

Respostas dos Exercícios da 1a Lista

Ex. 1: $v_1=v_2=81,1 \cdot 10^{-3} \text{ m}^3/\text{kg}$; $v_3=1,156 \cdot 10^{-3} \text{ m}^3/\text{kg}$

Ex. 2: $T_2=600 \text{ K}$; $v_3=1,756 \text{ m}^3/\text{kg}$ ($T_{r1}=2,26$ e $p_{r1}=0,0265$)

Ex. 3: $V_l=0,000509 \text{ m}^3$; $V_s=0,000509 \text{ m}^3$; $V_v=5,088 \text{ m}^3$;
 $m_l=0,509 \text{ kg}$; $m_s=0,467 \text{ kg}$; $m_v=0,025 \text{ kg}$

Ex. 4: $V_B=0,0416 \text{ m}^3$

Ex. 5: $W=40 \text{ kJ}$

Ex. 6: $p_f=0,2538 \text{ MPa}$; $V_f=0,0098 \text{ m}^3$; $W=1718 \text{ J}$

Ex. 7: $W = 93,87 \text{ kJ}$

Ex. 8: $Q=129,06 \text{ kJ}$

Ex. 9: $Q = 646,23 \text{ kJ}$

Ex. 10: $T_2=179,8 \text{ }^\circ\text{C}$; $W=-147,3 \text{ kJ}$; $T_3=171,8 \text{ }^\circ\text{C}$; $p_3=6,71 \text{ bar}$

Ex. 11: $V = 41,3 \text{ m/s}$

Ex. 12: $W_{cp} = -50,4 \text{ kW}$; $m_{h_2o} = 0,403 \text{ kg/s}$

Ex. 13: $D = 0,284 \text{ m}$; $W_{tv} = 11371 \text{ kW}$

Ex. 14: $m = 0,056 \text{ kg}$

Ex 15: $Q_{vc} = -50 \text{ kJ}$

Ex 16: $m_l = 394 \text{ kg/h}$; $m_v = 88 \text{ kg/h}$

Ex. 17: $W = 11380 \text{ kJ}$; $T_2 = 336 \text{ K}$