ME 204 Thermodynamics I

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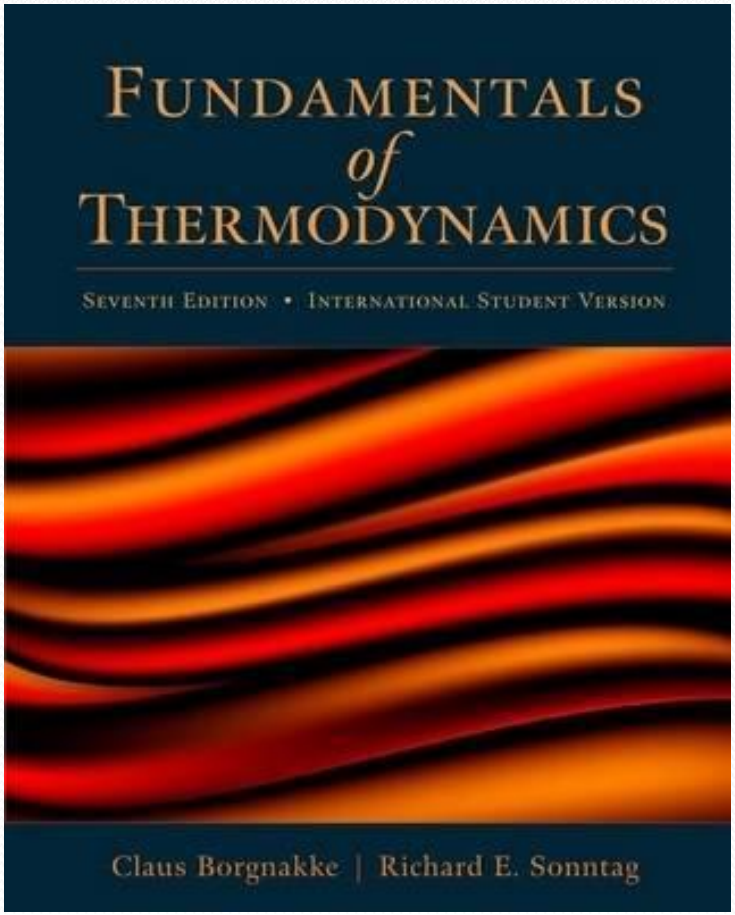
Assitant(s): …… ……..

Contents

Textbook

Textbook

Fundamentals of Thermodynamics, Claus Borgnakke, Richard E. Sonntag, Wiley, 7'th Edition



Property Tables

Property Tables:

