

Solar-powered cold rooms

Conserving perishable food through off-grid cold rooms



- 1 Aspirators 2 Temperature controller 3 Solar panels
4 Insulation wall 5 Cold air generator (compressor and condenser)

How does a cold room work?

- A cold room uses a closed cooling system that is powered by solar energy.
- Photovoltaic solar panels are installed on the rooftop which produce energy that is stored in high-capacity batteries. These batteries produce electricity even when there is little to no sunshine.
- The compressor takes in the ambient air, compresses it and sends it to the condenser which transforms it into cold air.
- This air is directed into the cold room and cools the food. This reduces the biological activity of micro-organisms.
- Aspirators extract the cooled air from the cold room and send it out.
- The cold room is insulated with a 120 mm thick foam and aluminum wall.
- The temperature controller is used to monitor and maintain a stable temperature in the cold room.

More information at : [https:// we4f.org/](https://we4f.org/)
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