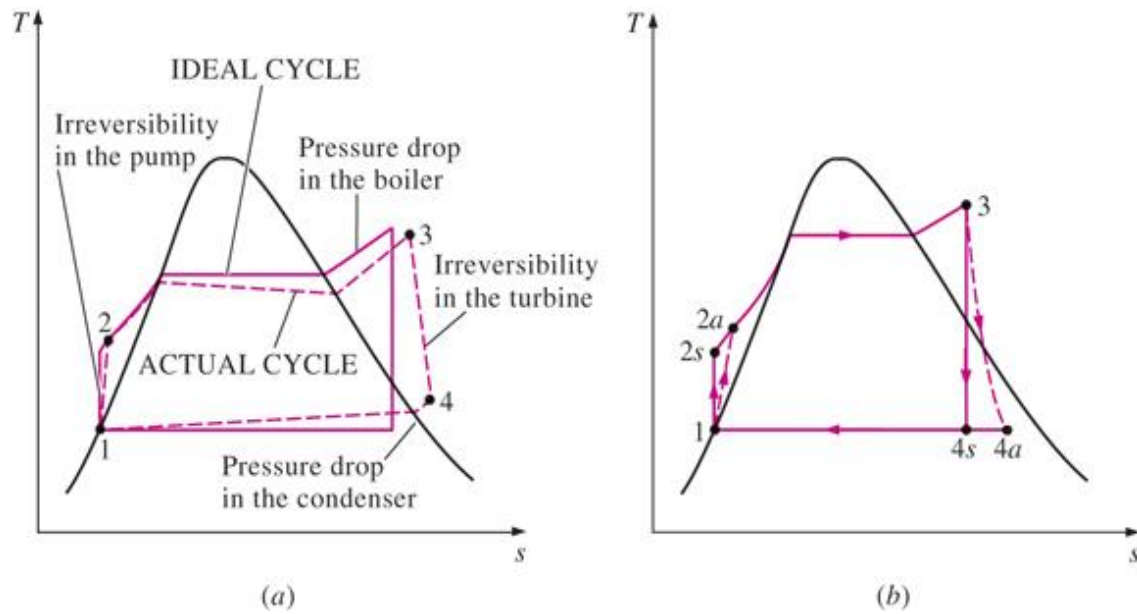


The Rankine Cycle



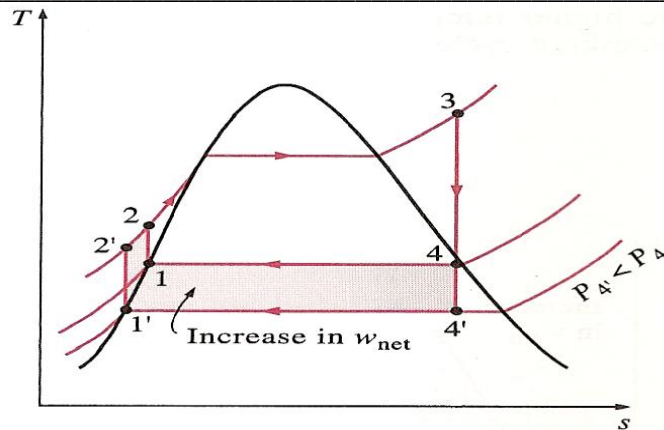
Increasing the Efficiency of the Rankine Cycle

Three ways:

1. Lowering the condenser pressure
2. Superheating the steam to high temperatures
3. Increasing the boiler pressure

Lowering the Condenser Pressure

- Lowering the operating pressure of the condenser automatically lower the temperature of the steam, and thus the temperature at which heat is rejected.
- The effect of lowering the condenser pressure on the Rankine cycle efficiency is illustrated in figure



EX(1): Calculate the turbine work output and a feed water pump work input of fluid for Rankin cycle ,in which steam leaves the boiler at (2 MN/m²),(350 °C),the steam exhaust to condenser at (7 k N/m²),calculate (η_{th})?