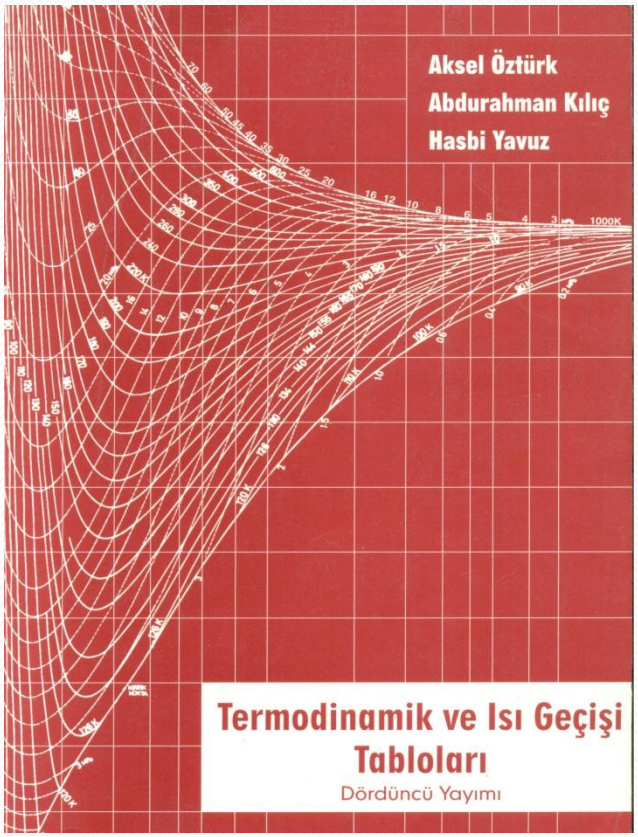
Termodinamik Tablolar ve Diyagramlar,

Aksel Öztürk,

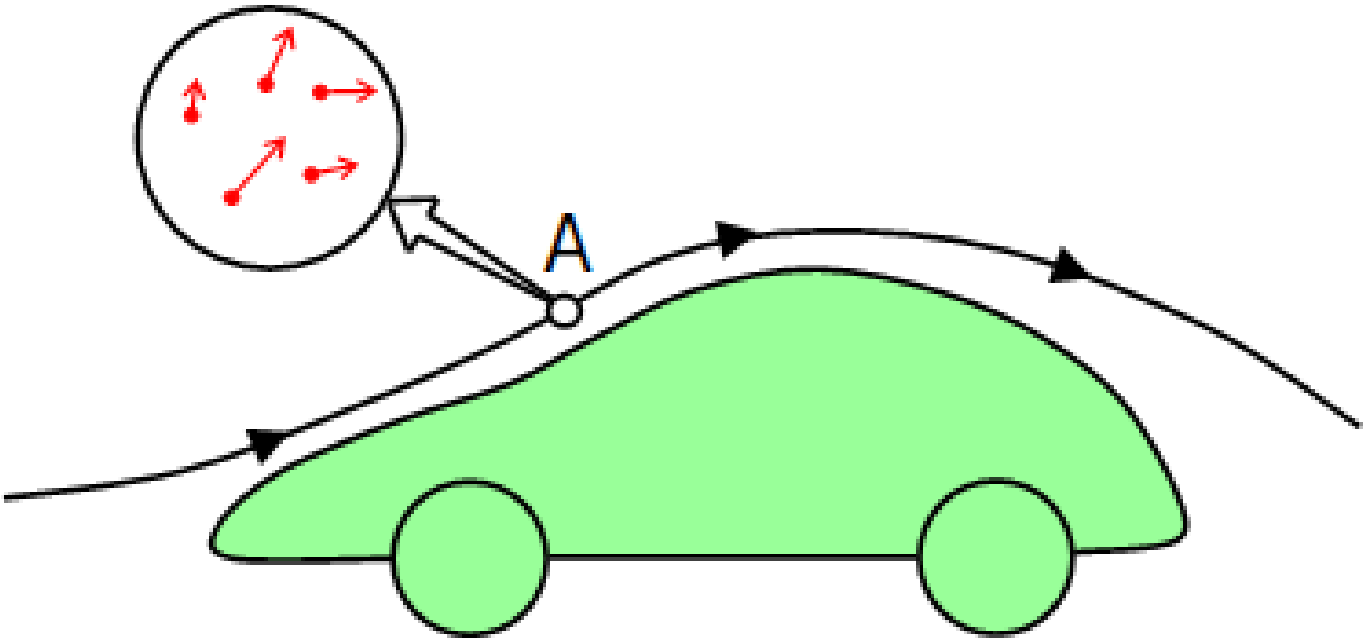
Abdurahman Kılıç,

Hasbi Yavuz

Çağlayan Kitapevi, 4. Basım.

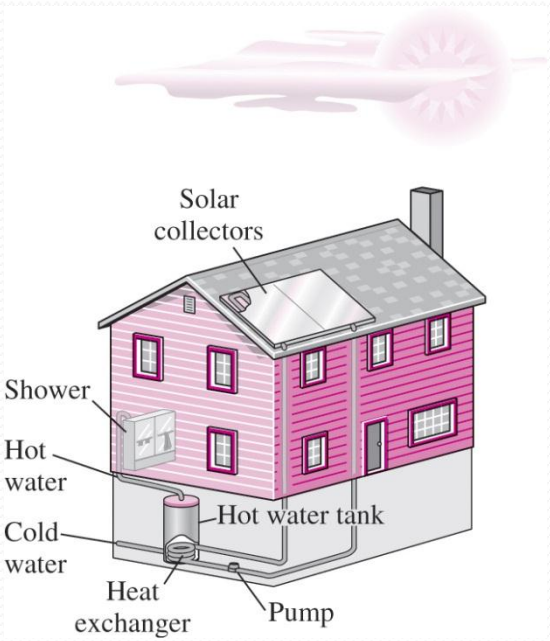


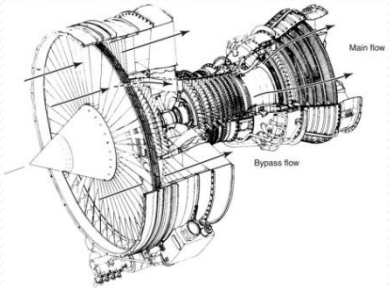
Microscopic level: Each fluid molecule shown below moves at a different speed in a different direction.

