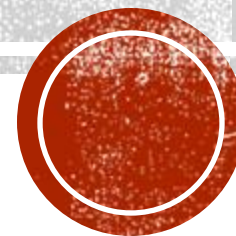


MINI REFRIGERATOR USING PELTIER MODULE



GROUP - INFLUX ELECTRIC

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OBJECTIVES



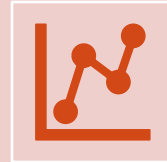
Study the principles of thermoelectric refrigeration, focusing on the Peltier effect.



Design and construct a Peltier cooling module setup.



Conduct experimental tests to measure its cooling capacity, power consumption, and efficiency.

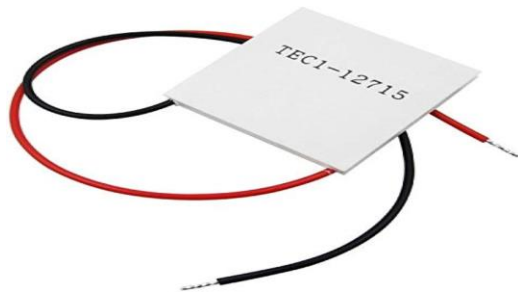


Analyze the results and compare them with the performance of traditional refrigeration systems.



COMPONENTS

1. Peltier Module.



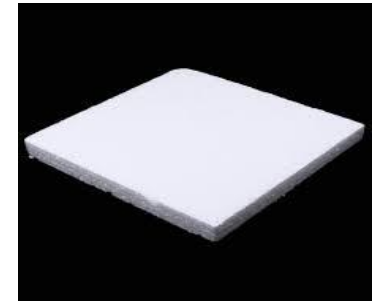
2. Heat Sink .



3. Heat Sink Fan



4. Thermocol.



5. 12V Power Supply.



