

Air Source Heat Pumps



Efficient heating and cooling from just one unit.

Heating and cooling may be complete opposites, but an air source heat pump is a single device that provides both, using the reliable, efficient electric power you've come to trust. Best of all, you can choose a heat pump with confidence, because – unlike natural gas and propane prices – electric rates have remained fairly stable over the years.

Cool and Comfortable

During the summer, heat pumps work just like air conditioners, using a refrigerant to transfer heat from inside your home to a compressor outside. There, a set of coils (like those in your car's radiator) removes the heat from the refrigerant and returns it to the house to cool the air.

Warmth Without Combustion

While most other types of heaters warm your home by burning a fuel such as natural gas or fuel oil, air source heat pumps find the heat energy in outdoor air, and “pump” it into your home. Basically, they reverse the air conditioning process by using the same refrigerant to bring heat energy indoors. In very cold weather, additional heat is provided by electric resistance coils, which are advanced versions of the simple coils in your toaster.

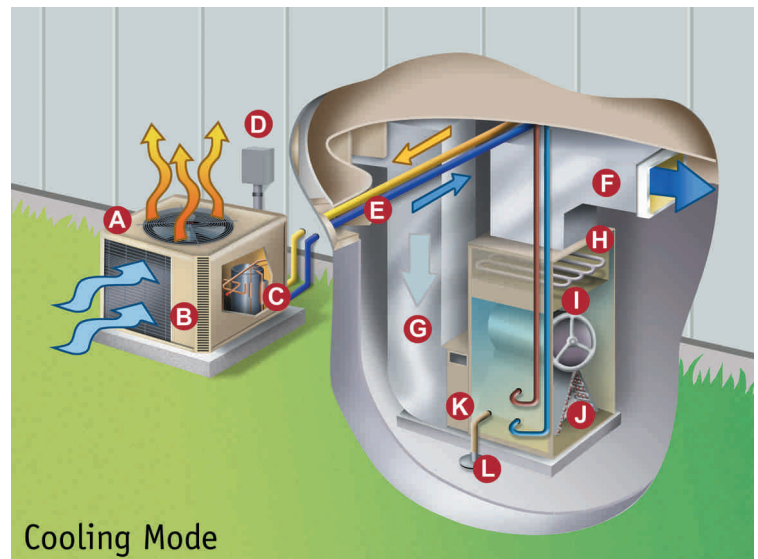
Safe and Efficient

Unlike gas or oil furnaces, heat pumps do not produce harmful gases such as carbon monoxide, so they don't need to be vented. They're a safe, clean source of heat and cooling for your family. Plus, they're 3-5 times more efficient than gas furnaces. In fact, a properly installed heat pump can deliver as much as three times more heat energy than the electricity it consumes. Heating efficiency is measured by the Heating Seasonal Performance Factor (HSPF), while the Seasonal Energy Efficiency Ratio (SEER) measures how well they provide cooling. For home systems, the HSPF is usually between 6.0 and 10.0, while the SEER ranges from 10.0 to 18.0. Higher numbers indicate greater efficiency. Of course, they work best when they're the right size and installed in a well-insulated home.

Reliable, Advanced Technology

Today's high-efficiency air source heat pumps provide year-round comfort without the problems homeowners sometimes encountered with the early models that were introduced three decades ago. Improvements to coil and motor design, coupled with variable-speed blowers and sophisticated thermostatic expansion valves make today's heat pumps a reliable choice.

Heat pumps come in a wide variety of sizes and options, but most homes use “split” systems that include indoor and outdoor units. Your heating and cooling contractor will help you choose the model that best meets your needs.



Cooling Mode

Typical heat pumps have indoor and outdoor components. The outdoor portion (A-D) includes the heat exchanger, which transfers heat to or from the house, depending on the season. The indoor portion (E-L) distributed heated or cooled air throughout the house.

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| A. Outdoor fan | G. Return air |
| B. Outdoor coils | H. Electric coils |
| C. Compressor | I. Blower |
| D. Disconnect switch | J. Indoor coils |
| E. Refrigerant lines | K. Air cleaner |
| F. Supply air | L. Condensation drain |