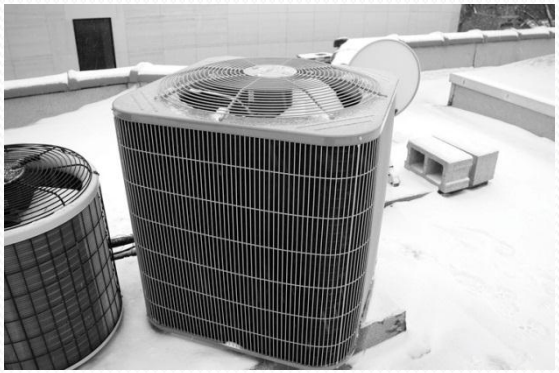


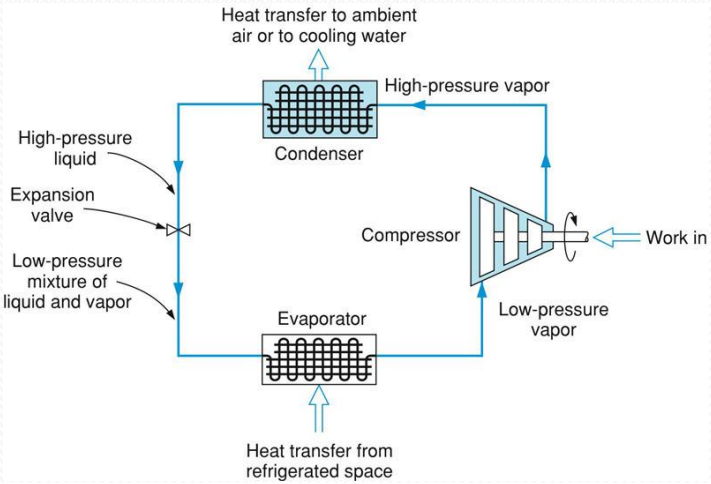
Macroscopic level: The speed at point A is 60 km/hr. The direction of air flow at point A is as shown above.

