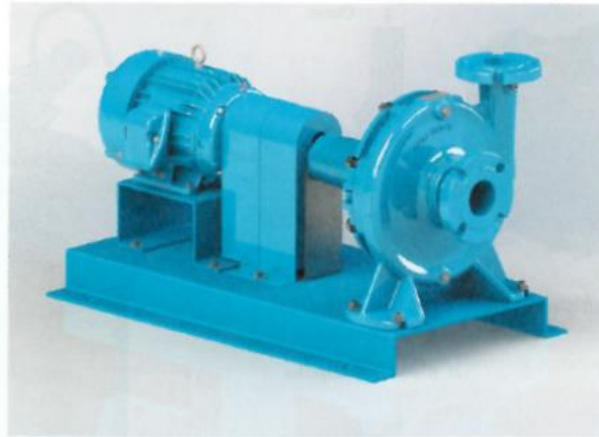
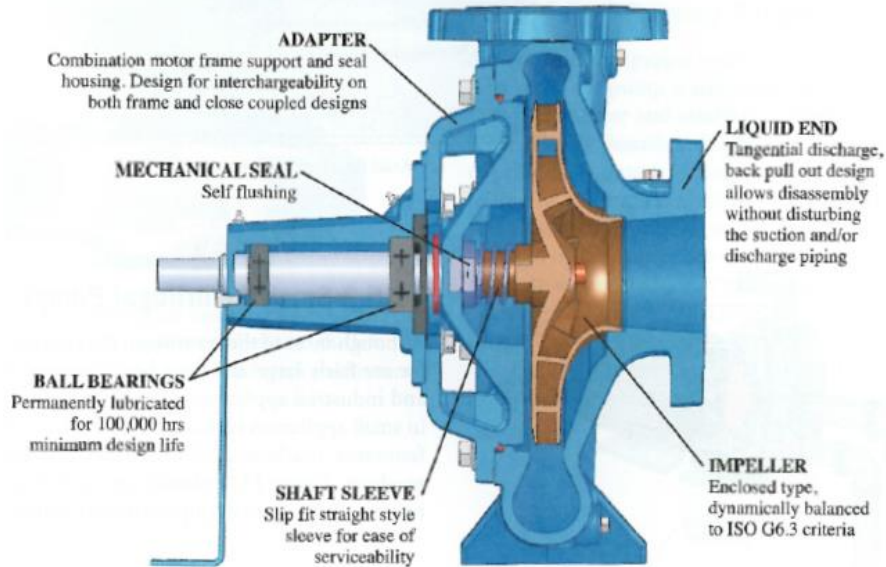


meng 263 – Fluid & Heat Transfer

Pumps 1: Introduction - Centrifugal Pumps and How to Select One (Mott: Chapter 13)



(a) Centrifugal pump with drive motor on a mounting base.



(b) Cutaway view of a centrifugal pump with an enclosed type impeller.



(c) Radial, open-type impeller in the rear part of its pump case. Fluid enters at the center of the impeller (called the eye), is thrown radially outward by the vanes, travels around the volute, and exits through the discharge port at the left. Rotation is counterclockwise. The front part of the case contains the suction port and completes the volute.

FIGURE 13.11 Centrifugal pump and its components. (Source: Crane Pumps and Systems, Inc.)

