

# Take Control & Save<sup>®</sup>

A Cooperative Effort for Energy Efficiency

[www.TakeControlAndSave.coop](http://www.TakeControlAndSave.coop)

## Ductless heat pumps

### Don't burn your money

Did you know that space heating and cooling account for almost half of an average home's energy use? It adds up when you think about the amount of energy it takes to heat a home in a cold climate and to cool one in a region where the temperatures are hot. However, you can reduce this necessary expense by selecting the appropriate heating, ventilation and air conditioning (HVAC) system for your needs. Modern systems such as ductless heat pumps are just as effective as more traditional systems, but are much more energy efficient.

### Energy Efficiency *quick tip*

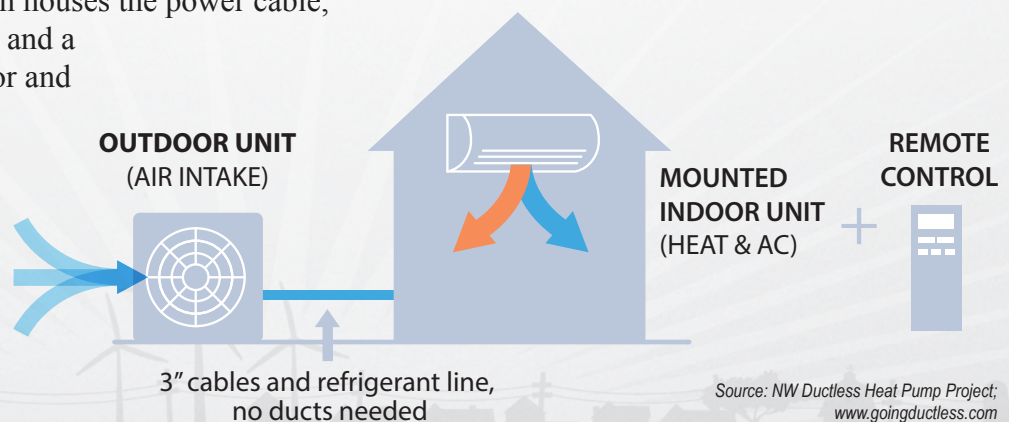
Ductless heat pumps use 50 to 60 percent less energy than electric resistance heating systems.

### What is a ductless heat pump?

Ductless heating and cooling systems are highly efficient products that deliver warm or cool air directly into different zones in your home, instead of routing it through ducts first. You may also hear them called "mini-split" heat pumps. "Mini," because they are suitable for conditioning smaller areas, and "split," because they consist of a separate outside compressor and one or more inside air-handling units.

Like standard air-source heat pumps, ductless heat pumps (DHPs) have two main parts: an outdoor compressor/condenser and an indoor air-handling unit. A conduit, which houses the power cable, refrigerant tubing, suction tubing, and a condensate drain, links the outdoor and indoor units. See the graphic on the right for reference.

Many systems offer up to four indoor units to condition different rooms (or zones), and some systems come with wireless remotes or wall-mounted control units.



Source: NW Ductless Heat Pump Project;  
[www.goingductless.com](http://www.goingductless.com)

### Common installations

Although ductless heat pumps can be installed in any home, the following are the most common.

#### **Non-ducted heating systems:**

Ductless heat pumps (DHPs) are an increasingly popular, cost-effective solution to replace "non-ducted" heating systems such as baseboard heaters, radiant panels, space heaters and window air conditioners.

#### **Poorly heated or cooled rooms:**

Can be used to improve comfort in poorly heated or cooled rooms.

#### **Room additions:**

Room additions where extending or installing distribution ductwork is not feasible.

#### **New homes:**

Very efficient new homes that require only a small space conditioning system.

#### **Multi-family units:**

Condo or apartment housing.

## Benefits of a ductless heat pump

### *Save energy and save money:*

Since it uses heat pump technology, a DHP system is very energy efficient. It uses an estimated 50 to 60 percent less energy than electric resistance heating systems.

### *Comfort and control:*

In traditional systems, you generally have one thermostat that controls the temperature of your entire home. With ductless heating and cooling systems, each room or area (zone) has its own thermostat, so you only need to condition occupied spaces.

### *No energy lost from ducts:*

More than 30 percent of energy used for space conditioning may be from duct loss, especially if the ducts are in an unconditioned space such as an attic. DHPs have no ducts, so they avoid this energy loss.

### *Versatile all-year service:*

A single solution for homes that formerly relied on electric baseboard heaters in the winter and window air conditioning units in the summer.

### *Proven technology:*

DHPs have been around for over 30 years and are used widely throughout the world.



*The indoor units can be suspended from a ceiling, mounted flush into a drop ceiling, or hung on a wall.*



## Considerations

Remember that costs vary significantly by manufacturer, region, dealer and time of year the unit is purchased. As you evaluate systems, get several price quotes from qualified, experienced installers. The installer must correctly size each indoor unit and determine the best location for its installation. Oversized or incorrectly located air handlers can result in short cycling, which wastes energy and money, and does not provide proper temperature or humidity control.

Keep in mind, the cost of purchasing and installing DHPs can be higher than other systems, although lower operating costs and rebates can help offset the initial expense.

## Take Control & Save on your heating and cooling!

Contact your local electric cooperative prior to purchasing and installing a heat pump as they may offer rebates. Your cooperative may require you to have a dual-fuel system to qualify for a rebate. Dual fuel is simply a heat pump combined with a backup natural gas, propane or fuel oil heating system. During extreme cold weather when your heat pump is unable to run, the back-up system ensures you have the heat you need.

For more energy saving ideas, visit [www.TakeControlAndSave.coop](http://www.TakeControlAndSave.coop).

## Money saving tip!

Contact your local electric cooperative to determine the seasonal energy efficiency rating (SEER) eligible for heat pump rebates.

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