Application Areas of Thermodynamics

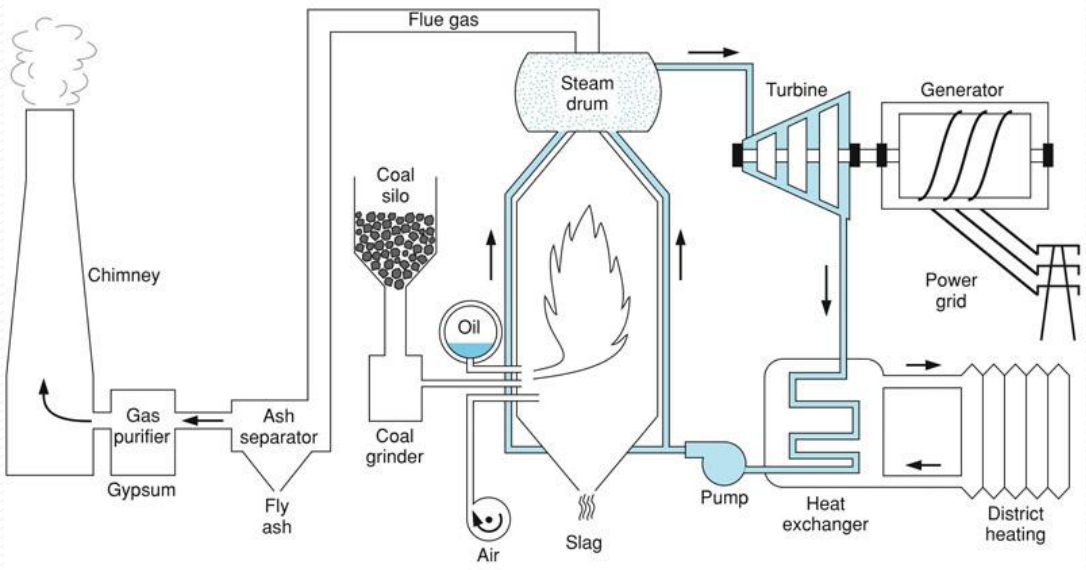








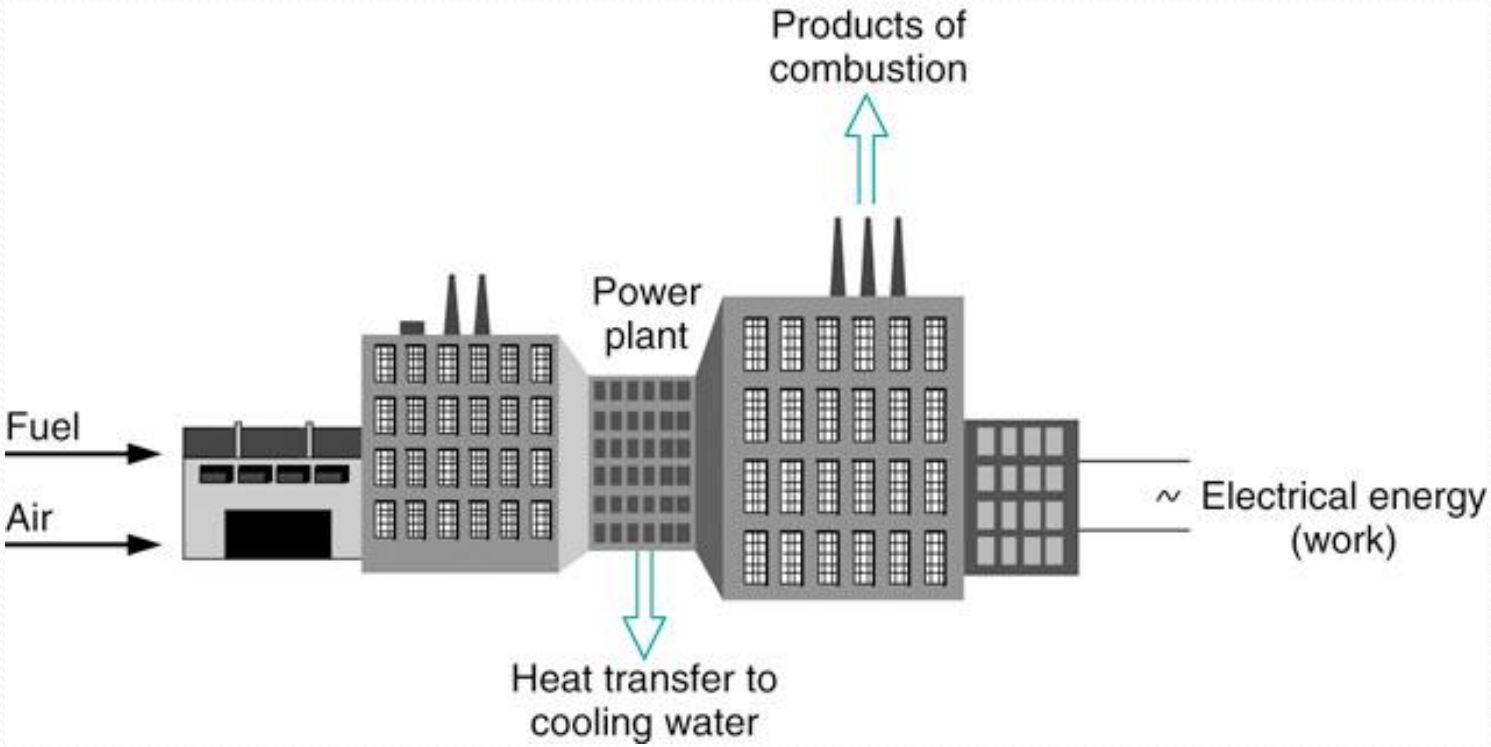
