The model shown in Figure P3 represents a steady inviscid process in which steam is condensed in a condenser. It is given that $\rho_1 = \rho_2$ and $\rho_3 = \rho_4$ and $\rho_3/\rho_2 = 5$. Also, $A_1 = A_4$ *and* $A_2 = A_3$.

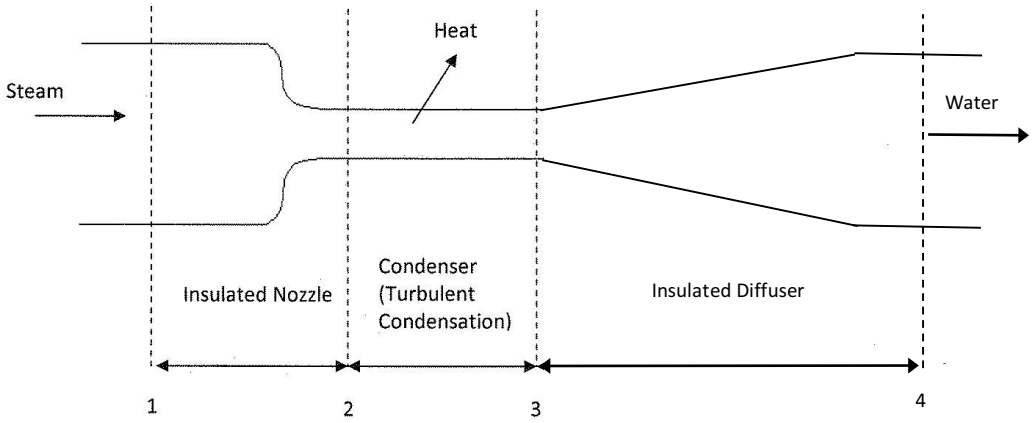

Figure P3. Steam condenser model

Note: A_1 and A_4 are <u>much</u> greater than A_2 and A_3.

a. (25%) Determine $\left[\frac{P_2 - P_1}{\frac{1}{2}\rho_2 V_2^2}\right]$

b. (25%) Determine $\left[\frac{P_3 - P_2}{\frac{1}{2}\rho_2 V_2^2}\right]$

c. (25%) Determine $\left[\frac{P_4 - P_3}{\frac{1}{2}\rho_2 V_2^2}\right]$

d. (25%) Determine $\left[\frac{P_4 - P_1}{\frac{1}{2}\rho_2 V_2^2}\right]$