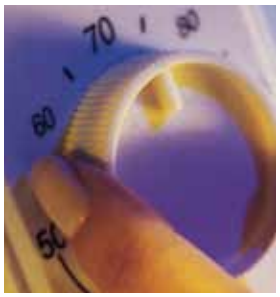
ENERGY wise
FOR YOUR HOME



Heat pumps – the natural choice

For environmentally friendly heating and cooling, a heat pump is the natural choice. Quiet and efficient, heat pumps use the heat found naturally in the air and ground. Plus, installing a heat pump may qualify you for rebates and reduced electric rates from Dakota Electric, making them an even greater value.

Value for your home

A heat pump is an ideal heating and cooling option for almost any home.

Move heat efficiently

The concept for heat pumps was first formulated more than 150 years ago. Today, heat pump technology is one of the most advanced and energy-efficient heating and cooling technologies available.

Heat pumps do not create heat, like combustion furnaces do. They simply transfer or "pump" heat from where it is (heat source) to where you want it to go (heat sink) using heat exchangers, compressors and refrigerant.

Since more heat energy is transferred than consumed in the process, the efficiencies of heat pumps range from 200-400 percent as compared to 80-95 percent for combustion furnaces.

You can choose from two types of heat pumps

AIR-SOURCE HEAT PUMP

An air-source heat pump moves heat to and from the outdoor air. In summer, it operates like a conventional central air conditioner. In winter, it provides supplemental heat. You will still need a conventional furnace or other heat source for the coldest days of the year.

Air-source heat pumps are energy-efficient and make your indoors more comfortable. Warm air from a heat pump is more moderate in temperature than air from conventional furnaces. As a result, the warm air rises more slowly, distributes heat more evenly and holds moisture better.

Installed, an air-source heat pump costs slightly more than a standard central air conditioner, but Dakota Electric's rebates and low, off peak electric rates can help offset the additional cost in two to five years.

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GROUND-SOURCE HEAT PUMP

Here in Minnesota, temperature changes are a big part of our local climate. But just 10 feet underground, the temperature is about 50 degrees year-round. Ground-source heat pumps, also called geothermal heat pumps, take advantage of this consistent temperature.

A ground-source heat pump consists of a network of plastic pipe buried underground. Non-toxic antifreeze solution circulates through the pipes, then to the heat exchanger inside the ground-source heat pump. In summer, the liquid inside the tubing collects heat from the building and moves that heat into the ground. In the winter, it collects heat from the ground and brings it indoors.

Discover the benefits of a ground-source heat pump:

- 300-400 percent energy-efficient – the most energy-efficient heating and cooling system available
- All working parts are located indoors
- Much quieter than conventional air conditioners
- Potential for free hot water all summer
- Hydronic floor heating option available – no need for a boiler
- Maintenance-free – most underground pipes are designed to last 50 years

Contact the Energy Experts®

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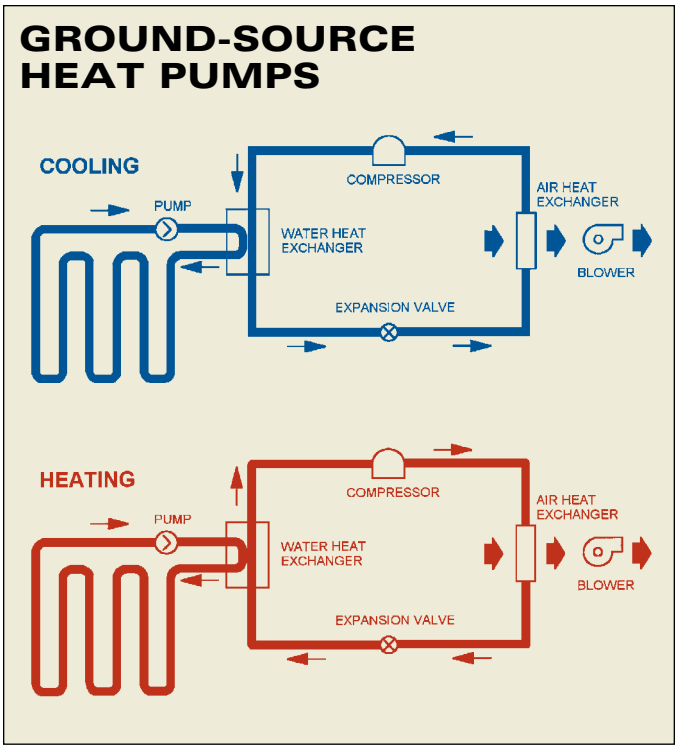

Ground-source heat pumps use the earth's ability to store heat in the ground.

Help the environment, too

Dakota Electric is proud to promote environmentally responsible options like heat pumps, which help you save money and protect the environment.

Rebates and off-peak rates available

Dakota Electric members are eligible for the following rebates on heat pumps installed in Dakota Electric's service territory. Save even more with a low off-peak rate.

- $400 per ton rebate for a residential ground-source heat pump
- $330-$630 rebate for an air-source heat pump, based on SEER rating and quality installation

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