

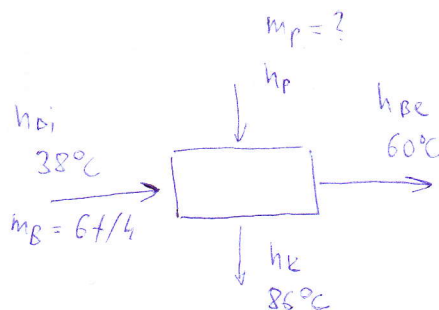
8-2

$G+h$ 60°C
 38°C

$$\dot{m}_p = ?$$

$$P = 150 \text{ kPa}$$

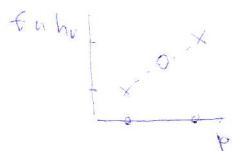
$$t_c = 86^\circ\text{C}$$



$$h_{Bi} = 159.14 \text{ kJ/kg}$$

$$h_{Be} = 251.15 \text{ kJ/kg}$$

$$h_p = 2693.36$$



$$111 \quad 148.12 \quad 2692.8 \quad 465.57$$

$$112 \quad 153.13 \quad 2694.3 \quad 469.81$$

$$t = 111 + \frac{112 - 111}{153.13 - 148.12} \cdot (150 - 148.12) = 111.37^\circ\text{C}$$

$$h_v = 2692.8 + \frac{2694.3 - 2692.8}{153.13 - 148.12} \cdot (150 - 148.12) = 2693.36 \text{ kJ/kg}$$

$$h_k = 465.57 + \frac{469.81 - 465.57}{153.13 - 148.12} \cdot (150 - 148.12) = 467.16 \text{ kJ/kg}$$

$$h_k(86^\circ\text{C}) = 360.12 \text{ kJ/kg}$$

Entalpijská bilance: $\dot{m}_B h_{Bi} + \dot{m}_p h_p = \dot{m}_B h_{Be} + \dot{m}_p h_k$

$$\dot{m}_p = \dot{m}_B \frac{h_{Be} - h_{Bi}}{h_p - h_k}$$

ad a) kondenzát je podchlazen na 86°C

$$h_k = 360.12 \text{ kJ/kg} \quad \dot{m}_p = 6000 \frac{251.15 - 159.14}{2693.36 - 360.12} = 236.61 \text{ kg/h}$$

ad b) Zanedbatelne podchlazení, kondenzát je nas. kapalina

$$h'_k = 467.16 \quad \dot{m}_p = 6000 \frac{251.15 - 159.14}{2693.36 - 467.16} = 247.98 \text{ kg/h}$$

Teplota předané celkem: $\dot{Q}_c = \dot{m}_p (h_p - h_k) =$ kJ

Teplota předané podchlazením $\dot{Q}_{podchl} = \dot{m}_p (h'_k - h_k) =$ kJ