6. Thermal Paste



7. PVC Sheets



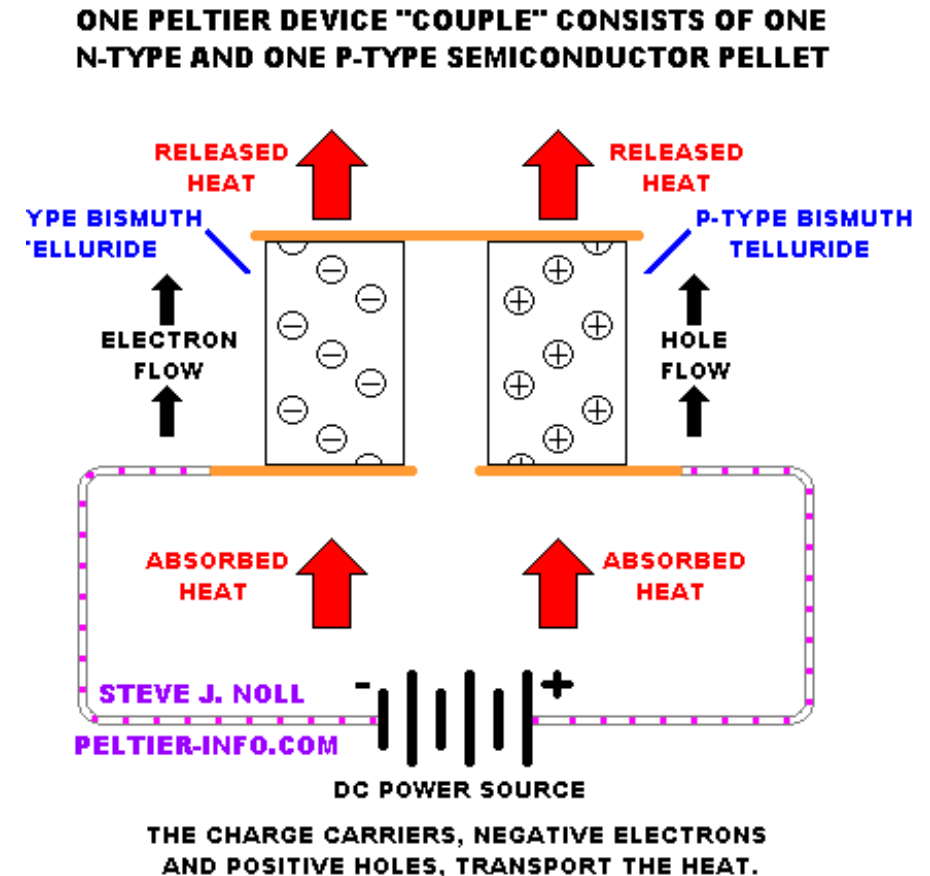
8.Dc Female jack



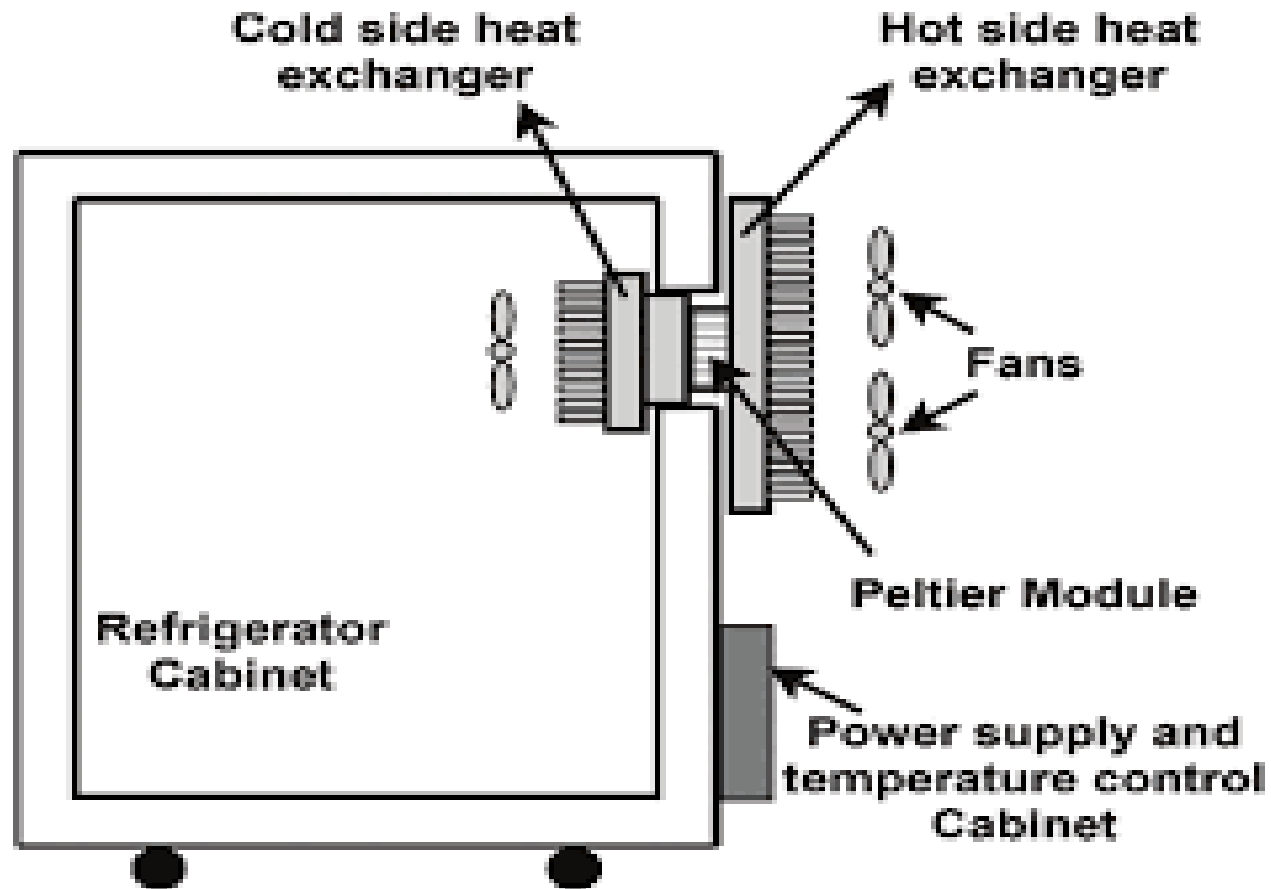
WORKING PRINCIPLE

❖ Our mini refrigerator works based on “**Peltier Effect**”.

■ What is **Peltier Effect** ?



SCHEMATIC DIAGRAM



HARDWARE DEMONSTRATION



BENEFITS

- It is eco-friendly refrigerators. No Chloro-Fluoro Carbons.
- Light in weight.
- It gives fast temperature response.
- Portable and small in size.
- It has no vibrations.
- It doesn't create noise.



APPLICATIONS



Medical and
Pharmaceutical
Storage.



Cosmetics and
Skincare.



Food and
Beverage
Industry.



Laboratory and
Research
Applications.



Portable
Refrigeration.



LIMITATIONS



Limited Cooling Capacity.



Limited Storage Capacity.



Low Reliability and Durability.



COST ESTIMATION

Component Names		Price (BDT)
Peltier Module		300
Heat Sink (3)		180
Heat Sink Fan(2)		140
Thermocol		20
12V Power Supply		600
PVC Sheets		100
Female jack		10
Thermal Paste		100
Total -		1450



THANK YOU

