

Thermodynamics Processes

-

First Law of Thermodynamics

First law of thermodynamics is a statement of conservation of energy stated as

“The energy put into the system equals the sum of the work done by the system and the change in internal energy of the system”

$$Q = \Delta U + W$$

- Q is positive when given to the system
- Q is negative when taken from the system
- W is positive if it is done by the system
- W is negative if it is done on the system

•

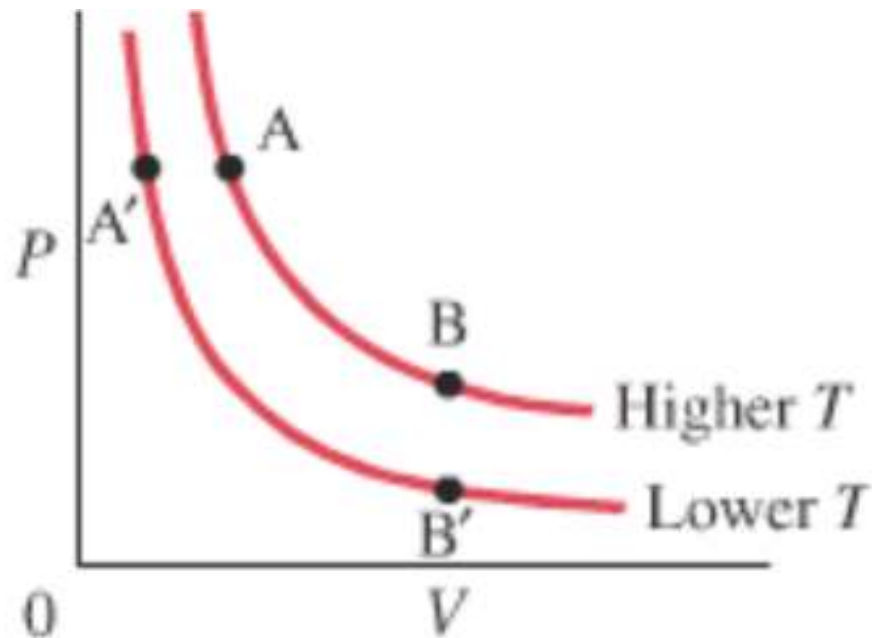
Isothermal Process

Thermodynamic Process followed at constant temperature

1) $PV = \text{constant}$

2) $\Delta U = 0$

3) $\Delta Q = \Delta W$



Adiabatic Process

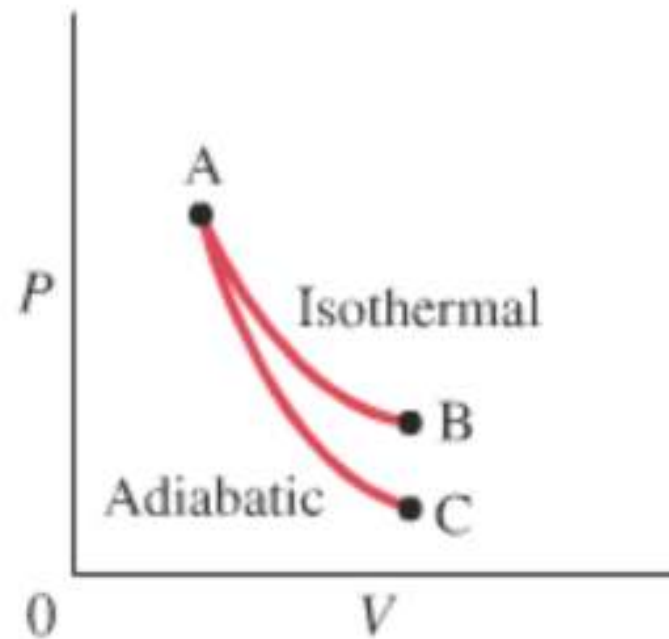
Process in which no heat enters or leaves a system is called an adiabatic process

1) $\Delta U = U_2 - U_1 = -\Delta W$

2) $\Delta W > 0$, $\Delta U < 0$ and

Temperature of the system decreases

3) $\Delta W < 0$, $\Delta U > 0$ and Temperature of the system increases



*For more tips and study
material please visit our
website
<http://physicscatalyst.com>*