

U15-1

$$I = ? \quad t = 60^\circ\text{C}$$

$$U_A = ? \quad p = 40\%$$

z diagramm

$$I = 200 \text{ kJ/kg}$$

$$u_A = 0,055$$

$$U_A = \frac{m_A p_A}{m_B(p - p_A)} = \frac{m_A}{m_B}$$

$$p = 99,3 \text{ kPa}$$

$$\frac{p_A}{p_A^0} = \varphi_1$$

tabulky

$$p_A^0(60^\circ\text{C}) = 19,932 \text{ kPa}$$

X Antoine rovnice

$$A = 16,2886$$

$$B = 3816,44$$

$$C = -46,13$$

$$\ln p^0 = A - \frac{B}{T+C}$$

$$T = 273,15 + 60$$

$$\ln p^0 = 2,9933$$

$$p^0 = 19,952 \text{ kPa}$$

$$p_A = p_A^0 \cdot \varphi = 19,952 \cdot 0,4 = 7,9808 \text{ kPa}$$

$$U_A = p_A / (p - p_A) = \frac{m_A}{m_B} = \frac{7,9808}{99,3 - 7,9808}$$

~~$$U_A = \frac{7,9808}{99,3 - 7,9808} \cdot \frac{18}{28} = 0,05518$$~~

$$U_A = \frac{7,9808}{99,3 - 7,9808} \cdot \frac{18}{28} = 0,05618$$

$$U_A' = \frac{7,9808}{101,325 - 7,9808} \cdot \frac{18}{28} = 0,05595$$

$$I = 2,5 \cdot 10^3 U_A + (1,99 U_A + 1,01) \cdot t \quad [I] = \text{kJ/kg-B} \quad [t] = ^\circ\text{C}$$

$$I = 267,48 \text{ kJ/kg-Heuch}$$

$$I' = 209,30 \text{ kJ/kg}$$