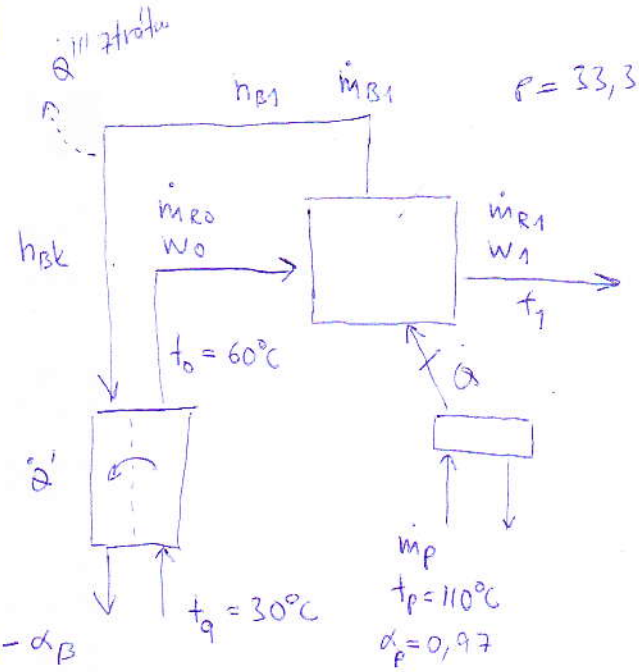
11-3



$t_1 = 92°C$

$c_{P1} = 2,554$ kJ/kgK

$c_{P0} = 3,559$ kJ/kgK

$\Delta h_{ROZP} = 0$

$\dot{m}_P = ?$

$\dot{m}_{RO} = 2000$ kg/h

$w_0 = 0,13$ $\quad w_1 = 0,8$

$\dot{m}_{RO} = \dot{m}_{B1} + \dot{m}_{R1}$ $\quad \rightarrow \dot{m}_{B1} = 1675$ kg/h

$\dot{m}_{RO} w_0 = \dot{m}_{R1} w_1 \rightarrow 2000 \cdot 0,13 = \dot{m}_{R1} 0,8 \rightarrow \dot{m}_{R1} = 325$ kg/h

$\dot{m}_{RO} h_{RO} + \dot{Q} = \dot{m}_{R1} h_{R1} + \dot{m}_{B1} h_{B1}$

$h_{RO} = 3,559 \cdot (60-0) = 213,54$ kJ/kg

$h_{R1} = 2,554 \cdot (92-0) = 234,97$ kJ/kg

$h_{B1} = 2662,9$ kJ/kg (tabulky - pára 92°C)

$\dot{Q} = 325 \cdot 234,97 + 1675 \cdot 2662,9 - 2000 \cdot 213,54 = 4109643$ kJ/hod

Spotřeba páry

$\dot{m}_P = \frac{1}{0,97} \cdot \frac{\dot{Q}}{\Delta h_{VYP}(110)} = \frac{4109643}{2229,9 \cdot 0,97} = 1900$ kg/hod

---

$\dot{Q}' = \dot{m}_{RO} \cdot c_{P0} \cdot (t_0 - t_q) = 2000 \cdot 3,559 \cdot (60-30) = 213540$ kJ/hod

$\dot{Q}' = \alpha_B \cdot \dot{m}_{B1} \cdot \Delta h_{VYP}$ (?)

$\alpha_B = \frac{213540 \text{ kJ/hod}}{1675 \text{ kg/hod} \cdot 2277,5 \text{ kJ/kg}} = 5,60\%$ (1 at 92°C)

PODLE SKRIPT:
býdová pára & Nasycená pára
$p = 33,3$ kPa $\rightarrow$ 71-72°C
$h(71-72) = 2330,6$ kJ/kg

$\alpha_B = \frac{213540}{1675 \cdot 2330,6} = 5,47\%$

$\dot{Q}''_{ZTRATA} = 58793$ kJ/hod