The Simple Steam Power Plant



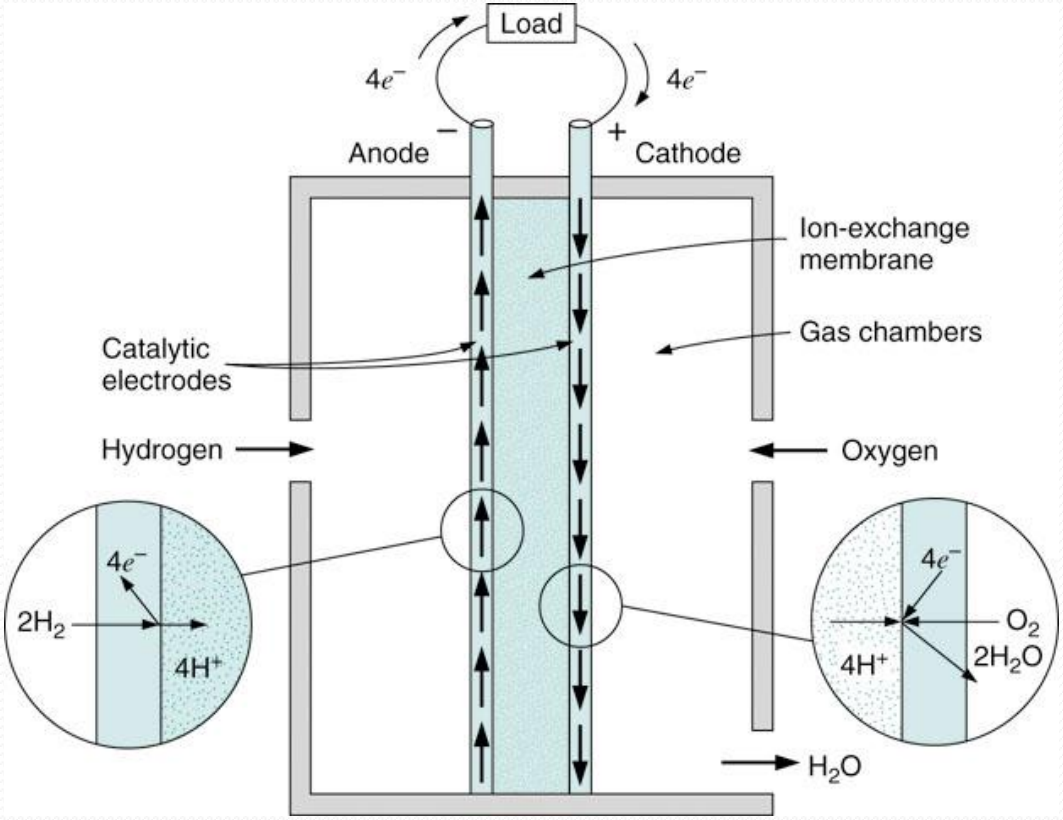
Schematic diagram of a steam power plant

