

1) Purpose

A) Determine the operating pressures of both the evaporator and the condenser.

B) Specify the pressure, temperature, entropy, and quality of the refrigerant at each state point in the cycle.

C) Construct the pressure–volume (P–V) and temperature–entropy (T–S) diagrams for the cycle.

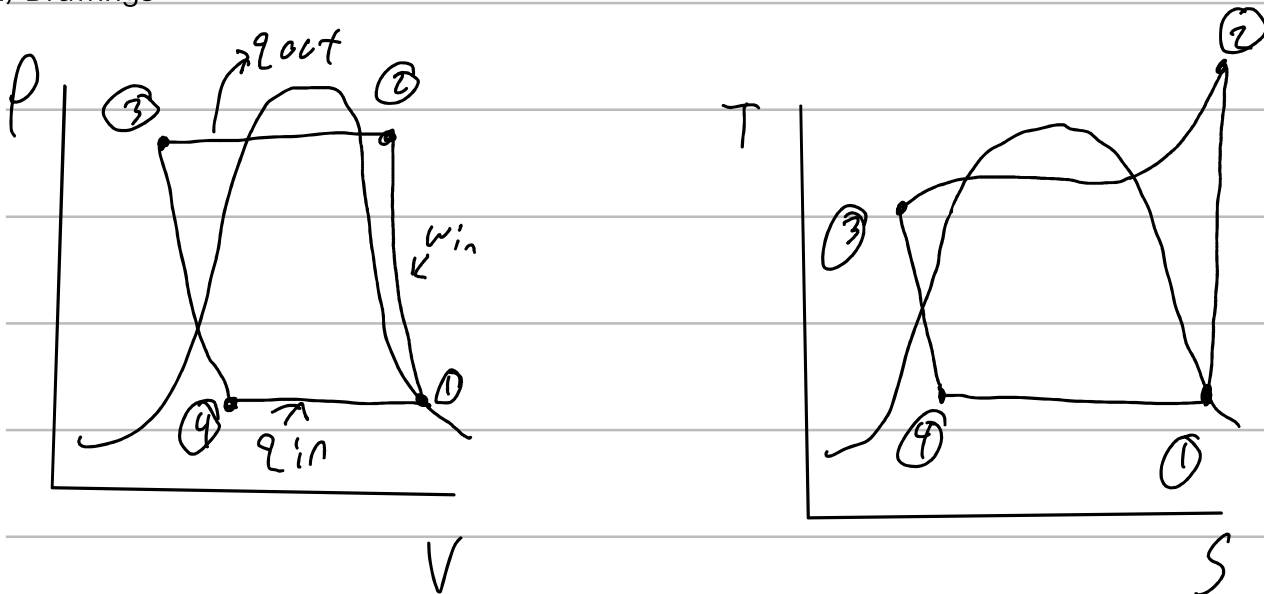
D) Calculate the coefficient of performance (COP) for the designed refrigeration cycle.

E) Determine the mass flow rate of the refrigerant required for system operation.

F) Compute the power input to the compressor, expressed in horsepower (HP).

G) Calculate the rate at which waste heat is rejected from the system.

2) Drawings



3) Sources

–Cengel, Boles “ Thermodynamics an engineering Approach” 9th edition

–Powerpoints