

$$t_1 = 21 \text{ }^\circ\text{C}$$

$$T_1 = 273 + 21 \text{ }^\circ\text{C} = 294\text{K}$$

$$t_2 = 55 \text{ }^\circ\text{C}$$

$$T_2 = 273 + 55 \text{ }^\circ\text{C} = 328\text{K}$$

$$p_1 = 100 \text{ kPa}$$

$$p_2 = 88,5 \text{ kPa}$$

$$V_1 = 125 \text{ kL} = 125 \text{ m}^3$$

$$V_2 = ?$$

$$p_1 * V_1 = n * R * T_1$$

$$p_2 * V_2 = n * R * T_2$$

$$\frac{p_1 * V_1}{p_2 * V_2} = \frac{n * R * T_1}{n * R * T_2}$$

$$\frac{p_1 * V_1}{p_2 * V_2} = \frac{T_1}{T_2}$$

$$\frac{100 \text{ kPa} * 125 \text{ m}^3}{88,5 \text{ kPa} * V_2} = \frac{294\text{K}}{328\text{K}}$$

$$V_2 = 100 \text{ kPa} * 125 \text{ m}^3 * 328\text{K} / (294\text{K} * 88,5 \text{ kPa}) = 157,58 \text{ m}^3$$

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