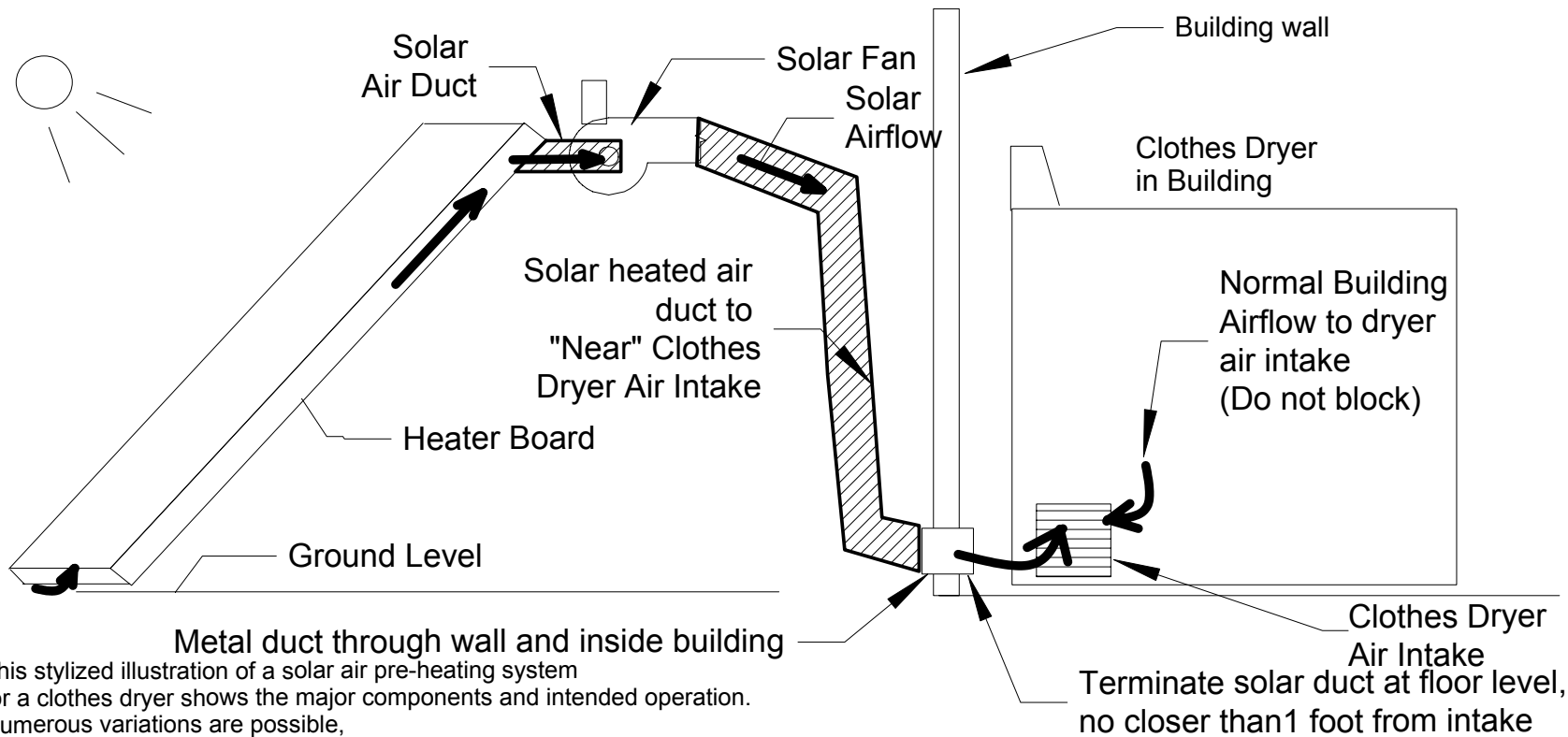


Clothes Dryer Solar Air Pre-heating, Mechanical Schematic



This stylized illustration of a solar air pre-heating system for a clothes dryer shows the major components and intended operation. Numerous variations are possible,

Operation:

When the clothes dryer runs, it pulls conditioned (heated or cooled) air from the house into the dryer air intake where it is heated and blown out the dryer exhaust. When room temperature air enters the dryer, the expensive electric resistance heaters in the dryer boost the temperature to as much as 160+ degrees F. Pulling the air from the room at up to 7500 cubic feet per hour of dryer operation creates a vacuum in the house that is filled by outside air leaking into the house. This causes the furnace (boiler, heat pump, etc.) to run to heat the house. The combination of cold outside air leaking in and room temperature air being heated in the dryer causes two sources of energy use, dryer electricity and home heating. Introducing solar heated air "near" the dryer air intake saves energy in two ways. It reduces or eliminates the vacuum that pulls cold air into the house. It also preheats the air entering the dryer so the electric heating elements of the dryer use less energy to reach the desired dryer temperature. Even solar air below room temperature will save energy if the alternative is to allow cold outside air to leak into the house.

Caution

Never block the normal room airflow to the dryer. The dryer must always have access to room air. Use the solar air simply to flood the area of the dryer with warm air. The warm air will be drawn in first and any additional air that the dryer needs will be brought in at room temperature. Blocking room air intake can cause the dryer to overheat. Never block the room air flow. Never blow the solar air directly into or at the dryer air intake of a gas or propane dryer. Consult a licensed plumber or appliance installer if you are using a gas or propane dryer.

Heater Board Clothes Dryer Solar Air Pre-heating Schematic

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