The Esbjerg, Denmark power station

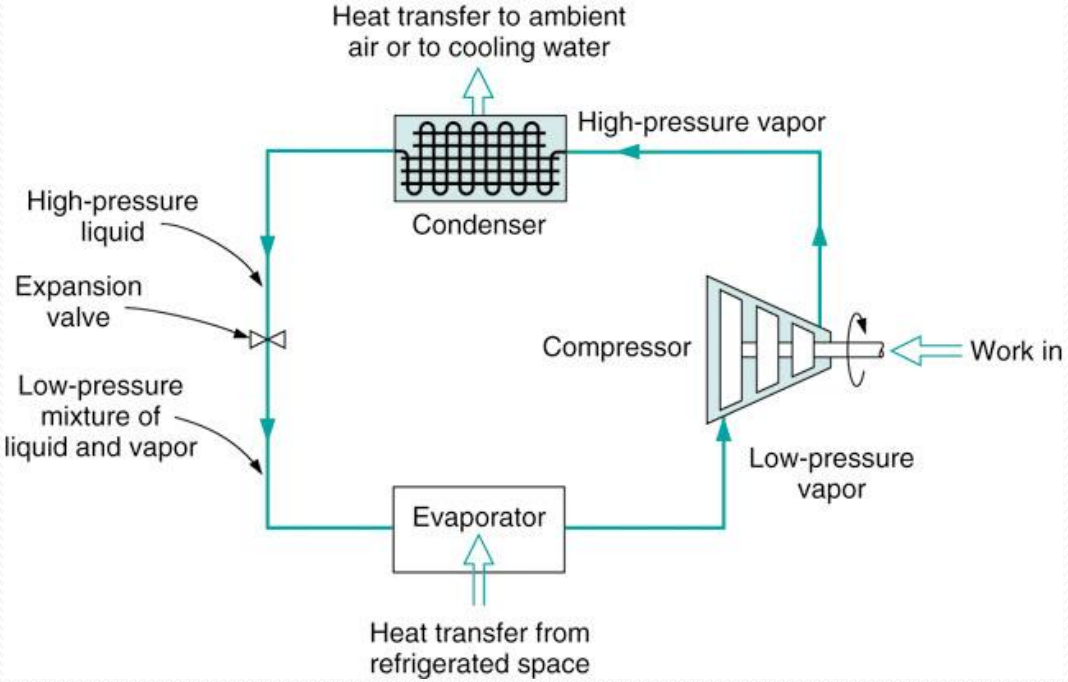
Schematic diagram of a power plant

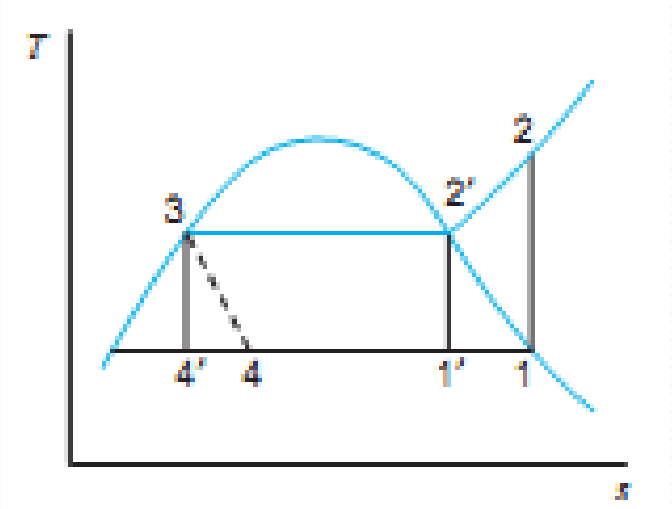


Schematic arrangement of an ion–exchange membrane type of the fuel cell.

