
Problem Solving Session 4

An ideal, monatomic gas undergoes the following cyclic process consisting of three reversible steps: It is first cooled down at constant volume to state B, then compressed adiabatically to state C, and finally expanded isothermally back to state A.

- (a) Sketch the cyclic process in three different ways: (i) showing p vs. V , (ii) p vs. T , and (iii) V vs. T .
- (b) Calculate the heat flow, work done and change in internal energy in each one of the three steps in the cyclic process.

Session 4 - Solution

(a)

(b)