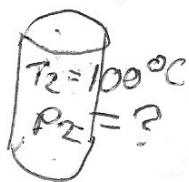
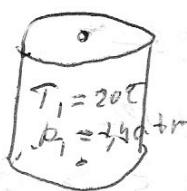


F-AFA 30 4.8



$$\Delta P = P_2 - P_1 = \underline{\underline{0,38}}$$

Start

$$T_1 = 20^\circ\text{C}$$

$$P_1 = 1,4 \text{ atm}$$

Start

$$T_2 = 100^\circ\text{C}$$

$$P_2 = ?$$

$$PV = nRT \Leftrightarrow \frac{P}{T} = \frac{nR}{V} = k$$

$$\frac{P_1}{T_1} = \frac{P_2}{T_2} \Leftrightarrow P_2 = \frac{P_1 T_2}{T_1}$$

$$\Delta P = \frac{P_1 T_2}{T_1} - P_1 = \frac{P_1 T_2 - P_1 T_1}{T_1} = \frac{P_1 (T_2 - T_1)}{T_1}$$
$$\frac{1,4 \text{ atm} (80) \text{ K}}{293 \text{ K}} = 0,38 \text{ atm}$$

11.20

Dr. M. A. M.

$$\kappa_{\text{D}} = 11$$

$$T_1 = 30^\circ\text{C}$$

$$\varphi_{\text{F}_1} = 59\%$$

Morgan

$$T_2 = 20^\circ\text{C}$$

$$\varphi_{\text{F}_2} = ? > 100\%$$

Aktion

Transpiration

$$\varphi_{\text{F}_2} > 100\% ?$$

$$R_{\text{LF}} = \frac{P_{\text{Pratten}}}{P_{\text{matthrad}}} \quad \Leftrightarrow \quad P_{\text{Pratten}} = R_{\text{LF}} \cdot P_{\text{matthrad}}$$

$$P_{\text{matthrad}, 30^\circ\text{C}} = 9,24 \text{ hPa} \quad \left. \right\} \text{Tab S. 364}$$

$$P_{\text{matthrad}, 20^\circ\text{C}} = 2,34 \text{ hPa}$$

$$P_{\text{Pratten, 11.20}} = 0,59 \cdot 9,24 \text{ hPa} = 2,50 \text{ hPa}$$

$$2,50 \text{ hPa} > 2,34 \text{ hPa} \Rightarrow \text{Condensierung}$$

4.21

$$\begin{array}{l} \text{ute} \\ T = 40^\circ\text{C} \\ R_{LF} = 3,5\text{°} \end{array} \quad \begin{array}{l} \text{bork} \\ T = ? \end{array}$$

Vilken temp på bork för kondens?

$$R_{LF} = \frac{\text{Pratten}}{P_{m24hadi}} \quad \text{Pratten} = R_{LF} \cdot P_{m24hadi}$$

$$P_{m24hadi, 40^\circ\text{C}} = 7,37 \text{ hPa}$$

$$\text{Pratten} = \frac{0,1035 \cdot 7,37}{0,2579} = 0,2579 \text{ m } 0,258 \text{ hPa}$$

$$P_{m24hadi} = 0,258 \text{ hPa}, T = ?$$

$$\underline{T_m = 10^\circ\text{C}}$$

U.28

Wort bil, ob das adiabatische Verhältnis?

$$pV = nRT \Leftrightarrow \frac{P}{T} = \frac{nR}{V}$$

$$\frac{P_1}{T_1} = \frac{P_2}{T_2} \quad \text{Adiabatische Verhältnisse}$$

~~Adiabatische Verhältnisse~~

$$\frac{P_1}{P_2} = \frac{T_1}{T_2} \quad T_2 > T_1 \Rightarrow P_2 > P_1.$$

123  $100\text{g H}_2$ ;  $n = 4$  u molsgen

$T = 300\text{K}$

$t = 1,0\text{s}$

strook aan de rest  $560\text{?}$

$$1 \text{ g/mol} = 9461 \cdot 10^{23} \text{ atoms} = 9461 \cdot 10^{10} \text{ m}$$
$$9461 \cdot 10^{12} \text{ km} = 9461 \cdot 10^{15} \text{ m}$$

En partikel  $\text{H}_2$ :

$$\langle v \rangle = \sqrt{\frac{8kT}{\pi m_{\text{H}_2}}} = \sqrt{\frac{8kT}{\pi m_{\text{H}_2}}} n_{\text{men}} = 2 \cdot 4 \cdot \frac{1,66 \cdot 10^{-27} \text{ kg}}{8 \cdot 1,66 \cdot 10^{-27} \text{ kg}} =$$

Antal partiklar  $\text{H}_2$  i  $100\text{g}$

$$N = \frac{m_{\text{tot}}}{m_{\text{men}}} N_A = \frac{0,100 \text{ kg}}{2,4 \cdot 10^{-26} \text{ kg}} \cdot 6,02 \cdot 10^{23} \text{ mol}^{-1}$$

$$N = \frac{m_{\text{tot}}}{m_{\text{men}}} \cdot \frac{6,02 \cdot 10^{23} \text{ mol}^{-1}}{1,66 \cdot 10^{-27} \text{ kg}} = 1,50 \cdot 10^{25} \text{ st}$$

$$k = 1,3807 \cdot 10^{-23} \text{ J/K}$$

$$k = 1,3807 \cdot 10^{-23} \text{ J/K}$$

$$\frac{1260 \text{ gen/m/s}}{8 \cdot 10^3 \text{ m/s}} \cdot \frac{0,100 \text{ kg}}{2,4 \cdot 10^{-26} \cdot 1,66 \cdot 10^{-27} \text{ kg}} \cdot \frac{1}{1 \text{ g/mol}} = \frac{2,00 \cdot 10^{12} \text{ kg}}{h \cdot \text{stokh}^3 \text{ /d}}$$
$$= 1,50 \cdot 10^{25}$$