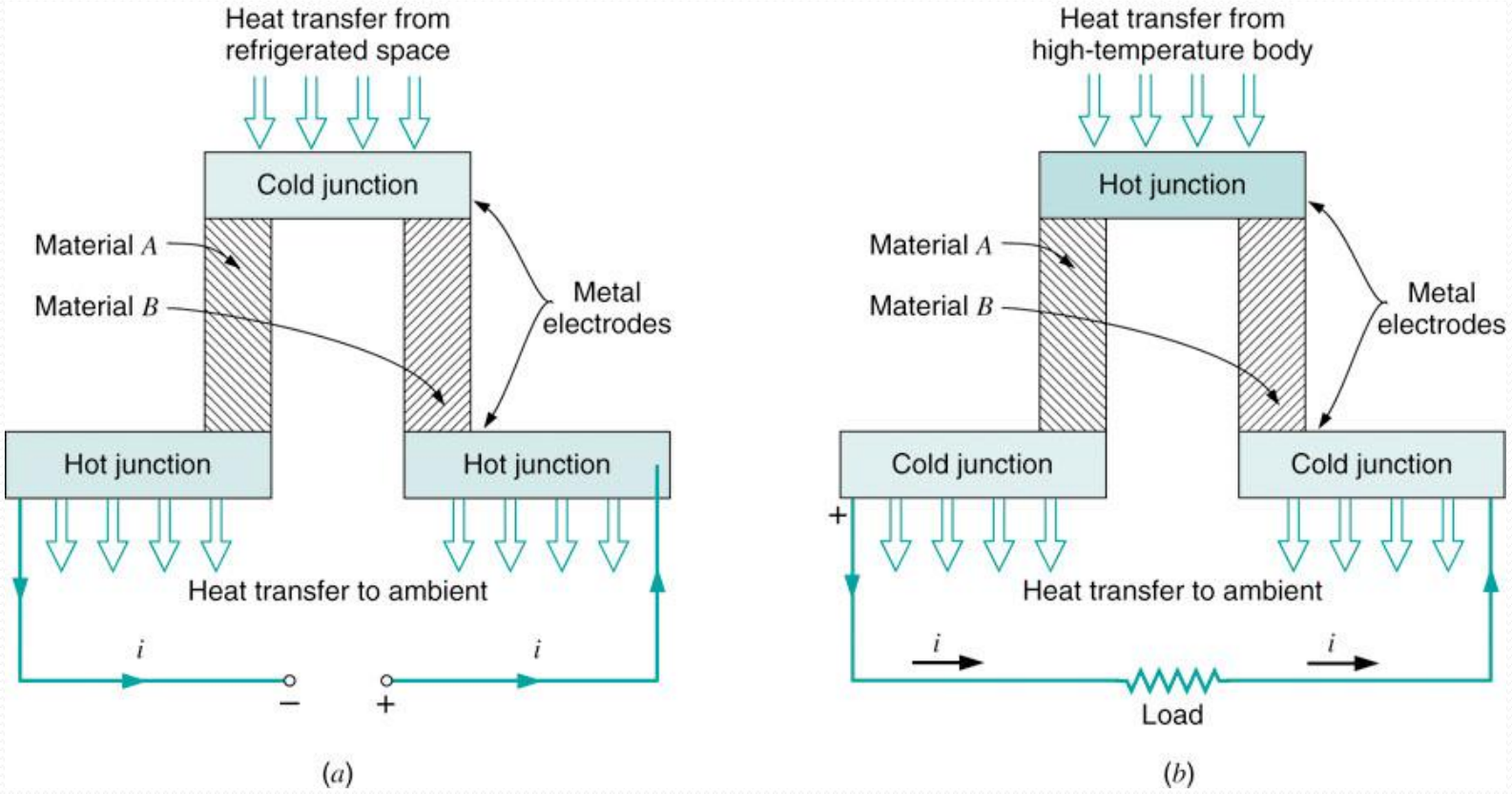


Schematic diagram of a simple refrigeration cycle

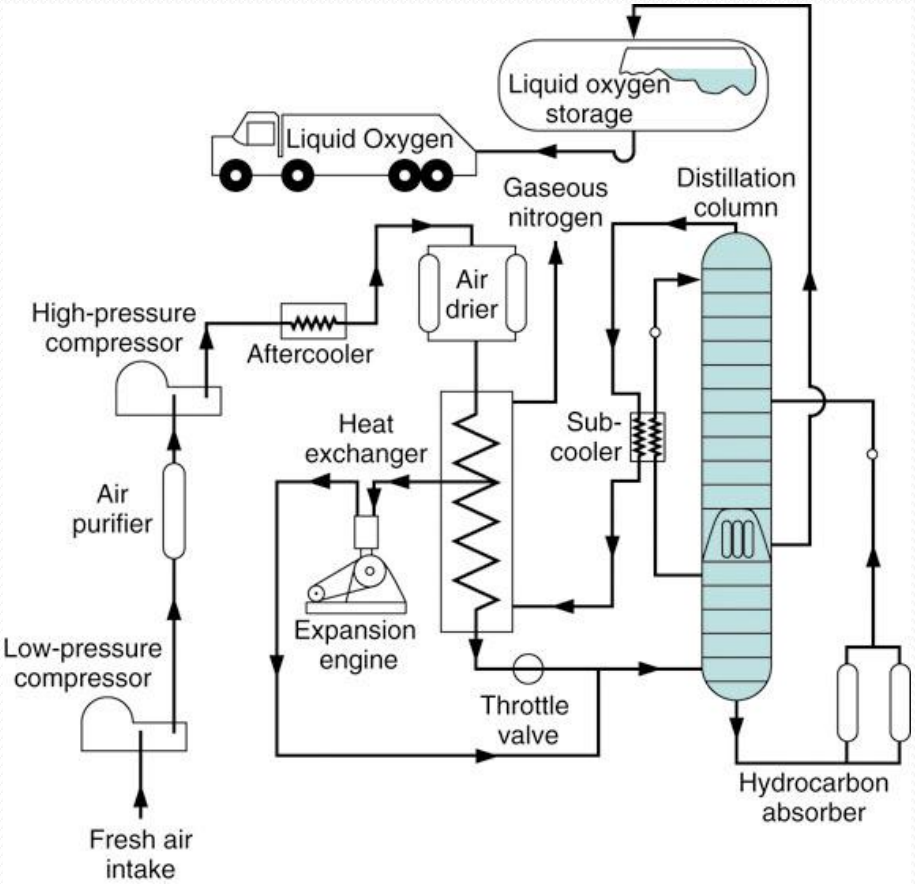




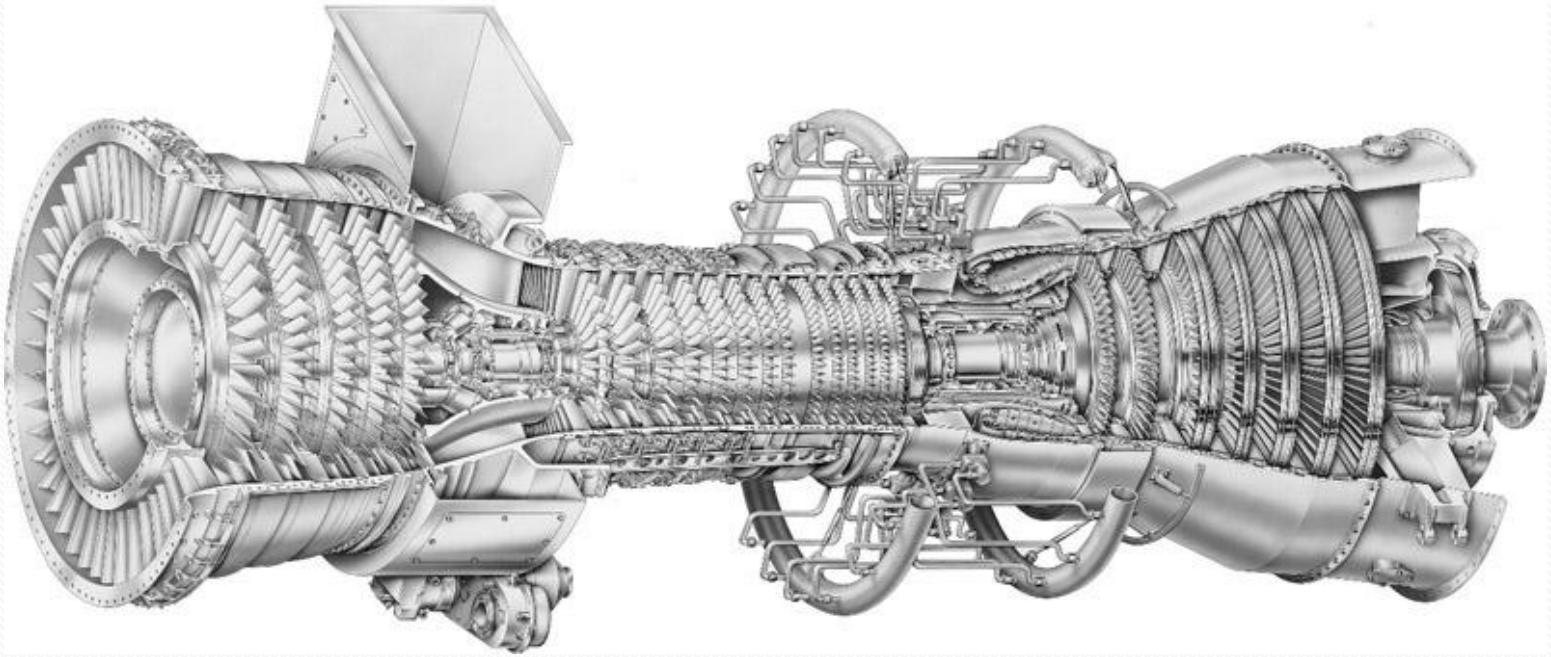
(a) A thermoelectric refrigerator.
(b) A thermoelectric power generation device.



