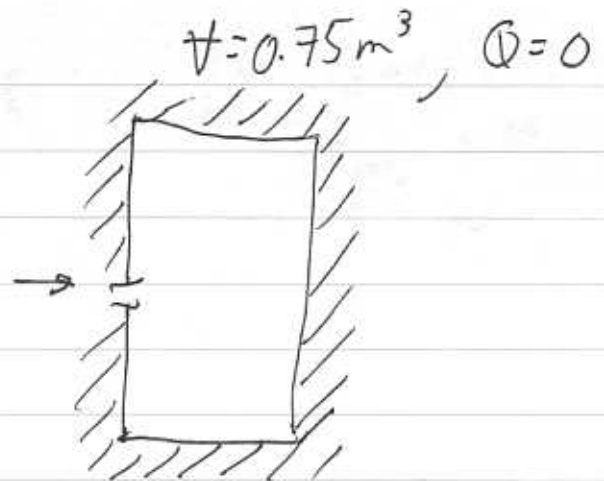


M.S. 4.88

①  
 $P_1 = 0$

②  
 $P_2 = 1 \text{ bar}$   
 $T_2 = ?$

$P_i = 1 \text{ bar}$   
 $T_i = 25^\circ\text{C}$



$$\frac{dE}{dt} = \cancel{\dot{Q}} - \dot{W} + \dot{m}_i \left( h_i + \frac{V_i^2}{2} + g z_i \right) - \dot{m}_e \left( h_e + \frac{V_e^2}{2} + g z_e \right)$$

$$\frac{dU}{dt} = \dot{m}_i h_i$$

$h_i$  is a constant

$$\dot{U}_2 - \dot{U}_1 = h_i \dot{m}_i$$

$$\dot{m}_i u_2 = h_i \dot{m}_i$$

From Table A-22  $h_u = h(25^\circ\text{C}) = h(298\text{K}) = 298 \frac{\text{kJ}}{\text{kg}}$

$$u_2 = 298 \frac{\text{kJ}}{\text{kg}}$$

Again from A-22, this value of  $u$  occurs when  $T_2 = 417\text{K}$