

$$pV = nR_i T \Rightarrow \frac{pV}{T} = nR_i = \text{const.}$$

$$U_2 - U_1 = Q_{12} + W_{12}$$

$$\text{isochor: } V = \text{const} \Rightarrow \frac{p}{T} = \text{const}$$

z.B. 12 gas

$$\frac{p_1}{T_1} = \frac{p_2}{T_2} \Rightarrow p_2 = \left(\frac{T_2}{T_1}\right) p_1$$

$$Q_{12} = U_2 - U_1 = n \int_{T_1}^{T_2} c_v(T) dT = n \overline{c_v} \Big|_{T_1}^{T_2} (T_2 - T_1)$$

$$W_{12} = V_1 (p_2 - p_1) = n R_i (T_2 - T_1)$$