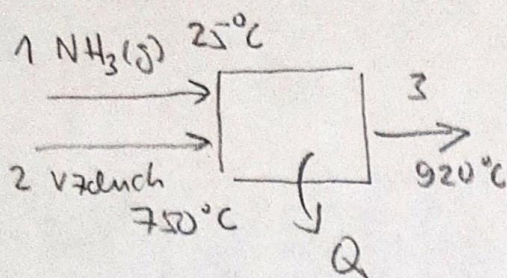
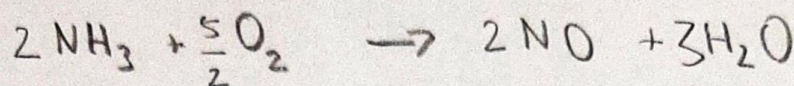


7-14



$$1 \text{ mol NH}_3 \rightarrow 2,4 \text{ mol O}_2$$

$$\xi_{\text{NH}_3} = 90\%$$

$$\Delta_{\text{RH}}(920^\circ\text{C}) = -823 \text{ kJ/mol}$$

↪ vztaženo na 1 mol NH₃ ??

$$1 \text{ mol NH}_3$$

$$2,4 \text{ mol O}_2 \rightarrow \frac{2,4}{0,21} \text{ mol vzduch} \rightarrow \frac{2,4}{0,21} \cdot 0,79 \text{ mol N}_2$$

$$T_{\text{rel}} = 920^\circ\text{C}$$

$$\langle C_p(\text{NH}_3) \rangle = 0,0483 \text{ kJ/mol}\cdot\text{K} \quad (427^\circ\text{C} - \text{max to } 750^\circ\text{C})$$

$$\langle C_p(\text{O}_2) \rangle = 0,0304 \text{ kJ/mol}\cdot\text{K} \quad \text{---||---}$$

$$\langle C_p(\text{N}_2) \rangle = 0,0308 \text{ kJ/mol}\cdot\text{K} \quad \text{---||---}$$

$$m_1 = 1 \text{ mol}$$

$$m_{2,\text{O}_2} = 2,4 \text{ mol}$$

$$m_{2,\text{N}_2} = 2,4 \frac{0,79}{0,21} \text{ mol}$$

$$\xi = 0,9 \cdot m_1 = 0,9 \text{ mol}$$

$$\begin{aligned} & m_1 \langle C_p(\text{NH}_3) \rangle \cdot (25 - 920) + \\ & \left\{ m_{2,\text{O}_2} \langle C_p(\text{O}_2) \rangle + m_{2,\text{N}_2} \langle C_p(\text{N}_2) \rangle \right\} (750 - 920) \\ & = Q + \Delta_{\text{RH}} \cdot \xi \end{aligned}$$

$$1 \cdot 0,0483 \cdot (25 - 920) +$$

$$(2,4 \cdot 0,0304 + 2,4 \cdot \frac{79}{21} \cdot 0,0308) (750 - 920)$$

$$= Q - 823 \cdot 0,9$$

$$-43,23 - 59,68 = Q - 740,7 \quad \text{kJ}$$

$$\boxed{Q = 637,8 \text{ kJ/mol NH}_3}$$