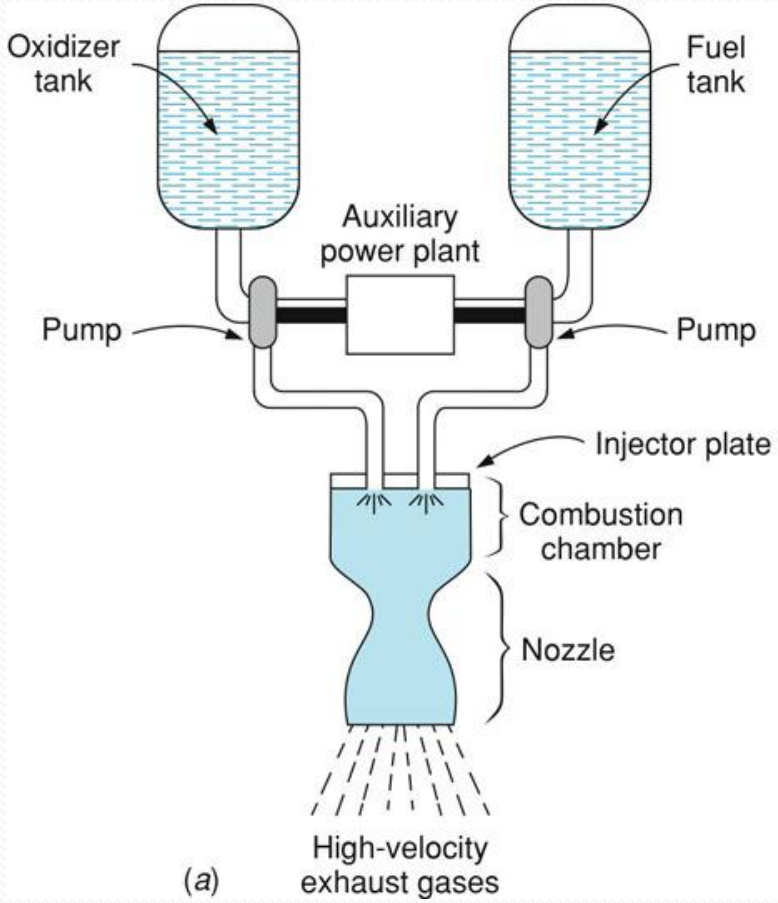
A simplified diagram of a liquid oxygen plant.



A 43 MW gas turbine



Simplified schematic diagram of a liquid–propellant rocket engine



Homework

Read the first chapter of your textbook for more details.

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