(4) LISTO 5

$p^V = 13,51\ Pa$

$y_A = \frac{p^V}{P} = 13,5 \cdot 10^{-5}$

$\rho_s \frac{dV}{dt} = \rho_s \cdot A \frac{dz}{dt} = -N_A \cdot A$

$\frac{dz}{dt} = -\frac{N_A}{\rho_s} = \frac{K_\rho \Delta \rho_A}{\rho_s}$

$y_A = 13,5 \cdot 10^{-5} \Rightarrow Y_A \simeq \frac{128 \times 13,5 \cdot 10^{-5}}{29 \times 1} = 5,96 \cdot 10^{-4}$

$\rho_{at} = 1,2\ kg/m^3 \rightarrow \rho_{Ai} = 7,18 \cdot 10^{-4}\ \frac{kg\ A}{m^3}$

$N_A = K_\rho \Delta \rho_A = K_\rho \cdot \rho_{Ai} = 7,18 \cdot 10^{-4} K_\rho$

$\frac{dz}{dt} = -\frac{N_A}{\rho_s} = -\frac{K_\rho \rho_{Ai}}{\rho_s} = -\frac{7,18 \cdot 10^{-4} K_\rho}{1075} = 6,68 \cdot 10^{-7} K_\rho$

$\frac{112 \cdot 10^{-6}}{3600} = 3,11 \cdot 10^{-8} = 6,68 \cdot 10^{-7} K_\rho$

$K_\rho = 4,65 \cdot 10^{-2}\ m/s$

$\frac{Nu}{Re Pr^{1/3}} = \frac{Sh}{Re\, Sc^{1/3}} = \frac{h D}{K \cdot Re \cdot Pr^{1/3}} = \frac{K_\rho D}{D_{AB} \cdot Re\, Sc^{1/3}}$

$h = K_\rho \frac{K}{D_{AB}} \cdot \left(\frac{Pr}{Sc}\right)^{1/3} = K_\rho \cdot \frac{\rho C_p K}{\rho C_p} \cdot \frac{1}{D_{AB}} \left(\frac{Pr}{Sc}\right)^{1/3} =$

$h = K_\rho \cdot \rho C_p \frac{Sc}{Pr} \left(\frac{Pr}{Sc}\right)^{1/3} = K_\rho \rho C_p \left(\frac{Sc}{Pr}\right)^{2/3}$

$\boxed{h = 126\ w/m^2 K}$