Transformation	Transformation equation	Relationship between state parameters	Work (W)	Quantity of heat (Q)	Internal energy change (ΔU)	Enthalpy change (ΔH)	Entropy change (ΔS)
Isothermal	T = Cte	P.V = Cte	∂W = - P.dV $W = -nRTLn\frac{V_2}{V_1}$ $W = -nRTLn\frac{P_1}{P_2}$	∂Q = - ∂W Q = - W	dU = 0 ΔU = 0	dH = 0 ΔH = 0	$dS = \frac{\delta Q}{T} = -\frac{\delta W}{T}$ $\Delta S = nR\ Ln\frac{V_2}{V_1}$ $\Delta S = nR\ Ln\frac{P_1}{P_2}$
Isochoric	V = Cte	P/T = Cte	∂W = 0 W = 0	∂Q = n.c_v.dT Q=n.c_v.(T_2–T_1)	dU = n.c_v.dT ΔU=n.c_v.(T_2–T_1) ΔU = Q_V	dH = n.c_P.dT ΔH = n.c_P.(T_2–T_1)	$dS = \frac{\delta Q}{T} = nc_v\frac{dT}{T}$ $\Delta S = nc_V\ Ln\frac{T_2}{T_1}$
Isobaric	P = Cte	V/T = Cte	∂W = -P.dV W = -P ($V_2 - V_1$)	∂Q = n.c_P.dT Q = n.c_P.(T_2–T_1)	dU = n.c_v.dT ΔU=n.c_v.(T_2–T_1) ΔH = Q_P	dH = n.c_P.dT ΔH = n.c_P.(T_2–T_1)	$dS = \frac{\delta Q}{T} = nc_P\frac{dT}{T}$ $\Delta S = nc_P\ Ln\frac{T_2}{T_1}$
Adiabatic	Q = 0	$P.V^{\gamma} = Cte$ $P.T^{\frac{\gamma}{1-\gamma}} = Cte$ $V.T^{\frac{1}{\gamma-1}} = Cte$	∂W = -P.dV $W = \frac{P_2V_2 - P_1V_1}{\gamma - 1}$ $W = \frac{nR}{\gamma-1}(T_2 - T_1)$	∂Q = 0 Q = 0	dU = n.c_v.dT ΔU=n.c_v.(T_2–T_1) ΔU = W	dH = n.c_P.dT ΔH = n.c_P.(T_2–T_1)	$dS = \frac{\delta Q}{T}$ $\Delta S = 0$