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Newtonian fluid flow in pipes; 2.4 Transportation of fluids; 2.4.1 Energy relations, the Bernoulli Equation; 2.4.2 Pumps: Types and operation; 2.4.3 Pump selection; 2.4.4 Ejectors; 2.4.5 Piping; 2.5 Flow of particulate solids (powder flow); 2.5.1 Introduction; 2.5.2 Flow properties of particulate solids; 2.5.3 Fluidization; 2.5.4 Pneumatic transport; Chapter 3 Heat and mass transfer, basic principles; 3.1 Introduction; 3.2 Basic relations in transport phenomena
3.2.1 Basic laws of transport3.2.2 Mechanisms of heat and mass transfer; 3.3 Conductive heat and mass transfer; 3.3.1 The Fourier and Fick laws; 3.3.2 Integration of Fourier's and Fick's laws for steady-state conductive transport; 3.3.3 Thermal conductivity, thermal diffusivity and molecular diffusivity; 3.3.4 Examples of steady-state conductive heat and mass transfer processes; 3.4 Convective heat and mass transfer; 3.4.1 Film (or surface) heat and mass transfer coefficients; 3.4.2 Empirical correlations for convection heat and mass transfer; 3.4.3 Steady-state interphase mass transfer
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3.7.3 Fouling

Sommario/riassunto

The past 30 years have seen the establishment of food engineering both as an academic discipline and as a profession. Combining scientific depth with practical usefulness, this book serves as a tool for graduate students as well as practicing food engineers, technologists and researchers looking for the latest information on transformation and preservation processes as well as process control and plant hygiene topics.*Strong emphasis on the relationship between engineering and product quality/safety*Links theory and practice*Considers topics in light of factors such as cost an