

$$\frac{w_s}{m} = [1091 - 2227 + 412.5 + 1608] \frac{\text{ft}^2}{\text{sec}^2} \quad (7)$$

$$= 885 \text{ ft}^2/\text{sec}^2$$

$$\dot{m} = \text{mass flow rate} = \rho_1 V_1 A_1 = \left(\frac{62.4 \text{ lbm.}}{\text{ft}^3} \right) \left(20 \frac{\text{ft.}}{\text{sec.}} \right) \left[\frac{\pi (.5 \text{ ft.})^2}{4} \right]$$

$$= 245.04 \text{ lbm./sec.}$$

$$\dot{W}_s = \text{Power} = \dot{m} \left(\frac{w_s}{m} \right) \frac{1}{g_c}$$

$$= \frac{(885 \text{ ft}^2/\text{sec}^2) (245.04 \frac{\text{lbm.}}{\text{sec.}})}{(32.17 \frac{\text{lbm. ft.}}{\text{lb f. sec}^2})} = 6740 \frac{\text{ft. lb f.}}{\text{sec.}}$$