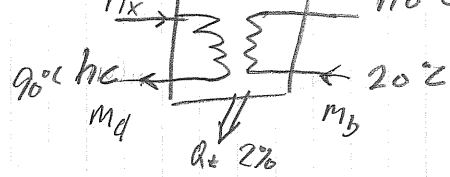


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$$\rho_{20} = \frac{\rho_{15}}{1 + (t-15) \cdot \alpha}$$



$$\rho_{20} = \frac{980}{1 + (10-15) \cdot 0,00075} = 914,8 \text{ kg/m}^3$$

$$m_b = V_b \cdot \rho_{20} = 6400 \cdot 10^{-3} \cdot 914,8 = 5855 \text{ kg/h}$$

$$Q_b = m_b \cdot c_b \cdot \Delta t = 5855 \cdot 2,1 \cdot (10-20) = 1,107 \cdot 10^6 \text{ kJ}$$

$$Q_d = Q_b \cdot \frac{1}{\eta_r} = 1,107 \cdot 10^6 \cdot \frac{1}{0,98} = 1,13 \cdot 10^6 \text{ kJ}$$

$$Q_d = m_d \cdot (h_x - h_c) \Rightarrow h_x = \frac{1,13 \cdot 10^6}{530} + (90 \cdot 419) = 2508 \text{ kJ/h}$$

$$2,5 \text{ bara}) \quad h_x = h' + r \cdot x \Rightarrow x = \frac{2508 - 535,3}{2181} = \underline{\underline{0,904}}$$

$$3,5 \text{ bara}) \quad x_{3,5} = \frac{2508 - 584,3}{2147,4} = \underline{\underline{0,896}}$$