Millionsun solar air collector for family food dry

This solar dryer is intended for the small landholder or a family. With a capacity of 10 - 200 kg of sliced wet fruit or vegetables, depending on type of fruit and numerous other factors (see ‘Millionsun Capacities and Procedures’ document), this dryer is ideal for high-quality natural preservation in a micro-enterprise setting. multiple units provide a significant commercial volume at a combined costwhich remains economical and substantially lower than large commercial solar dryers.

Model (shown on work table) with solar air collector set at 30 degrees. This setting is suitablefor temperate latitudes. The setting of the collector can be easily adjusted between 20º and 45ºfor the seasonal changes of solar angle or for various latitudes.

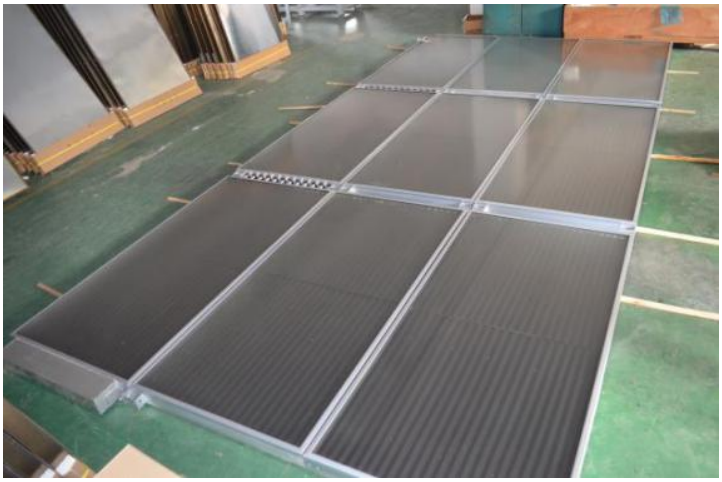
It is well known that most fruits and vegetables (or herbs and even fish) are often available in seasonal gluts when the prices are extremely low and vendors and growers can hardly sell for any profit. During such times, consumers and producers can benefit greatly with the practice of drying for later consumption and food security or for commercial sale.

Enclosed drying in a solar-powered cabinet dryer is far superior to traditional sun drying in the open air or in dryers which expose the food to direct sunlight. Drying in the open air is unsanitary and attracts insects and other pests. Meanwhile direct exposure to sunlight either in the open air or in a dryer which lets sunlight in, allows UV rays to penetrate the food which degrades the nutritional content and also causes discoloration and very tough texture.



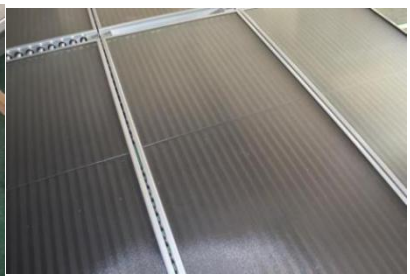

Millionsun solar air collector commercial unit

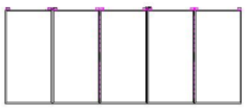
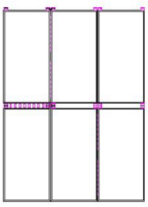
This economical line of commercial dryers is conveniently expandable by simply adding modules of the solar air collectors and the respective drying rack capacity. This series also allows the choice of rooftop installation of the solar air collectors to feed hot air directly down into a suitable small 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.

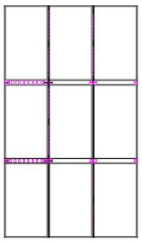
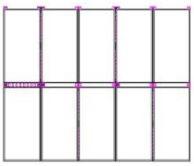


The intent is to allow projects to build their own cabinets inside their building or in a dedicated shed. For larger projects it is recommended that a small building house the drying racks and cabinets. Example: For a project with a one series capacity, a building of about 10 sq. meters is enough to house the drying cabinets with a capacity of 72 racks and about 150–200 kg“wet” food drying capacity. A sturdy building with a flat roof, would allow the one group to be roof-mounted to take advantage of the downwards hot airflow coming out of the manifold at the bottom of the solar air collectors.

This Millionsun system, 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.



Type	Solar air collector quantity	Dimension (LXWXH)	排列
M-SBC/10	5	5200 X 2100 mm	
M-SBC/12	6	3100 X 4200 mm	

M-SBC/18	9	3100 X 6300 mm	
M-SBC/20	10	5200 X 4200 mm	

Millionsun solar air collector for commercial dry field