

Refrigeration cycle

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Refrigeration cycle Introduction The refrigeration cycle is used in many devices that are very important in our day-to-day lives; some of the applications of this cycle include preservation of food, air conditioning in houses as well as in cars and other automobiles. The majority of people are quite familiar with refrigeration since they own refrigerators in their kitchens. However, they may not be in a position to realize that air conditioners are also refrigeration systems. In fact, the two refrigeration types are both vapor compression refrigeration. This paper delves the applications of the refrigeration cycle.

Applications of the cycle

The cycle is very important since it affects many areas of our lives. As said earlier, it is used in refrigerators and freezers that allow food preservation. Refrigerated boats and fishing boats allow the preservation of the catch (Brain & Elliott, 2015). In addition, trucks that transport perishable vegetables, as well as other types of perishable products such as meat, are fitted with refrigerators for preservation.

The cycle is also used in air conditioners that are fitted in houses and automobiles such as cars and planes. Air conditioners help in altering air properties such as temperature and humidity to more comfortable conditions (Brain & Elliott, 2015). Basically the main aim of the conditioned air is to enhance thermal comfort, as well as indoor air quality. In addition, the cycle is very important in the medical procedures that require lowering of body temperatures.

Vapor compression refrigeration is used in industries to chill as well as condense chemicals that fail to possess the ability to be condensed at ambient temperatures. Moreover, Refrigeration cycles are also used in <https://assignbuster.com/refrigeration-cycle/>

cryogenics, which is the study of the behavior of materials at low temperatures. Cryogenics subject various materials to very low temperatures by the use of ammonia refrigerators in their study

Homes are also fitted with heat pumps that use vapor-compression pump cycles. These heat pumps allow household heating since they allow heat transfer from the cooler outside environment into the warmer inside. These pumps are often used in moderate climate areas since they remain efficient compared to electrical resistors given that the outside temperatures do not drop to very low levels (N. A, 2010).

Since the equipment, as well as the working fluid, is very light, they are used as air conditioners in passenger aircrafts. Moreover, they are also used in cargo planes that transport perishable products such as fruits and vegetables. However, thermoelectric refrigerators are also very light, even though they are less efficient when compared to fluid refrigerators.

Ammonia absorption refrigeration remains the most efficient types of refrigerators. It is widely used in industries due to its solubility in water varies with the temperature of the system (N. A, 2010). However, keeping in mind that ammonia is highly toxic to humans, most of the home refrigerators and other devices that use the refrigeration cycle use CFCs as the refrigerant. At times, in places where electrical power is not available, ammonia refrigerators are used. Their systems can be made with no moving parts hence requires no work input. They only use the heat input to operate (Brain & Elliott, 2015).

Thermodynamic refrigeration systems utilize the effect of Peltier to absorb heat at the junction of wires that are made from different materials. These devices are also lightweight; however, they are not very efficient.

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Conclusion

As seen in the paper, the refrigeration cycle is very important in our lives, and it improves the quality of life for many people. The cycle is applied in various fields, that is, from food preservation to ensuring comfortable environments in our home and automobiles such as cars and aircrafts.

References

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