes and Calculation of Work"" ""3.3 Non-Flow Work and Flow Work""""3.4 First Law of Thermodynamics""; ""3.5 Internal Energy and Enthalpy""; ""3.6 Specific

Heats and Their Relation with Internal Energy and Enthalpy""; ""3.7 First Law of Thermodynamics Applied to Open Systems""; ""3.8 Steady Flow Systems and Their Analysis""; ""3.9 First Law Applied to Engineering Systems""; ""3.10 Unsteady Flow Systems and Their Analysis""; ""3.11 Limitations of First Law of Thermodynamics""; ""Examples""; ""Exercise""; ""Chapter 4. Second Law of Thermodynamics""; ""4.1 Introduction""; ""4.2 Heat Reservoir""; ""4.3 Heat Engine""
""4.4 Heat Pump and Refrigerator""""4.5 Statements for IInd Law of Law of Thermodynamics""; ""4.6 Equivalence of Kelvin-Planck and Clausius Statements of IInd Law of Thermodynamics""; ""4.7 Reversible and Irreversible Processes""; ""4.8 Carnot Cycle and Carnot Engine""; ""4.9 Carnot Theorem and Its Corollaries""; ""4.10 Thermodynamic Temperature Scale""; ""Examples""; ""Exercise""; ""Chapter 5. Entropy""; ""5.1 Introduction ""; ""5.2 Clausius Inequality""; ""5.3 Entropy-A Property of System""; ""5.4 Principle of Entropy Increase""
""5.5 Entropy Change During Different Thermodynamic Processes""""5.6 Entropy and Its Relevance""; ""5.7 Thermodynamic Property Relationship""; ""5.8 Third Law of Thermodynamics""; ""Examples""; ""Exercise""; ""Chapter 6. Thermodynamic Properties of Pure Susbtance""; ""6.1 Introduction""; ""6.2 Properties and Important Definitions""; ""6.3 Phase Transformation Process""; ""6.4 Graphical Representation of Pressure, Volume and Temperature""; ""6.5 Thermodynamic Relations Involving Entropy""; ""6.6 Properties of Steam""; ""6.7 Steam Tables and Mollier Diagram""
""6.8 Dryness Fraction Measurement""