DATA ANALYSIS — Seperating Calorimeter

$$\dot{m} = \frac{\text{Average volume} \times \text{density}}{\text{average time}}$$

$$V_1 = \frac{44 + 61 + 37 + 47}{4} = 47.25$$

$$V_2 = \frac{290 + 300 + 300 + 300}{4} = 297.5$$

Time = 120 s

$$\dot{m}_{1\,av} = \frac{(24.167 + 25 + 25) \times 10^{-4}}{3} = 24.722 \times 10^{-4} \text{ kg/s}$$

$$\dot{m}_{2\,av} = \frac{(3.667 + 3.083 + 3.917) \times 10^{-4}}{3} = 3.556 \times 10^{-4} \text{ kg/s}$$

$$x = \frac{\dot{m}_1}{\dot{m}_1 + \dot{m}_2} = \frac{24.722 \times 10^{-4}}{(3.556 \times 10^{-4} + 24.722 \times 10^{-4})} = 0.874$$

$$x = 0.87$$

Specific enthalpy before throtling = Specific enthalpy after throtling

$$h_1 = h_2 = h_f + x h_{fg}$$

For Steam at Pressure 7.3 bar = 0.73 MN/m²

temperature $T = 95^\circ C$