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Nota di contenuto	Contents; Foreword to the first edition; Preface; Gas Turbine Engine Configurations 1; 1 Gas Turbine Engine Applications; 1.0 Introduction; 1.1 Comparison of gas turbine and diesel engines; 1.2 Power generation applications; 1.3 Industrial mechanical drive applications; 1.4 Automotive applications; 1.5 Marine applications; 1.6 Aircraft applications -propulsion requirements; 1.7 Shaft powered aircraft - turboprops and turboshafts; 1.8 Thrust propelled aircraft -turbofans, turbojets and ramjets; 1.9 Auxiliary power units (APUs); Formulae; Sample calculations; Sample calculations; Charts; Charts ReferencesReferences; 2 The Operational Envelope; 2.0 Introduction; 2.1 The environmental envelope; 2.2 Installation pressure losses; 2.3 The .ight envelope; Formulae; 3 Properties and Charts for Dry Air, Combustion Products and other Working Fluids; 3.0 Introduction; 3.1 Description of fundamental gas properties; 3.2 Description of key thermodynamic parameters; 3.3 Composition of dry air and combustion products; 3.4 The use of CP and gamma,or speci .c enthalpy and entropy, in calculations; 3.5 Data base for fundamental and thermodynamic gas properties

3.6 Charts showing interrelationships of key thermodynamic parameters
Formulae; Sample calculations; Charts; References; 4
Dimensionless, Quasidimensionless, Referred and Scaling Parameter Groups; 4.0 Introduction; 4.1 The importance of parameter groups; 4.2 Tables of parameter groups and description; 4.3 Examples of applications; 4.4 Second-order effects - steady state performance; 4.5 Second-order effects - engine scaling; 4.6 Second-order effects - transient performance; 4.7 Why components and engines adhere to the parameter group relationships; Sample calculations; Charts; References
5 Gas Turbine Engine Components
5.0 Introduction; 5.1 Axial compressors -design point performance and basic sizing; 5.2 Axial flow compressors - off design performance; 5.3 Centrifugal compressors -design point performance and basic sizing; 5.4 Centrifugal compressors - off design performance; 5.5 Fans -design point performance and basic sizing; 5.6 Fans - off design performance; 5.7 Combustors -design point performance and basic sizing; 5.8 Combustors - off design performance; 5.9 Axial flow turbines -design point performance and basic sizing guidelines
5.10 Axial flow turbines - off design performance
5.11 Radial turbines - design; 5.12 Radial turbines - off design performance; 5.13 Ducts - design; 5.14 Ducts - off design performance; 5.15 Air systems, turbine NGV and blade cooling -design point performance; 5.16 Air systems - off design performance; 5.17 Mechanical losses -design point performance and basic sizing; 5.18 Mechanical losses - off design performance; 5.19 Mixers -design point performance and basic sizing; 5.20 Mixers - off design performance; 5.21 Afterburners -design point performance and basic sizing
5.22 Afterburners - off design performance

Sommario/riassunto

A significant addition to the literature on gas turbine technology, the second edition of Gas Turbine Performance is a lengthy text covering product advances and technological developments. Including extensive figures, charts, tables and formulae, this book will interest everyone concerned with gas turbine technology, whether they are designers, marketing staff or users.
