A Simple Exchange

For Higher Efficiency

An air source heat pump works extremely well as a retrofit installed in an older home. However, house improvements and upgrades must be addressed as well as properly sizing the system.

A system that is too large will cool your house too quickly, before the exchange process has removed sufficient moisture from the air. A system that is too small will run constantly in both winter and summer, and your supplementary heat or backup furnace may be forced to run more often. Constant operation and the use of backup heat both increase your costs.

Be sure to address sealing and weatherization challenges associated with older homes, and consider these upgrades:

IMPROVE THE DUCTWORK -

If your home has a furnace but not central air conditioning, more ductwork may be needed. Both central air conditioners and heat pumps require more air movement than a furnace.

An ideal duct system for a heat pump has both a supply register and a return register for every room so that air is easily exchanged throughout the house.

It is also important that ductwork be properly sealed; mastic instead of duct tape is recommended.

PLUG THOSE HOUSE LEAKS -

Your home will stay warmer if you plug small leaks present in most houses. Seek out gaps around and under doors, light fixtures and wall outlets as well as around chimneys. Air leaks around plumbing cutouts under your sinks and around vents and other utility lines waste more energy than you realize, and contribute to inefficiency.

These gaps may not seem large, but should be sealed to maximize air exchange through the ductwork instead of through the leaks.

SEAL YOUR WINDOWS -

It's time to replace the weather stripping or caulk around windows and storm windows for a tighter seal and more energy efficiency. Even better would be to replace older storm windows with double- or triple-pane, insulated windows.

Dual Fuel System

Replacing central air conditioning and furnaces with energy-efficient air source heat pumps makes even more sense in these days of rising fuel costs. However, you may want to consider an air source heat pump combined with a fossil-fuel backup system if you live in an area with extended periods of extreme cold.

A dual fuel system can be either a heat pump connected to a gas-fired furnace or a heat pump that uses gas burners instead of strips of heating elements as supplementary heat.

The backup system provides a secondary heating source when the heat pump cannot pull enough heat energy from the outside air. Since the combination uses both electricity and gas for heating, it is called a dual-fuel system.

A pre-set outside thermostat determines when the secondary heat source will come on. When the outside temperature drops well below freezing to the pre-set low, the gas-fired elements take over the heating load.

Multiple air source heat pumps can be used for each zone of a large or multi-storied home. Room additions and renovations can also benefit from the year-round comfort and savings of an ASHP.

"Contact your electric cooperative if you have questions and need more information on air source heat pumps. your coop can also help you find an HVAC dealer that installs heat pumps in your area."

Did you know?
Approximately 26% of all new single-family homes in the U.S. are equipped with heat pumps, according to the Air Conditioning and Refrigeration Institute (ARI).

MORE INFORMATION ON HEAT PUMPS
and increasing your home's energy efficiency can be found on these web sites.

www.eere.energy.gov/consumerinfo/factsheets/airheatpump.html - U.S. DOE, Energy Savers Resource Guide - Air Source Heat Pumps

www.energyright.com/heatpump/airsource.htm - Energy Right - Air Source Electric Heat Pumps

A simple EXCHANGE

Keeps Your Home Comfortable

With An Air Source Heat Pump