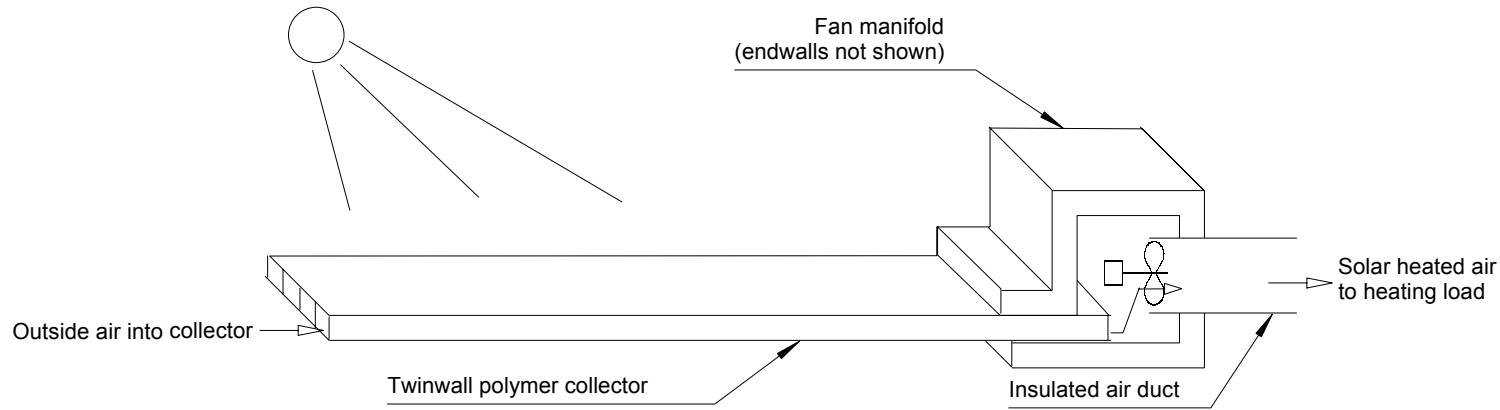


Polymer solar air heating collector



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American Solar, Inc. uses advanced twinwall polymer materials to form a new class of air heating solar collector. The collectors are extremely effective at collecting solar heated air and transferring the heat to many agricultural and industrial applications.

As sunlight hits the collector, the top surface becomes heated up to as much as 120 degrees Fahrenheit above ambient temperatures. The vertical members separating the twinwalls of the collector are in contact with the top surface and become heated by conduction of heat from the top surface through the polymer material.

A small electric fan, in a manifold on one end of the collector, draws outside air into the space between the twin walls of the collector. The air is discharged through an insulated duct for use in any heating application. In some applications, such as greenhouse floor heating, the discharge from the fan may be to another twinwall panel buried beneath the greenhouse floor.

As the air moves through the collector, it is heated by contact with the top surface and the vertical members. Outlet air temperatures can reach 100 degrees F above ambient temperatures, with limited air flow. However, very little energy will actually be delivered at these high operating temperatures, since little air will be delivered. To increase the amount of energy delivered, air flow can be increased with a commensurate drop in the outlet temperature. The collector typically delivers 10 to 15 times more heat energy than it takes in electrical energy to run the small fan. American Solar provides all the controls required to balance the air flow and outlet temperature to maximize the energy output and cost savings for your particular heating application.

Standard sizes 4' x 8' by 1" with 6"x 6"x 4' fan plenum. Fan power 12 Volt DC, 24 Volt DC or 115 volt AC. Solar electric power option available. Custom configurations available to 50' long by 100" wide with glazing covers and mounting hardware for sloped installations. Complete design and installation service available. Financing and energy purchase options available.

TITLE **Polymer Solar Air Heating Schematic**

DWG NO

SCALE

DATE

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