

# Prototype Solar Oriented Dehydrator

A prototype natural convection Solar Dehydrator System developed for drying the Agricultural products specially Red Chilies and Dates at moderate temperature. It consists of hemi cylindrical walk-in type metallic frame structure covered with UV-Stabilized semi-transparent polythene sheet. Two chimneys assembled on the top of dehydrator to remove moisture to maintain humidity at a preset level inside the Dehydrator. The product to be dried is put into perforated trays in thin layers. Two air inlets allow fresh air entry into Dehydrator. This fresh air gets heated and owing to density difference, moves upward through the products, picked up moisture, and finally passed out through chimneys.



## Features:

Sr. No.	Item	Condition
1.	Type	Prototype
2.	Product	Red Chilies and Dates
3.	Initial Moisture Content of Product	70 - 80%
4.	Final Moisture Content of Product	05 - 10%
5.	Ambient Air Temperature	40°C (Average for April, May & June)
6.	Maximum Allowable Temperature	65 - 70°C
7.	Ambient Relative Humidity	25% Average (April - June)
8.	Sunshine Hours	8 - 10 Hours
9.	Dryer Efficiency	30%

**For Further Detail Please Contact:**  
**PCSIR Laboratories Hyderabad**  
**Hyderabad-Karachi Motorway**  
**Location: 129 M-9(N)**  
**E-mail: [hlpcsir@gmail.com](mailto:hlpcsir@gmail.com)**  
**Website: [www.pcsir.gov.pk](http://www.pcsir.gov.pk)**