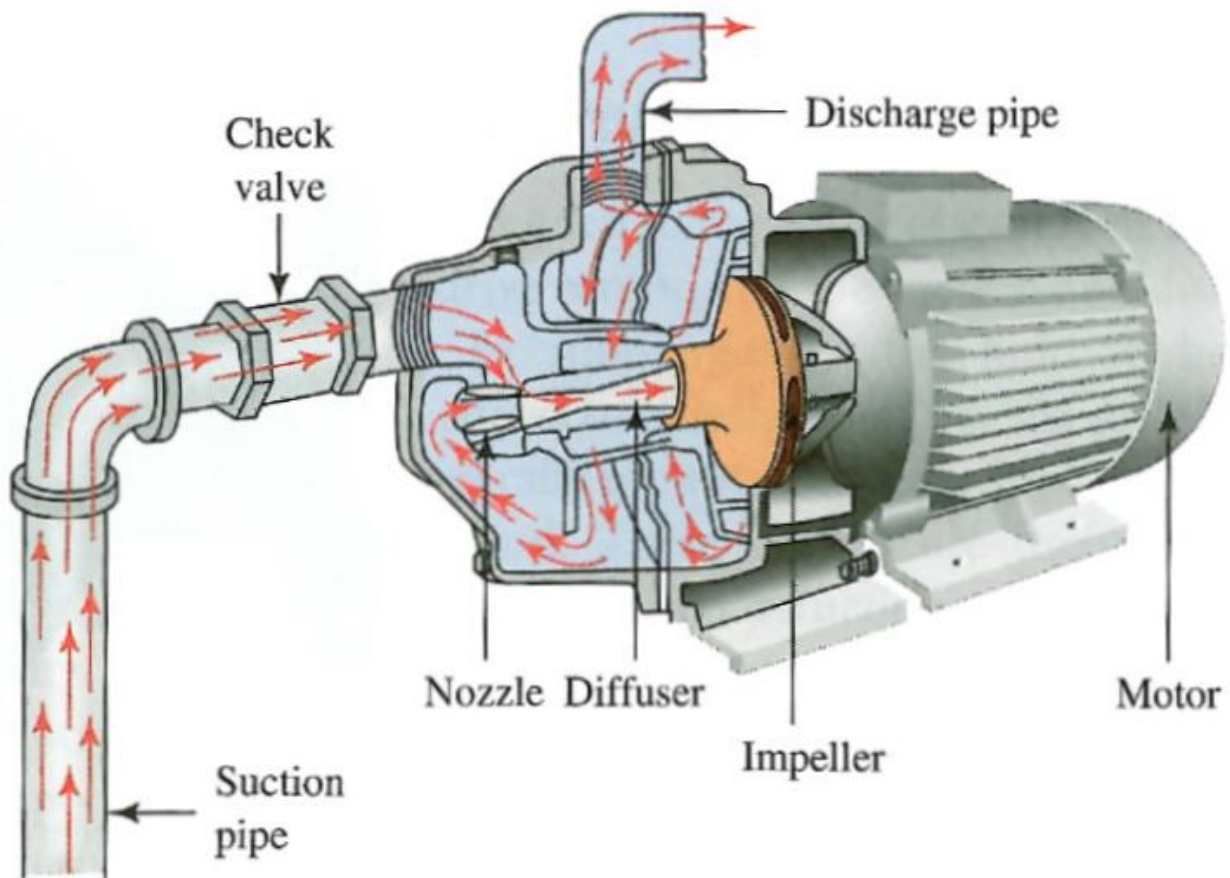


FIGURE 13.14 Shallow-well jet pump.

