



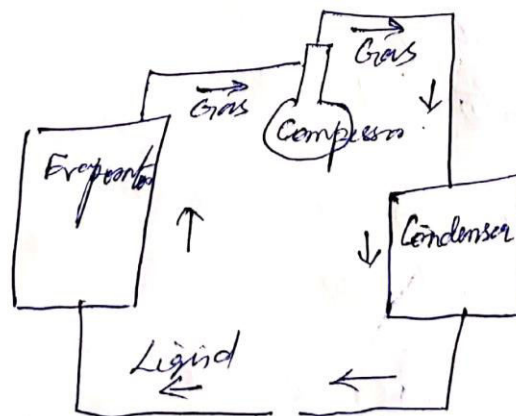
Heat pump:

A heat pump is a versatile, efficient cooling and heating system.

A heat pump can change the flow of refrigerant and either heat or cool a home.

It provide Heat
It provide cooling
operate on Electricity
Cost effective

Example:
Refrigerators
Air Conditioners.



Expansion valve
Heat pump

Conventional.



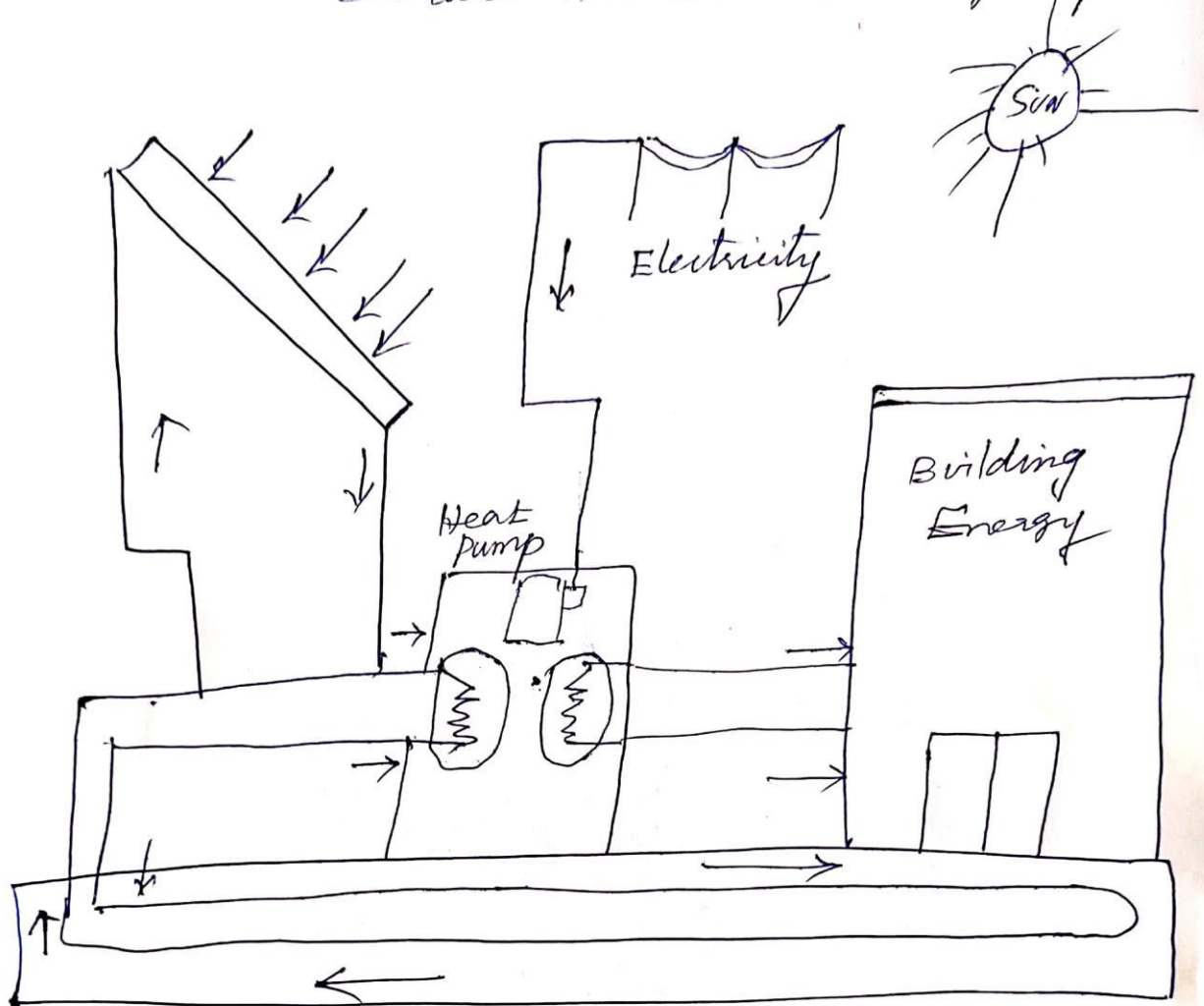
Working

- ✓ Refrigerant enters the Compressor in a gas form, where it is squeezed. This forces the molecules closer together, raising the temp
- ✓ The refrigerant leaves the Compressor as a hot, high pressure gas, where it then enters the Condenser and is converted into a liquid.
 - This is also the part of the air conditioner with the metals fins attached. This helps the refrigerant release its heat more efficiently.
- ✓ The liquid passes through a very small hole into the evaporator, where the pressure drops and it is converted back into a gas.

In doing so, it absorbs heat from the around air
- ✓ The low pressure gas returns to the Compressor, where the cycle starts all over again.



Solar Assisted Heat pump



Solar Assisted ground source Heat pump.