

LEHENENGO PRINTEÍPIOAREN ADIERAZPENA : GAS IDEALAREN KASUA

$$Q = \Delta U - W$$

OROKORRA

$$\delta Q = dU - \delta W$$

$$\delta W = -p dV$$

SISTEMA HIDROSTATIKOA (SOILIK)

$$\delta Q = dU + p dV$$

$$C_V = \left( \frac{\delta Q}{dT} \right)_V \Rightarrow \left[ \frac{\delta Q}{dT} = \frac{dU}{dT} + p \frac{dV}{dT} \right]_V$$

$$dU = \left( \frac{\partial U}{\partial T} \right)_V dT + \left( \frac{\partial U}{\partial V} \right)_T dV$$

$$\left[ \frac{\delta Q}{dT} = \left( \frac{\partial U}{\partial T} \right)_V \frac{dT}{dT} + \left\{ \left( \frac{\partial U}{\partial V} \right)_T + p \right\} \frac{dV}{dT} \right]_V$$

$$C_V = \left( \frac{\partial U}{\partial T} \right)_V$$

OROKORRA

$$\xrightarrow{u=u(T)}$$

$$C_V = \left( \frac{dU}{dT} \right) \leadsto$$

$$dU = C_V dT$$

GAS IDEALA !!!

(1) -

$$\delta Q = C_V dT + p dV$$

$$p \cdot V = nRT \Rightarrow d(pV) = d(nRT)$$

$$C_p = C_V + nR$$

LEHENENGO PRINTEÍPIOA

GAS IDEALEAN

(2) -

$$\delta Q = C_p dT - V dp$$