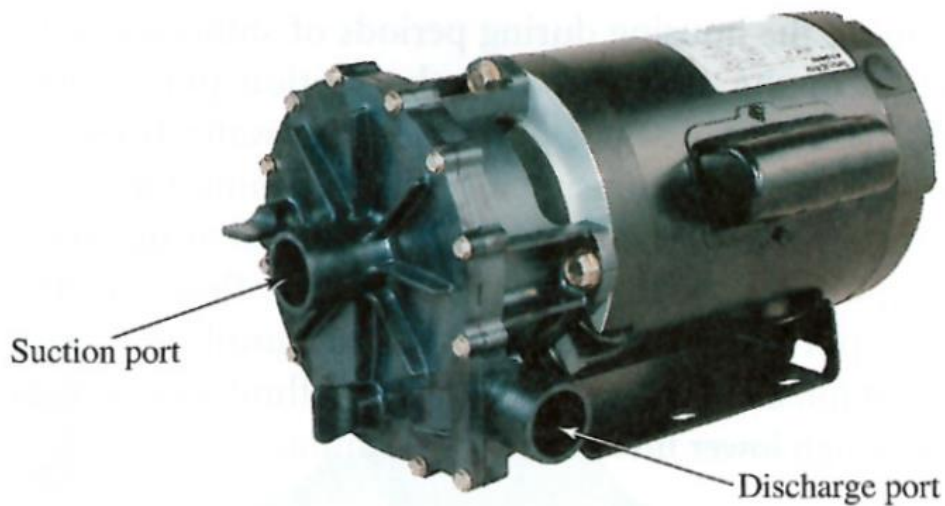


FIGURE 13.16 Small centrifugal pump with integral motor for use in appliances and similar applications.
(Source: Crane Pumps & Systems, Piqua, OH)

