

4.)

$Q = 0$

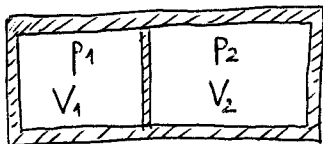
$V_1 = 3 \text{ dm}^3$

$p_1 = 400 \text{ kPa}$

Ar gáz

$V_2 = 5 \text{ dm}^3$

$p_2 = 300 \text{ kPa}$



$p_k = ?$

$pV^k = \text{áll}$

$k = \frac{c_p}{c_v}$

$V_{\ddot{o}} = V_1 + V_2 = V_{1U} + V_{2U}$

Ar $\rightarrow f = 3$

$k = \frac{c_p}{c_v} = \frac{\frac{f}{2} + 1}{\frac{f}{2}}$

$p_k \rightarrow V_{1U} \text{ és } V_{2U}$

$p_1 V_1^k = p_k V_{1U}^k$

$p_2 V_2^k = p_k V_{2U}^k$

$\frac{p_1 V_1^k}{p_k} = V_{1U}^k$

$\frac{p_2 V_2^k}{p_k} = (V_{\ddot{o}} - V_{1U})^k$

$V_{1U} = \left(\frac{p_1}{p_k}\right)^{\frac{1}{k}} \cdot V_1$

$\frac{p_2 V_2^k}{p_k} = \left[V_{\ddot{o}} - V_1 \left(\frac{p_1}{p_k}\right)^{\frac{1}{k}} \right]^k$

$\left(\frac{p_2}{p_k}\right)^{\frac{1}{k}} V_2 = V_{\ddot{o}} - V_1 \left(\frac{p_1}{p_k}\right)^{\frac{1}{k}} \quad / \cdot p_k^{\frac{1}{k}}$

$V_2 p_2^{\frac{1}{k}} + V_1 p_1^{\frac{1}{k}} = V_{\ddot{o}} p_k^{\frac{1}{k}}$



$\underline{\underline{p_k}}$