Figure 5.4. Schematic diagram of thermosyphon loop used in a natural circulation, service water-heating system. The flow pressure drop in the fluid loop must equal the buoyant force "pressure"

\[ \int_{x}^{L} g\rho(x)dx - \rho_{\text{avg}}gL \]

where \( \rho(x) \) is the local collector fluid density and \( \rho_{\text{avg}} \) is the tank fluid density.

FIGURE 5.2
Indirect thermosiphoning system
Figure 5.3. Flooded open-loop system.

Figure 5.6. Typical configurations of solar water-heating systems: (a) open loop system.
Figure 5.6. (Continued) (b) closed loop system; and (c) closed loop drainback system. (Adapted from Goswami, D.Y. *Alternative Energy in Agriculture*, Vol. 1. Boca Raton, FL: CRC Press, (1986).
Drainback system with tank heat exchanger

PV-powered closed-loop antifreeze system