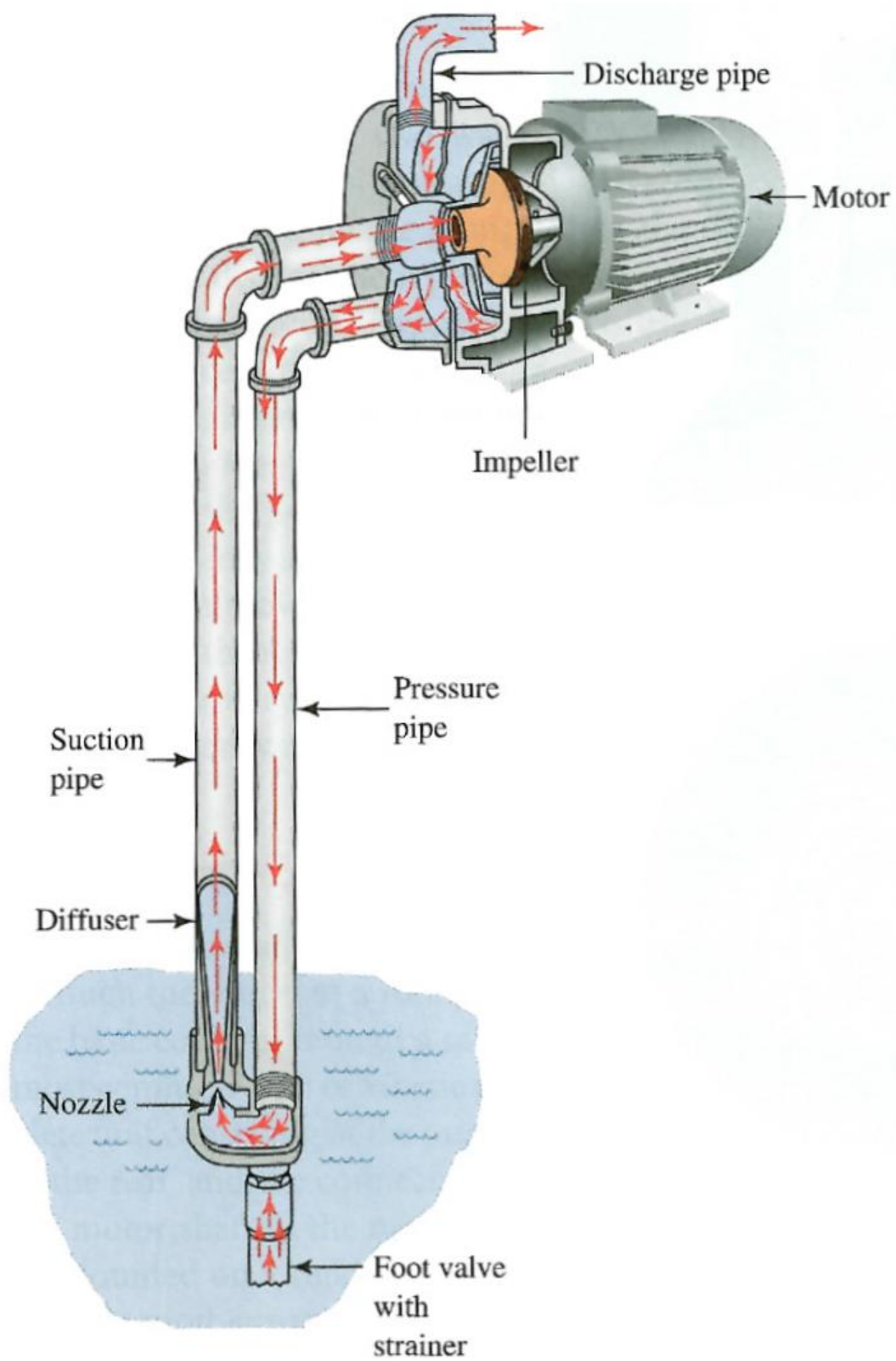
