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Nota di contenuto	Front Cover; Dedication; Rules of Thumb for Chemical Engineers; Copyright; Contents; Publisher's Note; Chapter 1 - Fluid Flow; Introduction; Data Required; General Procedure; Recommended Velocity; Equivalent Length; Shortcut Equation for Pressure Drop Due to Friction; Reynolds Number; Friction Factor; Incompressible Flow; Compressible Flow - Isothermal; Compressible Flow - Transmission Equations; Compressible Flow - Adiabatic; Visual Basic Subroutines for Pressure Drop Due to Friction; Orifices; Control Valves; Partially Full Horizontal Pipes; Two-Phase Flow; Nomenclature; References Chapter 2 - Heat ExchangersIntroduction; TEMA; Selection Guides; Design Recommendations; Process Data; Heat Exchanger Configuration and Area; Determining the LMTD Configuration Correction Factor; Tubeside Pressure Drop; Tube Side Film Coefficient; Shell Diameter; Ideal Shell Side Film Coefficient; Shell Side Film Coefficient Correction Factors; Overall Heat Transfer Coefficient; Shell Side Pressure Drop; Heat Transfer Coefficients; Fouling Resistances; Installation Recommendations; Thermal Conductivity of Metals; Vacuum Condensers; Air-cooled Heat Exchangers: Forced vs. Induced Draft Plotting With Murphree Tray EfficiencyTray Efficiency Rules of Thumb; Using the McCabe-Thiele Plot; Column Internals - Trays and Packing; Column Tray Spacing; Tower Diameter - Souders-Brown Correlation; Pressure Drop - Trays; Control Schemes; Reboilers; Packed Columns;

Nomenclature; References; Chapter 4 - Absorbers; Introduction; Hydrocarbon Absorber Design; Inorganic Absorbers; Packing Height for Mass Transfer in Packed Columns; Overall Mass Transfer Coefficient; Nomenclature; References; Chapter 5 - Pumps; Introduction; Pump Types and Selection; Pump Testing; System Curves
Operating Point and Pump SelectionFlow Control with Throttling Valve; Charting Control Characteristics; Flow Control by Changing the Pump Speed; Affinity Laws; Power; Minimum Flow; Temperature Rise; Suction System NPSH Available; Suction System NPSH for Studies; Multiple Centrifugal Pumps in Parallel or in Series; Nomenclature; References; Chapter 6 - Fans, Blowers, and Compressors; Introduction; Rules of Thumb; Fans; Fan Noise; Blower Types; Compressor Types; Surge Control; Performance Calculations; Affinity Laws; Power - Fan; Power - Reciprocating Compressor; Power - Centrifugal Compressor Comparison with Manufacturer's Data

Sommario/riassunto

The most complete guide of its kind, this is the favored handbook for chemical and process engineers who need a reliable and authoritative solution to their practical on the job problems. Includes all new material on new processing sectors, include biopharmaceuticals. The text is comprehensively revised and updated with new data and formulas. Rules of Thumb for Chemical Engineers solves process design problems quickly, accurately and safely, with hundreds of common sense techniques, shortcuts and calculations. Key features; Rules of Thumb for Chemical Engineers brings