



SolarFlex
Food Dryers

Quad Series Expandable Commercial Dryers

This economical line of commercial dryers is conveniently expandable by simply adding modules of the Quad solar air collectors and the respective drying rack capacity. This series also allows the choice of rooftop installation of the solar air collectors to feed hot air directly down into a suitable small building where the drying racks are installed in any capacity. Alternatively these collectors can be mounted on the ground directly beside the wall of the small building housing the drying racks.



Each group of four solar air collectors is matched to dual blower fans, ductwork and a cabinet with 4 compartments and 24 drying racks, each approximately 1 square meter, so that approximately 60 KG of wet fruit can be dried at one time. By simply adding modules this can be multiplied depending on the capacity required.

The intent is to allow projects requiring multiple units to build their own cabinets inside their building or in a dedicated shed,

while the critical components are supplied, including: Solar air collectors and stands, fans, controls, ductwork, and optionally the racks.

The cabinet is shown here with the 24 rack capacity, matched to a single Quad solar air collector group. For single installations, the cabinet can be placed directly under the air collectors. For larger projects it is recommended that a small building should house the cabinets. Example: For a project with a 3 x Quad series capacity, a building of about 10 sq. meters is enough to house the drying cabinets with a capacity of 72 racks and about 180 kg “wet” food drying capacity. A sturdy building with a flat roof, would allow the three Quad group to be roof-mounted to take advantage of the downwards hot airflow coming out of the manifolds at the bottom of the solar air collectors.

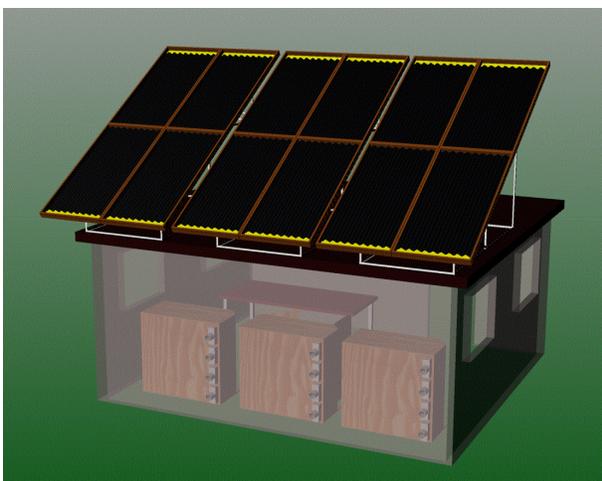
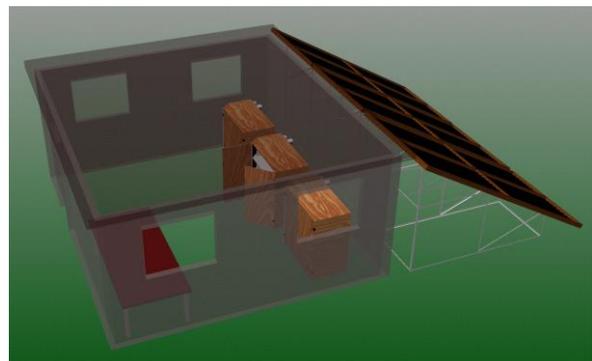


This SolarFlex Quad system, like the “Small Farm” model, employs the high-performance horizontal airflow method through the cabinets and drying racks. This method, though slightly more complex, has been scientifically proven to be superior to typical vertical airflow systems. Horizontal airflow allows the drying air to sweep across the surface of the food (including the “boundary layer”) which is much more efficient than pushing up air against the bottom of the food.

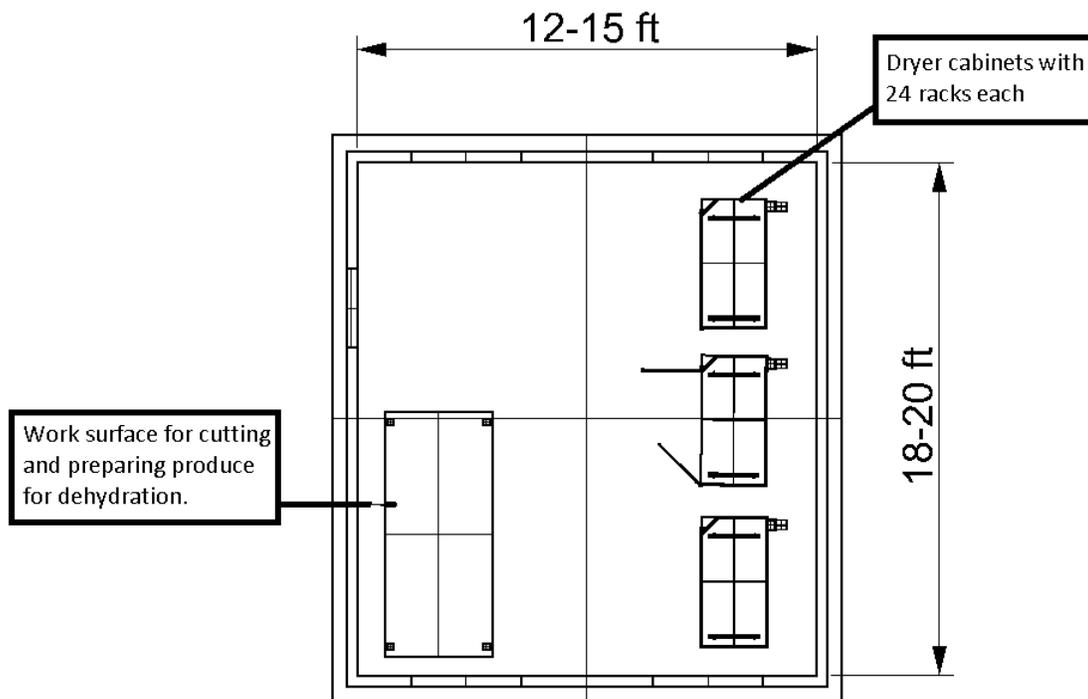


To maximize airflow efficiency, the Quad series draws air downwards through the solar air collectors to allow the hot air outlet ducts to be directed into cabinet. This can also be done either from a rooftop installation or from the ground outside a small building. The photo at left shows the manifolds, ducts and fans coming off the Quad collectors, and the control panel.

At right is a potential installation of three Quad collectors on the ground and below they are shown on the roof of the same building.



The sketch below shows approximate size of the small building and interior space required for three Quad series collectors and their respective cabinets in the building.



Approx. Floor Plan for 3 X Quad System

Projects requiring specific configurations of 3 or more Quad dryer combinations can be provided with drawings and material specifications to allow them to prepare their own building, including drying cabinets. Turnkey packages including solar air collectors, fans, controls, stands and ductwork would be supplied. Approximate price is \$4,500. per complete Quad unit including cabinet and racks.

Malnutrition Matters

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