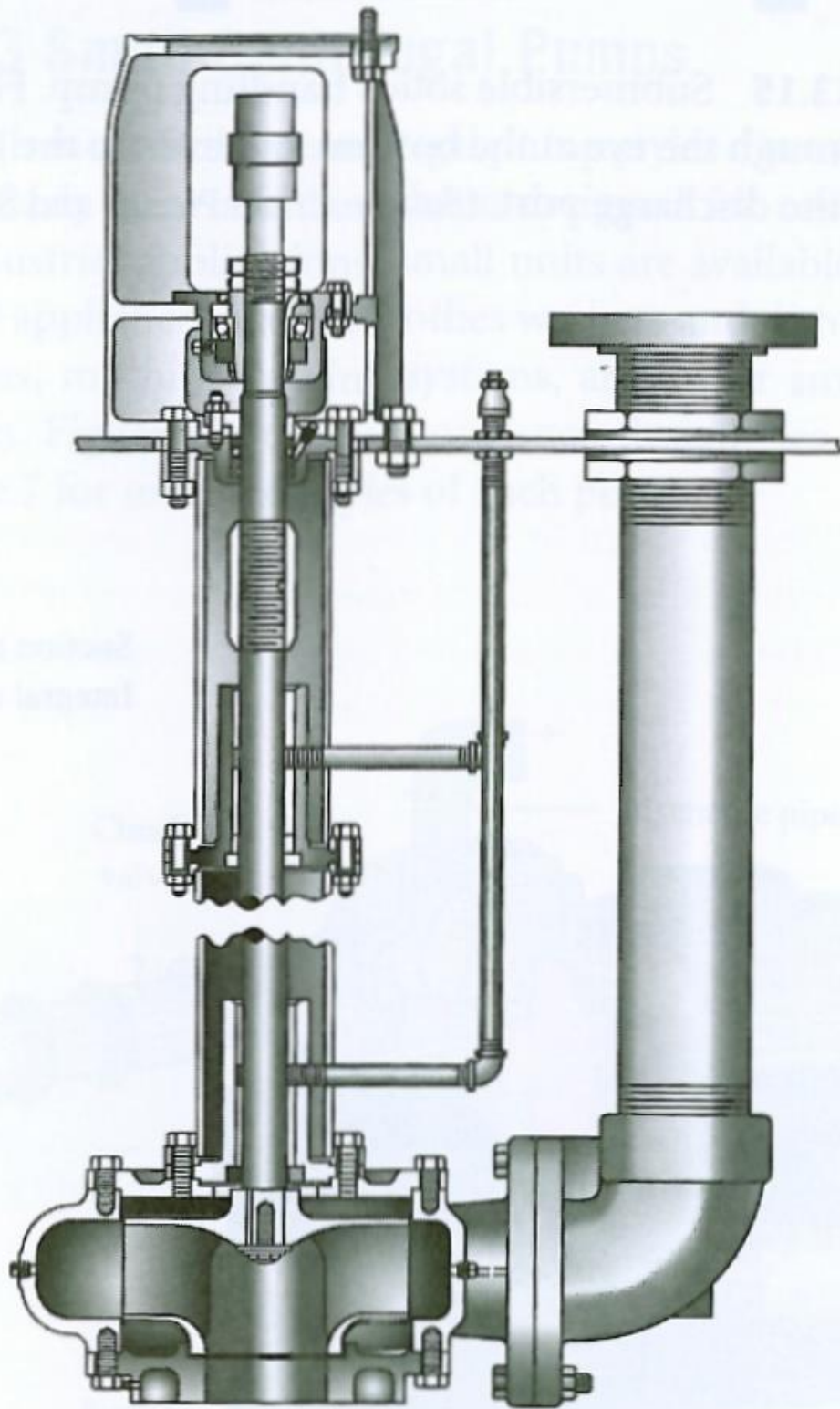


FIGURE 13.13 Deep-well jet pump.



