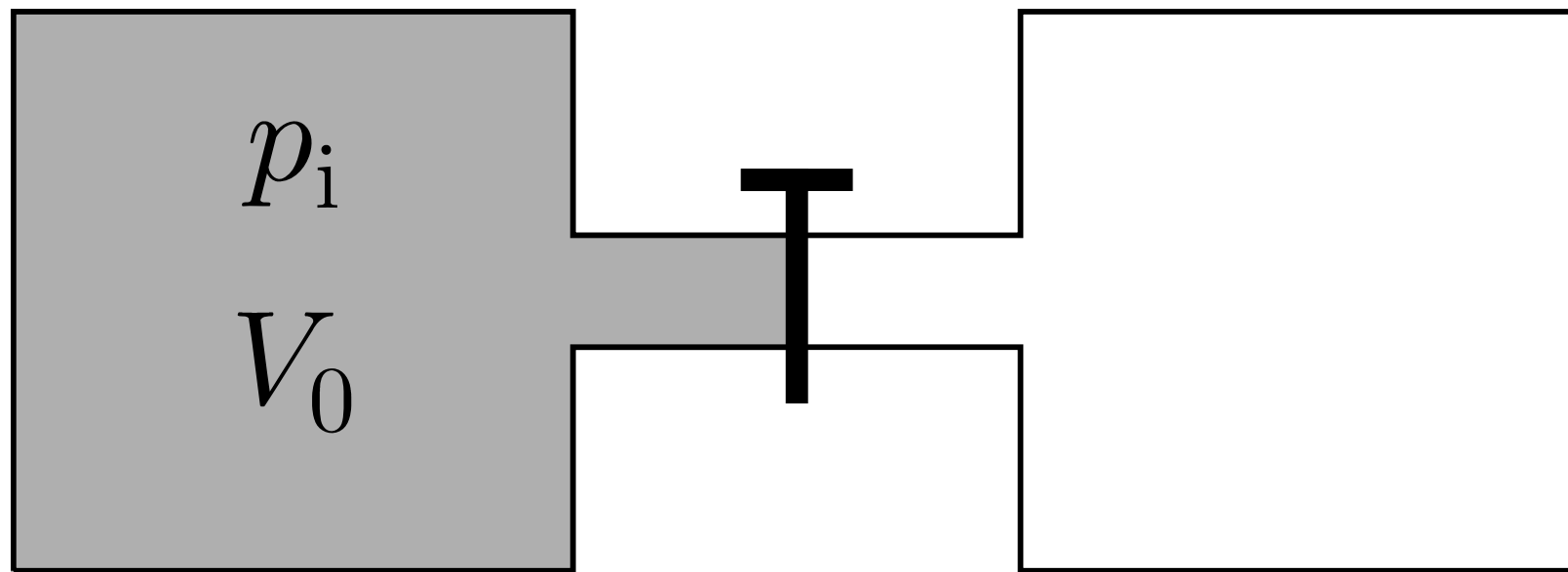# Joule Expansion
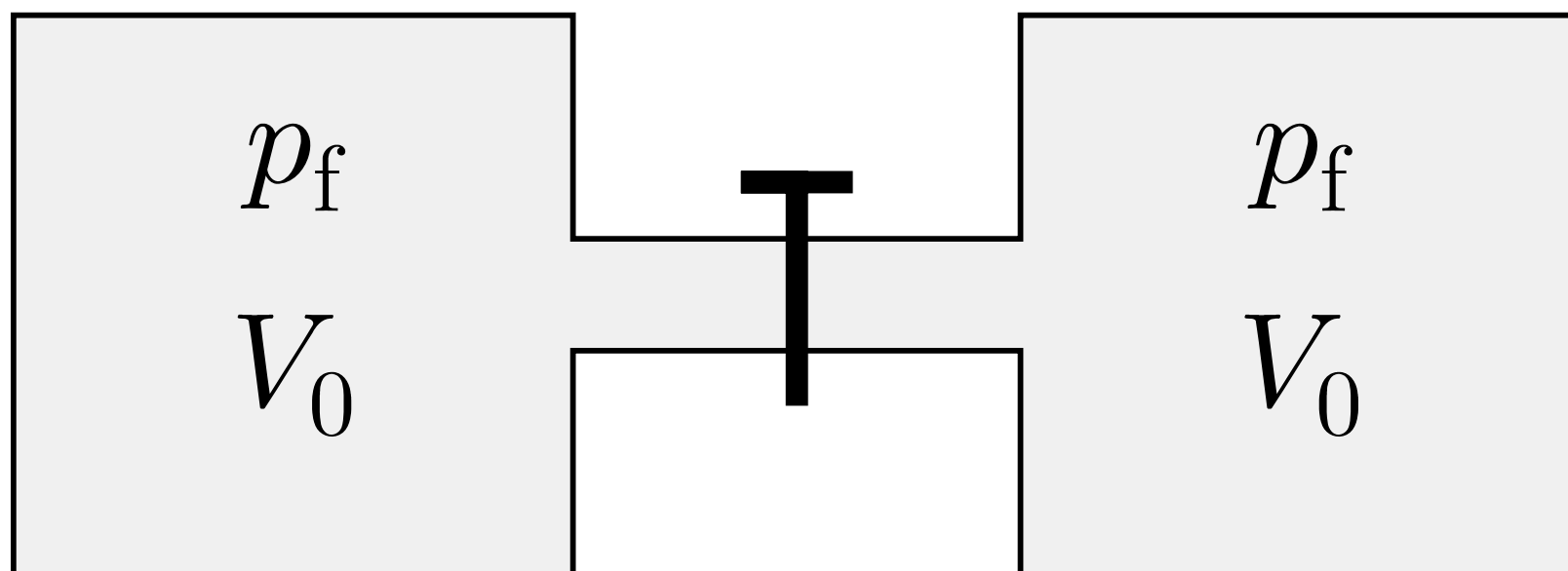
(a)

