

depends upon atomicity of gas

For monoatomic gas $f = 3$

For diatomic gas at normal temp. $f = 5$

For polyatomic gas " " " $f = 6$

μ = No. of moles of gas in the system

T = absolute temp. of the gas.

* For a system containing a definite amount of ideal gas in it, the value of internal energy depends only upon its absolute temp.

i.e. $U \propto T$

* U depends upon the state of the system.

* value of U does not depend upon the path (process) followed by the system to achieve the thermodynamic state.