

Folyamatok fajhője, HF. id.g. 4-18.

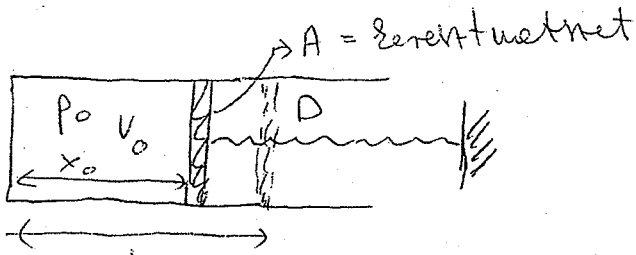
8

① $p(V) = p_0 + \frac{a}{V}$ folyamat

a) $C_f = ?$

b) $\Delta U = ?$, $W = ?$, $Q = ?$, ha a gáz $V_1 \rightarrow V_2$ térség

②



Késletben a rugó nyújtatlan.
 $V_0 = A \cdot x_0$

a) Melegítjük a gázt. Hat. meg a hővesztés mellett a C_f fajhőt!

b) $Q = ?$, ha $V_0 \rightarrow 2V_0$ -ra térség a gáz.

c) $D = ?$, hogy $C_f = \text{all}$

③

$C_f = ?$ a $T = T_0 \cdot e^{\alpha V}$ folyamatra.

④

$C_f = ?$ a $p_0 = p e^{-\alpha V}$ folyamatra.

⑤

a) $pV^2 = \text{all}$
 b) $p^2V = \text{all}$
 c) $p/V = \text{all}$
 } $C_f = ?$

⑥

Mi a folyamat, ha

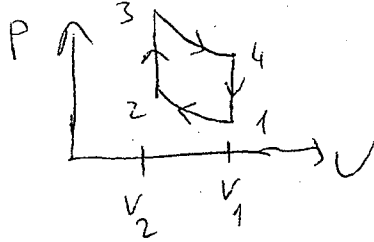
a) $C_f = C_V + \alpha T$
 b) $C_f = C_V + \beta \cdot V$
 c) $C_f = C_V + a \cdot p$

$\alpha, \beta, a = \text{all.}$

Házi feladatok

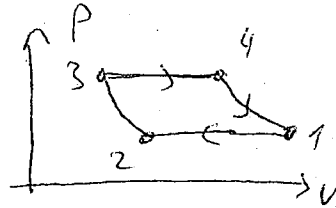
(9)

1) Otto motor + id.g.



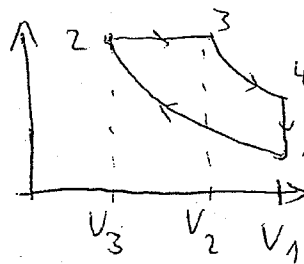
1→2 és 3→4 adiabaták
 $\eta = ? = 1 - \left(\frac{V_2}{V_1}\right)^{\delta-1}$

2) Joule-körf.



$$\eta = ? = 1 - \left(\frac{P_1}{P_2}\right)^{\frac{\delta-1}{\delta}}$$

3.) Diesel-körf.

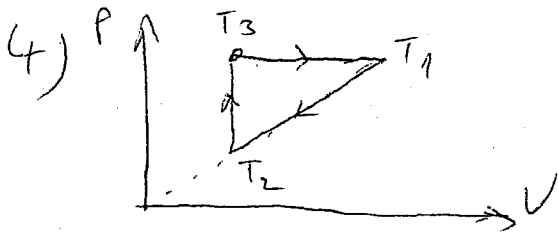


1→2 és 3→4 adiabaták

$$\eta = 1 - \frac{C_V}{C_P} \frac{T_4 - T_1}{T_3 - T_2} =$$

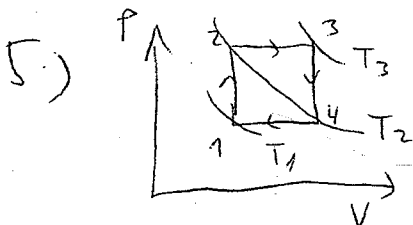
$$= 1 - \frac{1}{\delta} \frac{(V_2/V_1)^\delta - (V_3/V_1)^\delta}{V_2/V_1 - V_3/V_4}$$

$p = \text{áll} \Rightarrow \frac{V_3}{V_2} = \frac{V_4}{V_1}$
 és adiabaták



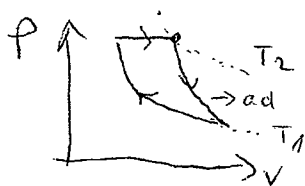
$\eta = ?$

Mo.: $\eta = \frac{\delta-1}{2} \frac{(T_1 - T_3)(T_3 - T_2)}{T_3 [T_3 - T_2 + \delta(T_1 - T_3)]}$



$T_2 = ? \quad (T_2 = \sqrt{T_1 T_3})$

$\eta = ? \quad \left(\eta = 1 - \frac{T_3 - T_1 + (\delta-1)(T_3 - T_2)}{T_3 - T_1 + (\delta-1)(T_2 - T_1)} \right)$



$\eta(T_1, T_2) = ?$

