REVERSIBLE AND IRREVERSIBLE PROCESSES

Irreversible process

In a thermodynamics process, one system go from one state to another state by absorbing or liberating some heat.

Experience suggests that for most processes in nature is not able to go back to its initial state.

The spontaneous processes of nature are irreversible.

A thermodynamic process is reversible if the process can be turned back such that both the system and the surroundings return to their original states, with no other change anywhere else in the universe.

A reversible process is an idealised notion.

Irreversibility arises mainly from two causes:

1. many processes take the system to non-equilibrium states;
2. most processes involve friction, viscosity and other dissipative effects

A process is reversible only if it is quasi-static and there are no dissipative effects.