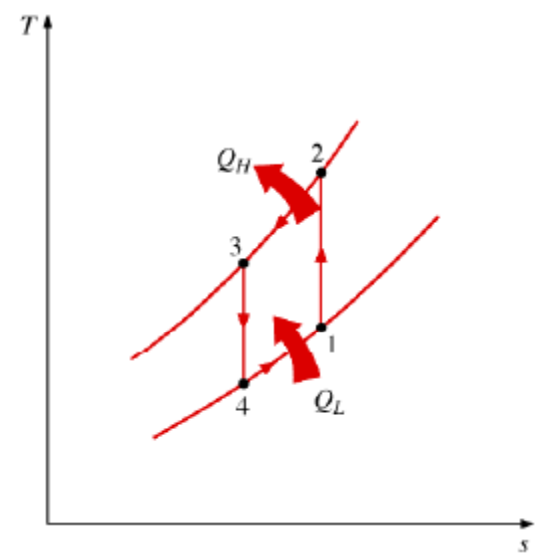
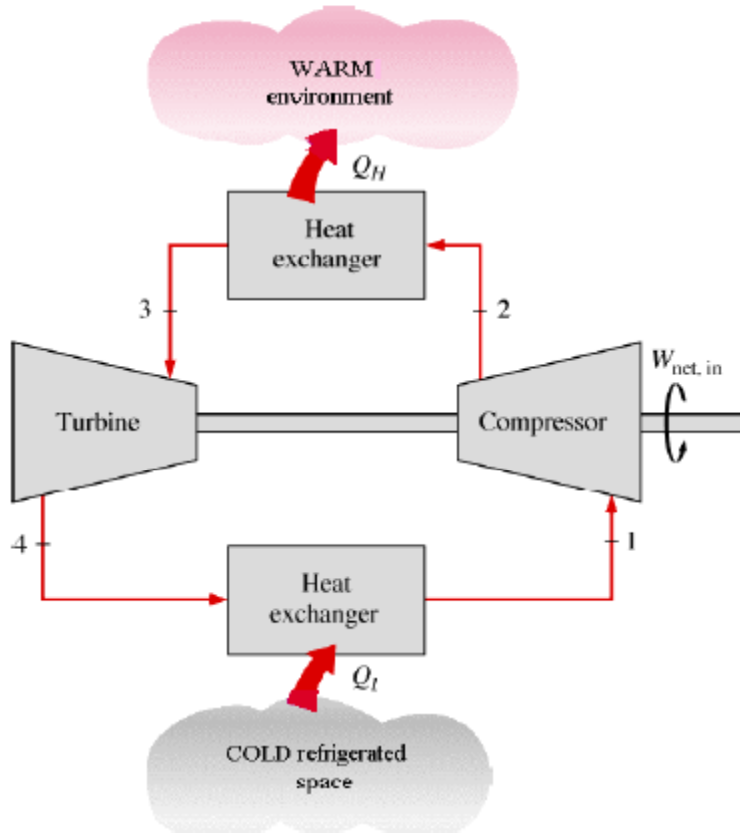


Simple Gas Refrigeration Cycle (Reversed Brayton Cycle)



Objective and COP of Gas Refrigeration Cycle

Objective: to cool aircraft and to obtain very low (cryogenic) temperatures after it is modified with regeneration. The work output of the turbine can be used to reduce the work input requirements to the compressor.

$$COP_R = \frac{q_L}{w_{net,in}} = \frac{q_L}{w_{comp,in} - w_{turb,out}}$$