

Problem 2B.8

Analysis of a capillary flowmeter (see Fig. 2B.8).

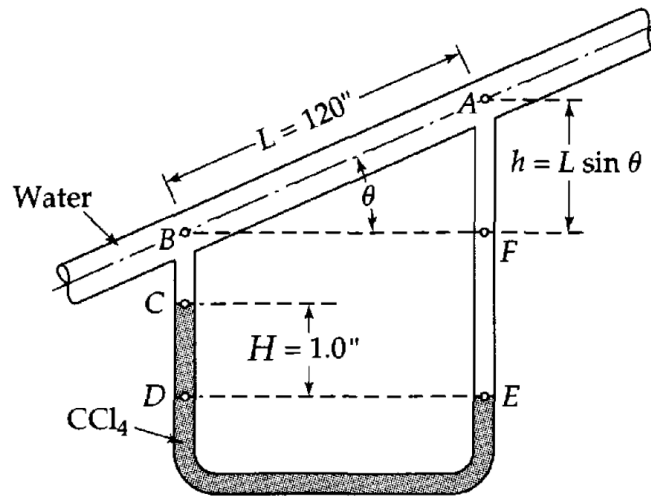


Fig. 2B.8 A capillary flow meter.

Determine the rate of flow (in lb_m/hr) through the capillary flow meter shown in the figure. The fluid flowing in the inclined tube is water at 20°C , and the manometer fluid is carbon tetrachloride (CCl_4) with density $1.594 \text{ g}/\text{cm}^3$. The capillary diameter is 0.010 in . *Note:* Measurements of H and L are sufficient to calculate the flow rate; θ need not be measured. Why?