PROZESU ADIABATIKOAK ADIERAZPENAK

$$\delta Q = dU - \delta W$$ LEHENENGO PRINTZIPIOA OROKORRA

$$\delta Q = C_v dT + p dV$$
$$\delta Q = C_p dT - V dp$$ GAS IDEALAREN KASUAN

PROZESUA ADIABATIKOA DA: $\delta Q = 0$

$$0 = C_v dT + p dV \quad \Rightarrow \quad p dV = -C_v dT$$
$$0 = C_p dT - V dp \quad \Rightarrow \quad V dp = C_p dT$$

$$\frac{p}{V} \cdot \frac{dV}{dp} = -\frac{C_v}{C_p}$$

GAS IDEALETAN

$$\frac{1}{p} dp = -\frac{C_p}{C_v} \frac{1}{V} dV$$

PROZESU ADIABATIKOARI DAGOKION ADIERAZPEN DIFERENTZIALA

$\gamma \equiv \frac{C_p}{C_v}$ INDIZE ADIABATIKOA $[\gamma > 1 \; ; \; C_p > C_v]$

$$\frac{1}{p} dp = -\gamma \frac{1}{V} dV$$

$$P V^{\gamma} = \text{Kte}$$

PROZESU ADIABATIKOARI DAGOKION ADIERAZPENA

$$\{P, V\} \Rightarrow P V^{\gamma} = K'$$
$$\{P, T\} \Rightarrow T P^{\frac{1-\gamma}{\gamma}} = K''$$
$$\{T, V\} \Rightarrow T V^{\gamma - 1} = K'''$$