



Alle givne og diagramafleste værdier fremgår af ovenstående

$$\Gamma_{p_{f,A}} = h_7 - h_5 = 386 - 173 = 213 \frac{\text{kJ}}{\text{kg}}, \quad X_6 = 0,45$$

$$h_6 = h_5 + X_6 \cdot \Gamma_{p_{f,A}} = 173 + 0,45 \cdot 213 = 269 \frac{\text{kJ}}{\text{kg}}$$

$$1 \quad \dot{m}_{R,A} = \frac{\dot{Q}_A}{h_6 - h_5} = \frac{80}{269 - 173} = 0,833 \frac{\text{kg}}{\text{s}} = 50 \frac{\text{kg}}{\text{min}} = 3000 \frac{\text{kg}}{\text{h}}$$

$$2 \quad \dot{m}_{R,B} = \frac{\dot{Q}_B}{h_8 - h_3} = \frac{60}{402 - 220} = 0,33 \frac{\text{kg}}{\text{s}} = 19,8 \frac{\text{kg}}{\text{min}} = 1190 \frac{\text{kg}}{\text{h}}$$

$$\dot{m}_{R,Y} = \frac{\dot{Q}_A}{h_7 - h_4} = \frac{80}{386 - 220} = 0,482 \frac{\text{kg}}{\text{s}} = 28,9 \frac{\text{kg}}{\text{min}} = 1435 \frac{\text{kg}}{\text{h}}$$

$$h_{10} = \frac{\dot{m}_{R,Y} \cdot h_7 + \dot{m}_{R,B} \cdot h_8}{\dot{m}_{R,10}} = \frac{1435 \cdot 386 + 1190 \cdot 402}{1435 + 1190} = 393 \frac{\text{kJ}}{\text{kg}}$$

$$\Delta h_i = \frac{\Delta h_{is}}{\eta_{is}} = \frac{425 - 393}{0,83} = 38,6 \frac{\text{kJ}}{\text{kg}} \quad (\Rightarrow h_{11} \approx 432 \frac{\text{kJ}}{\text{kg}})$$

$$P_i = \dot{m}_{R,10} \cdot \Delta h_i = (0,321 + 0,482) \cdot 38,6 = 31 \text{ kW}$$

$$P_{\text{tilf., kompr.}} = \frac{P_i}{\eta_m} = \frac{31}{0,91} = 34 \text{ kW} \quad (\Rightarrow \text{COP}_k \approx 4,1)$$

Hvorfor er COP så god? (svar: p.g.a. vandkølet kond. !!)