
INTRODUCTION TO FLUID FLOW

This first part of the book provides an introduction to fluid flow. It contains six chapters and each serves a unique purpose in an attempt to treat important introductory aspects of fluid flow. From a practical point-of-view, systems and plants move liquids and gases from one point to another; hence, the student and/or practicing engineer is concerned with several key topics in this area. These receive some measure of treatment in the six chapters contained in this part. A brief discussion of each chapter follows.

Chapter 1 provides an overview of the History of Chemical Engineering—Fluid Flow. Chapter 2 is concerned with Units and Dimensional Analysis. Chapter 3 introduces Key Terms and Definitions. Chapter 4 provides a discussion of Transport Phenomena versus Unit Operations. The final two chapters introduce the reader to Newtonian Fluids (Chapter 5) and Non-Newtonian Flow (Chapter 6). These subjects are important in developing an understanding of the various fluid flow equipment and operations plus their design, which is discussed later in the text.