(b) Column pump—section view. Fluid enters the eye of the impeller at the bottom, exits to the right from the case and flows upward through the discharge pipe.

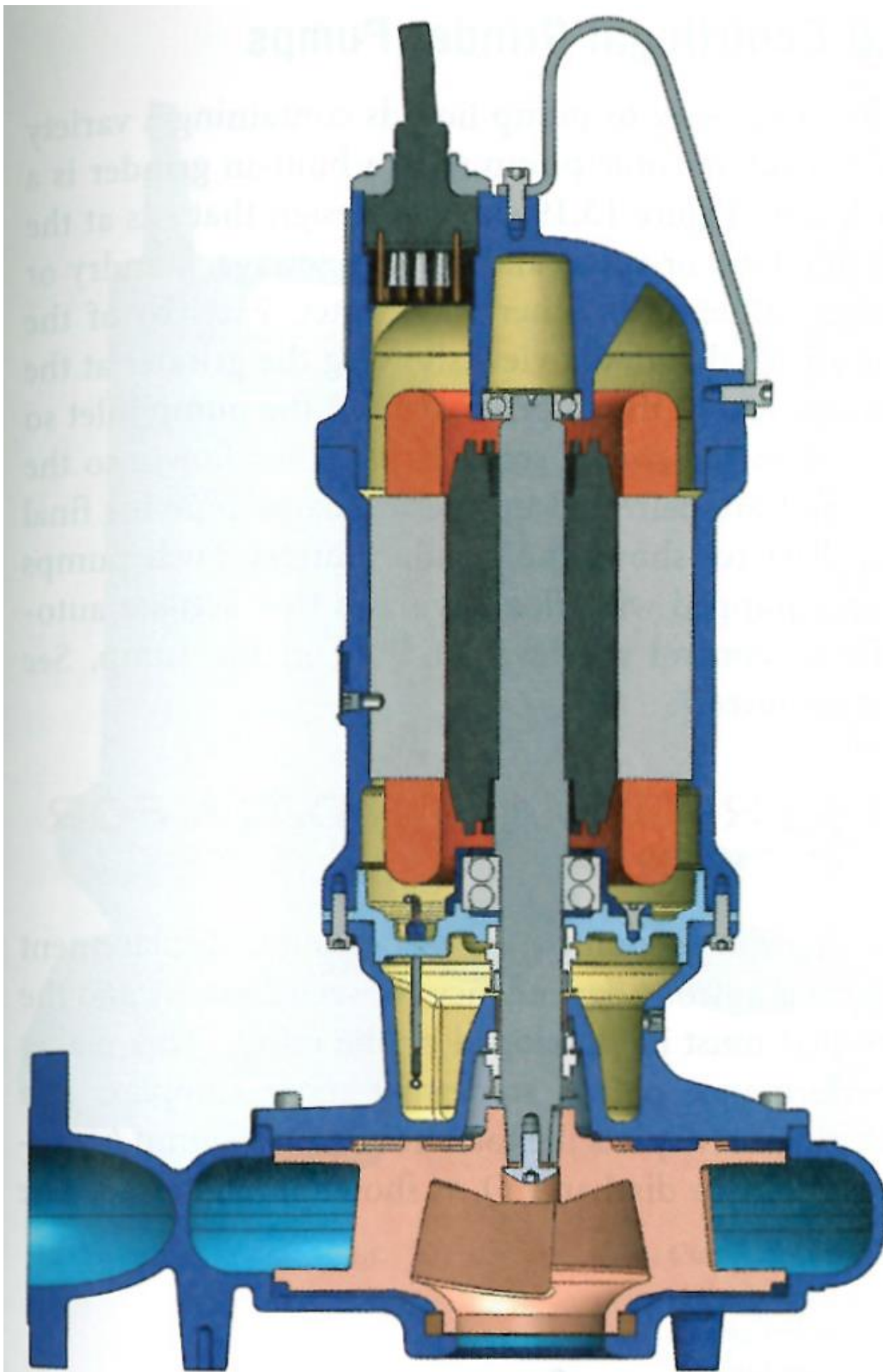
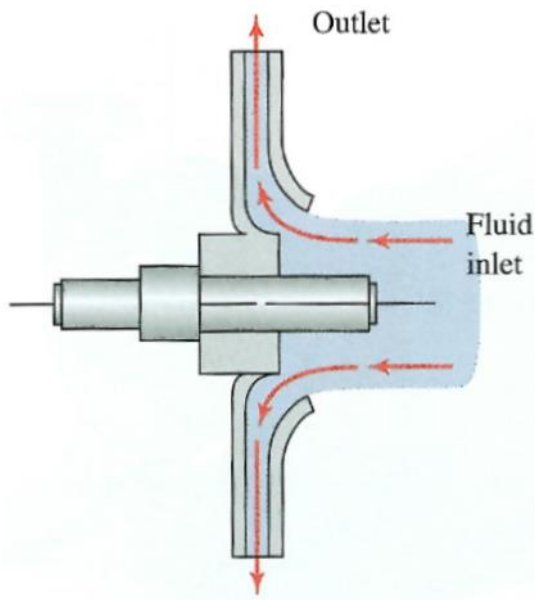
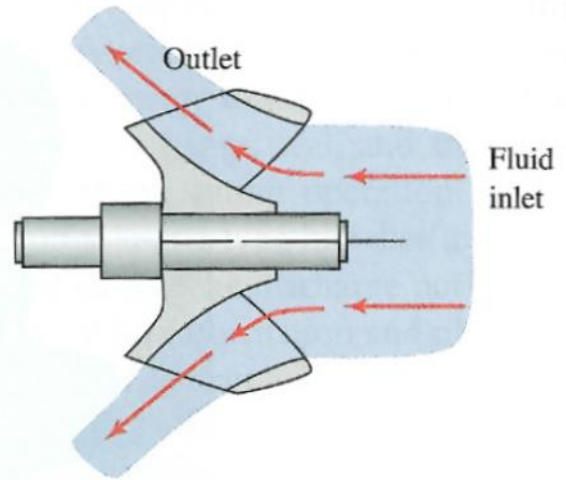


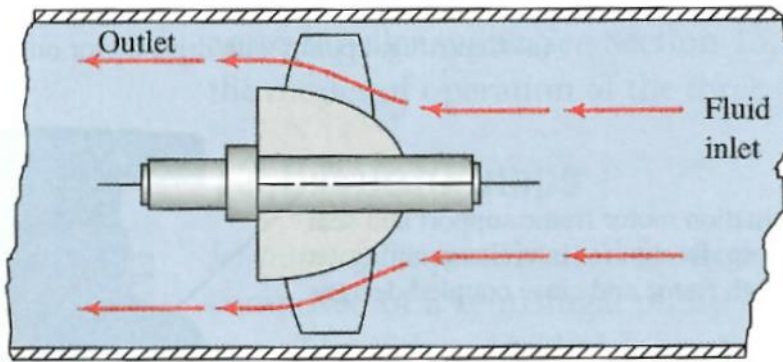
FIGURE 13.15 Submersible solids handling pump. Fluid enters through the eye at the bottom and exits to the left through the discharge port. (Source: Crane Pumps and Systems)



(a) Radial flow impeller



(b) Mixed flow impeller



(c) Axial flow impeller (propeller)

FIGURE 13.12 Three styles of impellers for kinetic pumps.