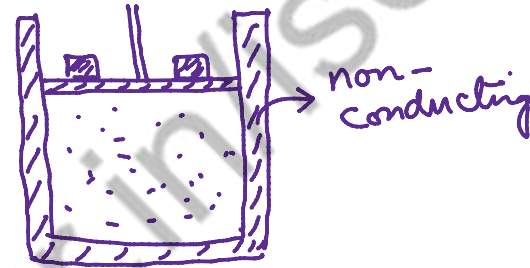


called adiabatic process.

$$\Delta Q = 0$$

$P, V$  and  $T$  may change.



(a) The walls of the container must be perfectly non-conducting in order to prevent the exchange of heat between the gas (system) and its surrounding.

$$\Delta Q = 0$$

(b) The process (expansion or compression) must be very fast so that it doesn't get enough time for exchange of heat.

**NOTE:** 'The process being very rapid' is not the theoretical condition for adiabatic process. If we could get a perfectly non-conducting material, then even a slow process taking place in a vessel of that material can be adiabatic.

For an ideal gas, Poisson's Equation (Law)

'For an ideal gas of given mass

$$PV^\gamma = \text{const} \quad \text{--- (1)}$$