

The indirect solar dryer

Facilitating food preservation and processing
through solar drying

This dryer uses solar energy in the sense of sunrays heat to dry food. It has 12 trays of 1m² each meaning 12m² of drying surface area in total which translated to a capacity of about 80 to 100 kg of fresh food (herbs, fruit, vegetables, meat and fish). After drying, the food can lose 60 to 70% of its initial weight.

- The photovoltaic panel captures the sun's rays and generates electrical energy.
- The energy generated is fed into a battery via a charge controller, and then transmitted to the fan.
- The fan pushes the cold air through the thermal collector.
- The thermal collector captures the sun's rays and heats the cold air passing through it.
- The thermal collector is equipped with a sinusoidal partition (wavy baffles) that captures heat from sunrays and transfers it to the ventilated air through contact .
- Air is forced into the drying cabin through a deflector located at the outlet of the heat collector.
- The hot air circulates through the products, absorbing their moisture and sending it to the aerator.
- The aerator collects and sends out the humid hot air from food products.



More information at: <https://we4f.org/>

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