

FIGURE 2.1  
Definition of a streamtube.

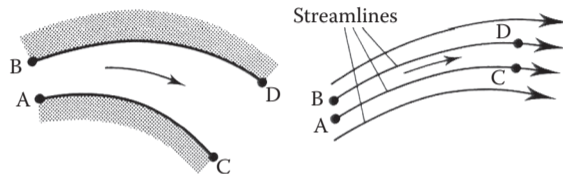


FIGURE 2.2  
Solid-walled channel and streamtube.

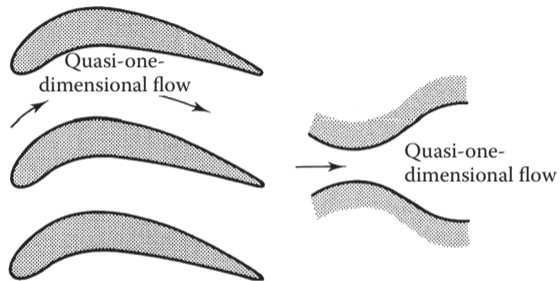


FIGURE 2.3  
Typical duct flows.

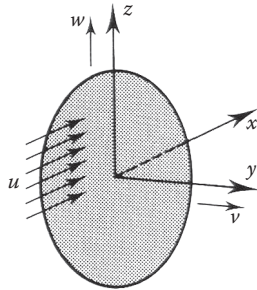


FIGURE 2.4  
One-dimensional flow.

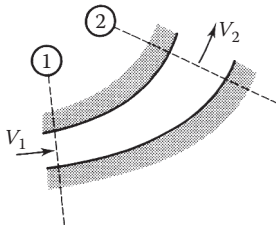


FIGURE 2.5  
Definition of velocity  $V$ .

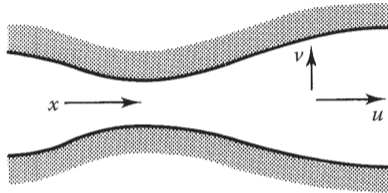


FIGURE 2.6  
Flow situation that can be modeled as one-dimensional flow.

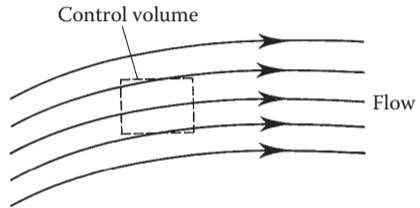


FIGURE 2.7  
Control volume in a general two-dimensional flow.

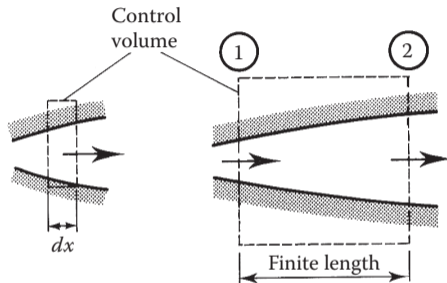


FIGURE 2.8

Types of control volume used in the analysis of one-dimensional duct flows.

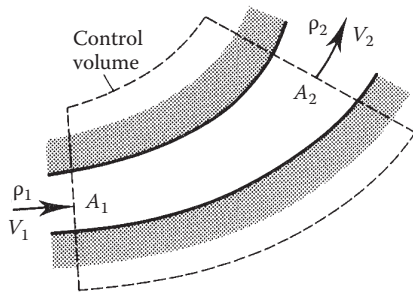


FIGURE 2.9

Control volume used in derivation of continuity equation.

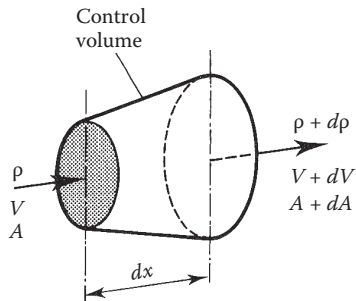


FIGURE 2.10

Differentially short control volume used in derivation of continuity equation.

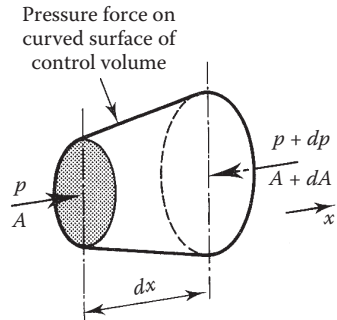


FIGURE 2.11  
Differentially short control volume used in derivation of momentum equation.

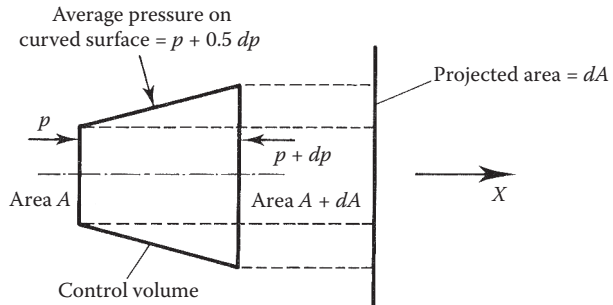


FIGURE 2.12  
Pressure force on curved surface of control volume.

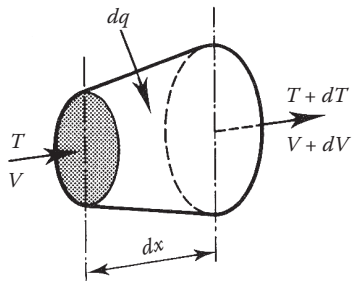


FIGURE 2.13  
Differentially short control volume used in derivation of energy equation.

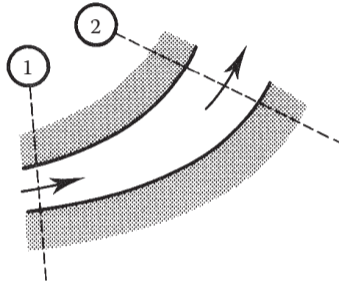


FIGURE 2.14  
One-dimensional flow through a duct.

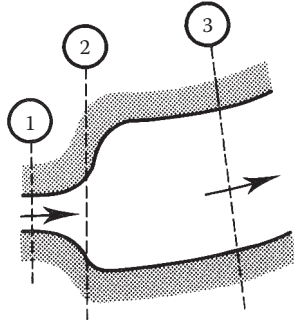


FIGURE 2.15  
Duct in which one-dimensional flow assumptions are not valid throughout the flow.

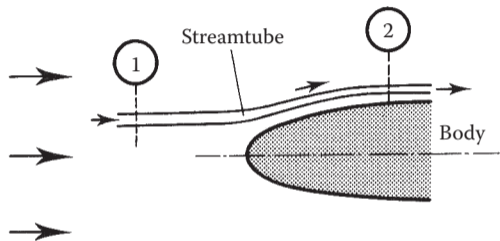


FIGURE 2.16  
One-dimensional flow through a streamtube.