## A reversible process →

A reversible process is a process in which the system and environment can be restored to exactly the same initial states that they were in before the process occured if we go backward along the path of the process. The necessary condition for a reversible process is therefore the quasi-static requirement. Note that it is quite easy to restore a system to its original state, the hard part is to have its environment restored to its original state at the same time for example. In the of an ideal gas expanding it into vacuum to twice its original volume. We can easily push it back with a piston and restore its temperature and pressure by removing some heat from the gas. The problem is that we cannot do it without changing something in its surroundings, such as dumping some heat there.

A reversible process its an ideal process that happens. We can make certain process close to reversible and therefore

use the consequences of the corresponding reversible process as a starting point or reference. In reality, almost all processes are irreversible.