



ABOUT YOUR SOLAR HEATING SYSTEM

Your solar furnace was made by **Lakota Solar Enterprises**, a Lakota-owned Pine Ridge company. It is a **solar air heating system**, which uses the sun's energy to heat your home.

- Your solar heating system will **not** provide ALL your heat—it supplements your other heat sources (such as electricity, propane or wood stove)
- The heating system **only** works when the sun is shining—it does **not** work at night or when it is cloudy



LSE's solar heating systems are manufactured in its facility at Pine Ridge. The main component of each unit is a four-by-eight-foot solar collector panel, made of a black metal film covered by a sheet of special solar glass and surrounded by a metal frame.

This panel is mounted and installed next to the south side of the house, where it absorbs heat from the sun. The mounted panel is connected to the house by two air ducts (supply and return). Whenever the air inside the

collector panel is warmer than the temperature set on the heating system's thermostat, a blower inside the system turns on and warm air is pushed into the house.

During the heating season:

- The heater does not need to be turned on and off daily.
- If you leave the heater plugged in and the thermostat turned up, the heater will automatically turn on whenever the panel is heated by the sun
- At night or when it is very cloudy, the heater will automatically shut off—a back-draft damper keeps cool air from entering the house
- Remember to turn *down* the thermostat on your *other* heat source when the solar heating system is running

When you do NOT need heat:

- Turn the solar heating system's thermostat down
- In the spring, you can unplug the heating system



Side view of solar heating system, showing ducts for air intake and return

If your heating system is not working, check to make sure that:

- The power cord from the heater is plugged into a working electrical outlet in your home
- The heater's thermostat is turned up higher than the temperature in the room
- The sun is shining on the solar panel outside your home

SOLAR AIR HEATERS: **HOW THE SUN CAN WARM YOUR HOUSE**

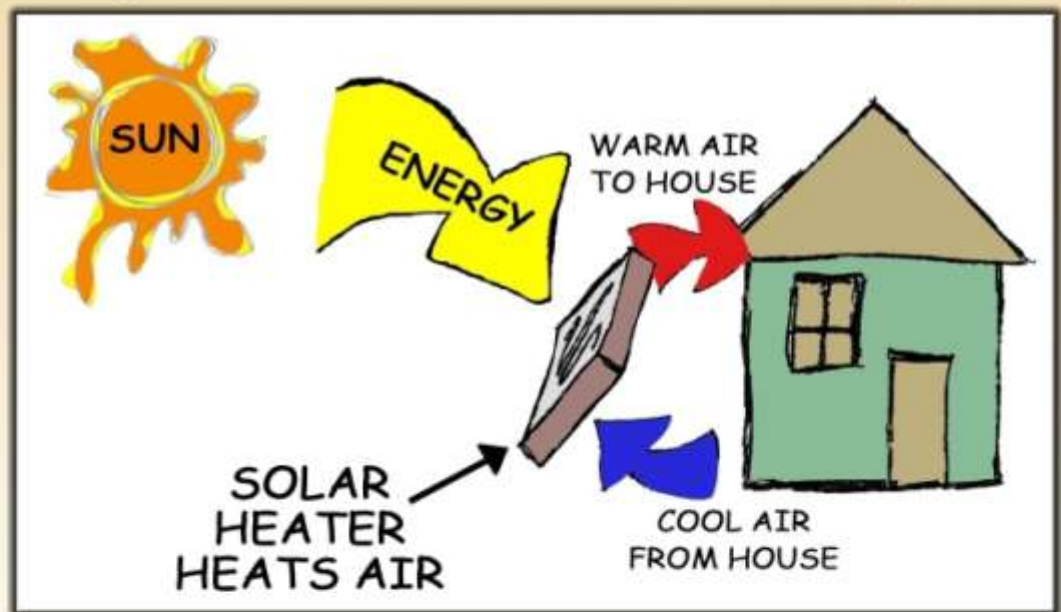
WHAT IS A SOLAR AIR HEATER?

A solar air heater uses the sun's warmth to heat air that can be used to help keep a house warm in the winter. Most houses use electricity or burn oil, gas or wood to create heat, but a solar heater uses the sun's warmth to help make a house warm naturally, without burning anything or using lots of expensive electricity.

HOW DOES A SOLAR AIR HEATER WORK?

A solar air heater works by drawing cool air from part of a house into the heating panel which is specially designed to absorb the sun's energy. As the air passes through the panel, it heats up. When the air is warm enough, a built-in thermostat automatically turns on a blower fan and the warm air is blown back into the house. As the warm air leaves one side of the heater, more cool air enters the other side and the process repeats automatically, as long as the sun is shining on the panel.

Generally a solar air heater heats only a room or a portion of a house, reducing the amount of conventional heat that is needed. Solar air heaters are different than photovoltaic (PV) solar panels you may have seen because they produce heat rather than electricity.



HOW IS A SOLAR AIR HEATER INSTALLED?

The heater sits near an outside wall of a house, facing as close to true south as possible. During winter months, the sun is lower in the sky so the panel is installed at a relatively steep angle to face the sun as directly as possible, in order to absorb as much of the sun's energy as possible. There are two ducts that attach the heater to a house. One duct allows cool air into the heater, the other comes out the far side and sends warm air back into the house. *It's important to talk to someone experienced before buying and installing a panel.

