

Heat Pumps¹

Florida Power Corporation²

THE ELECTRIC HEAT PUMP

The Efficient, Economical Way to Heat and Cool Your Home

If you have a typical Florida home, over 50% of each energy dollar you spend goes for heating and cooling. Now homeowners can reduce these costs at least 25% by installing an electric heat pump.

A heat pump is safe and easy to operate, and because there is no combustion or flame, there's less work and fewer cleaning bills.

If you're building a new home or looking for a way to reduce energy costs in your present home, an electric heat pump will provide year-round comfort and savings!

WHAT IS A HEAT PUMP?

A heat pump is a revolutionary concept in heating and cooling design. Instead of manufacturing "hot air" like a conventional furnace, it "pumps" or transfers heat from where it is not needed to where it is needed. In the summer it absorbs heat from indoor air and transfers it outdoors (Figure 1). In winter, this process is reversed and heat from the outside is transferred indoors (Figure 2).

A conventional heat pump consists of two sections and looks like any central, forced-air heating system with air conditioning. One section resembles the familiar warm-air furnace and goes inside the house. This section contains the A-coil plus electric heating elements. It's connected to the duct system.

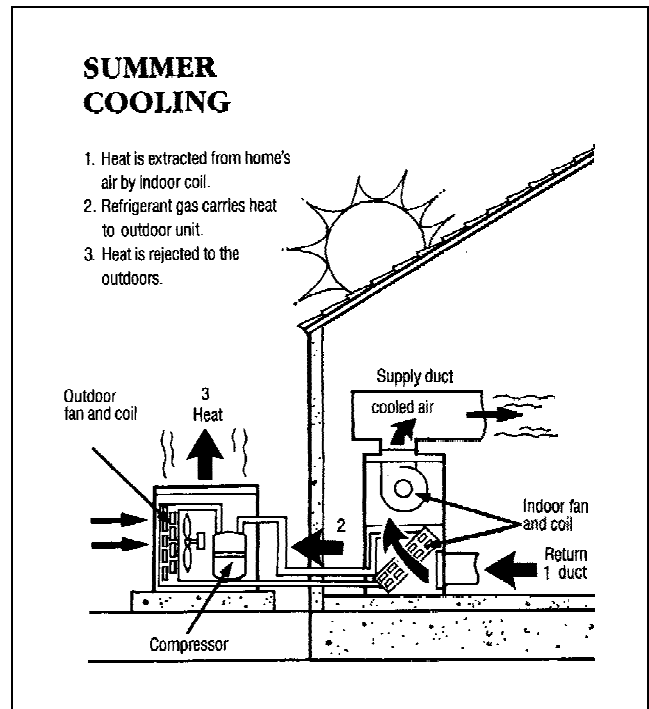


Figure 1. Summer Cooling.

The other section goes outdoors and looks just like a central air conditioner. Refrigerant lines connect the two sections.

How does it work? The process is similar to your refrigerator. Instead of creating "cold," refrigerators move heat from inside to outside. In a similar fashion, an electric heat pump uses the basic components of a central air conditioner to achieve year-round comfort.

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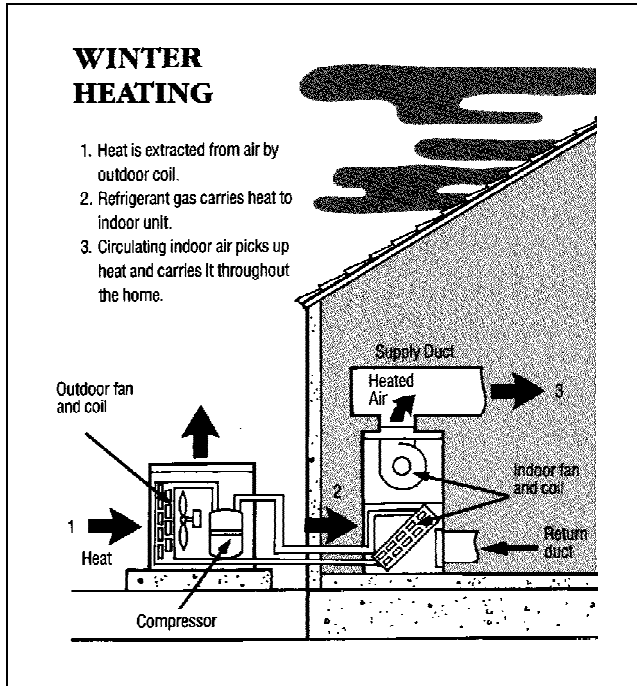


Figure 2. Winter Heating.

ABSORBING OUTSIDE HEAT IN WINTER

Even when the air temperature is extremely cold, it contains heat that can be transferred into your home by the heat pump. For example, when the air temperature is zero degrees, the air still contains about 90% of the heat that is present at 70 degrees.

Naturally, the colder the outside air, the harder the heat pump must work to remove enough heat to keep your home warm. For this reason, many heat pumps contain a supplemental heat source that automatically provides additional heat when the outside temperature is very low.

THE MOST ENERGY-EFFICIENT SYSTEM

A heat pump is the most energy-efficient heating system commercially available today. That's because moving heat from one place to another is much more efficient than generating new heat.

Conventional electric resistance heat systems provide one dollar's worth of heat for each dollar you spend on energy to create that heat. With the heat pump, however, you receive two to three dollars worth of heat for every dollar of energy. This means you get twice as much heat for the dollar!

If you now have a gas, oil or electric furnace or are building a new home, a heat pump will significantly reduce your heating costs. How much you save depends on your climate, electric rates, and the size and condition of your house. On an average, however, a heat pump should reduce heating and cooling costs 25% or more over a conventional central system. Heating costs alone can go down as much as 50%.

ENERGY EFFICIENCY RATINGS

When you select a heat pump, insist on a high efficiency model. Heat pumps are rated by their "Seasonal Energy Efficiency Ratio" (SEER) for cooling and by "Heating Seasonal Performance Factor" (HSPF) for heating. Older models may use "Coefficient of Performance" (COP) for heating. The higher the rating numbers, the more efficient the system is and the less costly it will be to operate. We recommend at least a 12.0 SEER and 7.0 HSPF rating.

INSTALLING A HEAT PUMP

If you have a central air conditioner in your home or forced hot air heating, you are an excellent candidate for a heat pump system. It's important that your heat pump be carefully sized so it operates efficiently.

A heat pump is easily adapted to a house with ducts of adequate size to distribute the heated and cooled air. With a new home, the duct system can be designed to provide the most effective air circulation.

An add-on heat pump can be installed if your furnace is in good operating condition and your existing air conditioner is old and needs replacement. An add-on can also make sense if you are adding central air conditioning to your home.

"PLUS" BENEFITS OF A HEAT PUMP

It Dehumidifies

In summertime, your heat pump removes moisture from inside your home. It eliminates the dampness and gives you maximum coolness for your energy dollar.

Year-round Comfort

Unlike other heating systems, one unit provides summer cooling and winter heating. A wall thermostat automatically controls the air temperature in the home.

Cleanliness

Since the heat pump does not burn fuel it needs no costly venting and produces no fumes or odors. Air that circulates throughout the house is filtered and your home stays fresh and clean.

Reliable

Comparable to any other system, the median life expectancy is 20 years.

Heat for Hot Water

By adding a heat recovery unit, you can use your heat pump to heat hot water during the summer. This unit recovers unused heat energy discharged by the heat pump compressor and uses it to heat water.

An electric heat pump reduces heating and cooling costs and provides extra comfort for your family.