

$$h_1 = 989,6 \text{ kJ/kg}$$

$$\dot{m}_1 = 1 \text{ kg/s (ipotesi)}$$

$$h_{2l} = 639,9 \text{ kJ/kg}$$

$$h_{2v} = 2766,8 \text{ kJ/kg}$$

$$S_{2l} = 1,8596 \text{ kJ/kgK}$$

$$S_{3s} = S_{2v}$$

$$x = \frac{h_2 - h_{2l}}{h_{2v} - h_{2l}} = \frac{989,6 - 639,9}{2766,8 - 639,9} = 0,166$$

$$\dot{m}_{2v} = 0,166 \text{ kg/s}$$

$$\dot{m}_{2l} = 1 - 0,166 = 0,834 \text{ kg/s}$$

$$\eta_T = 0,86 = \frac{h_{2v} - h_3}{h_{2v} - h_{3s}}$$



$$S_{3s} = 6,8161$$

$$S_{3l} = 9,6689$$

$$S_{3v} = 8,1680$$

$$h_{3l} = 191,71$$

$$h_{3v} = 2583,9$$

$$\frac{S_{3v} - S_{3l}}{S_{3s} - S_{3l}} = \frac{h_{3v} - h_{3l}}{h_{3s} - h_{3l}}$$

$$h_{3s} = (h_{3v} - h_{3e}) \frac{S_{3v} - S_{3e}}{S_{3v} - S_{3l}} + h_{3e} = 2159$$

$$h_{2v} - h_3 = \eta (h_{2v} - h_{3s})$$

$$h_3 = h_{2v} - \eta (h_{2v} - h_{3s}) = 2253 \text{ kJ/kg}$$

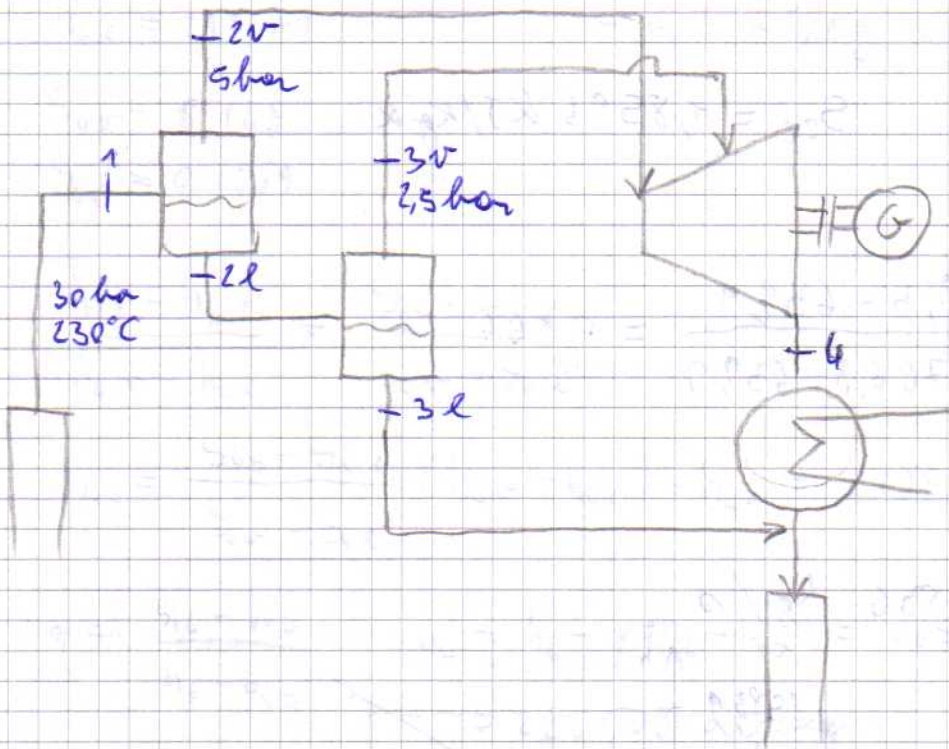
$$l_T = h_{2v} - h_3 = 2746,8 - 2253 = 493,8 \text{ kJ/kg}$$

$$C_{SPVAP} = \frac{1 \text{ kg}}{493,8 \text{ kJ}} \cdot \frac{3600 \text{ s}}{\text{h}} = 7,3 \frac{\text{kg}}{\text{kWh}_{\text{mecc}}}$$

$\Rightarrow \frac{1}{m_0}$

$$7,92 \frac{\text{kg}}{\text{kWh}_{\text{mecc}}}$$

$$C_{SPACA} = \frac{C_{SPVAP}}{x} = \frac{7,92}{0,166} = 47,74 \frac{\text{kg}}{\text{kWh}}$$



$$\dot{m}_{2v} = 0,166 \text{ kg/s}$$

$$\dot{m}_{3v} = 0,060032 \text{ kg/s}$$

$$\dot{m}_{2v} x_3 + \dot{m}_{3v} \cdot 1 = \underbrace{(\dot{m}_{2v} + \dot{m}_{3v})}_{\dot{m}_4} x_6$$

$$x_6 = \frac{0,166 \cdot 0,9667 + 0,060032}{0,206032} = 0,97317$$

$$\frac{h_6 - h_{3e}}{h_{3v} - h_{3e}} = x_6$$

$$h_6 = x_6 (h_{3v} - h_{3e}) + h_{3e} = 2656,3 \text{ kJ/kg}$$

$$h_{4v} = 2583,9$$

$$h_{4e} = 191,71$$

$$S_{4v} = 8,168$$

$$S_{4e} = 0,6689$$

$$S_6 = x_6 (S_{3v} - S_{3e}) + S_{3e} = 6,9 \text{ kJ/kg K} = S_{6s}$$

$$\frac{h_{6s} - h_{4e}}{h_{4v} - h_{4e}} = \frac{S_{6s} - S_{4e}}{S_{4v} - S_{4e}}$$

$$h_{6s} = \frac{S_{6s} - S_{4e}}{S_{4v} - S_{4e}} (h_{4v} - h_{4e}) + h_{4e} = 2185,8 \text{ kJ/kg}$$

$$\eta = \frac{h_6 - h_4}{h_6 - h_{6s}} \quad h_4 = h_6 - \eta (h_6 - h_{6s}) = 2656,3 - 0,86 (2656,3 - 2185,8) = 2261,08 \text{ kJ/kg}$$

$$l_T = h_{2v} - h_3 + h_6 - h_4 = 2746,8 - 2542,304 + 2656,3 - 2261,08 = 699,716$$

$$l_e = \eta_0 l_T$$

$$\dot{m}_{\text{VAP}} = 0,166 + 0,060032 = 0,206032$$

$$C_{\text{SPVAP}} = \frac{1}{699} \frac{3600}{\eta_0} = 7,83 \text{ kg/kWh}$$

$$\eta_0 = 0,92$$

$$\frac{C_{\text{SPVAP}}}{\dot{m}_{\text{VAP}}} = \frac{C_{\text{SPACA}}}{1} = \frac{7,83}{0,206032} = 38 \text{ kg/kWh}$$