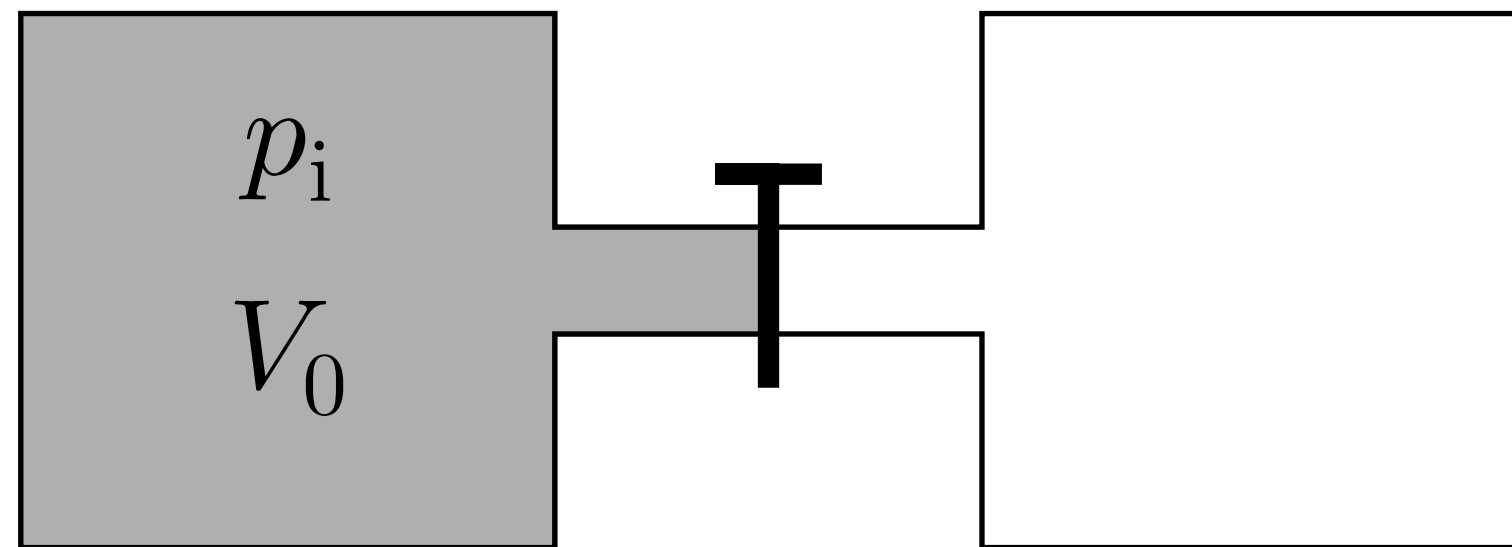The expansion
is a highly non-equilibrium process.

During the expansion no heat
enters the system. Thus the
energy initial equals the final energy

Calculating the change in entropy: thermodynamic considerations