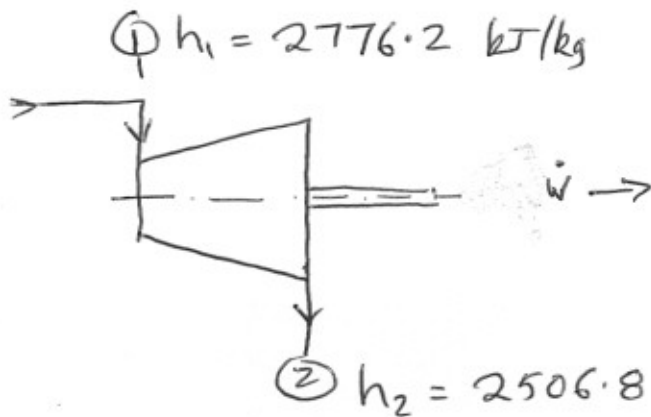


Qu. 5

$$\dot{m} = 3.341 \text{ kg/min}$$



Use SFEE $\dot{Q} + \dot{W} = \dot{m} \Delta \left(\frac{v^2}{2} + gz + h \right)$

↑ zero (adiabatic process)

↑ small ↑ small

$$\therefore \dot{W} = \dot{m} (h_2 - h_1)$$

$$= \frac{3.341}{60} (2506.8 - 2776.2) \text{ kW}$$

$$= \underline{\underline{-15 \text{ kW}}} \text{ (i.e. power out)}$$