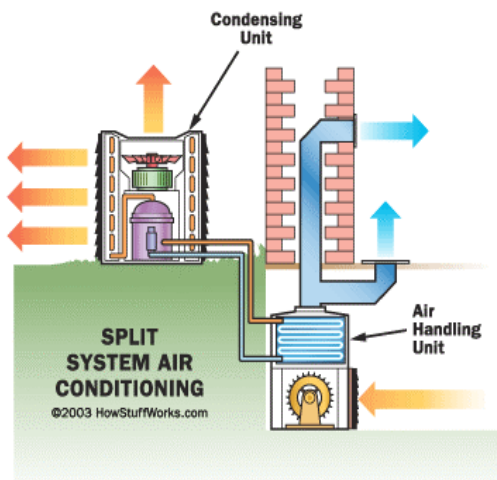




How does an air conditioner work?

Did you know that your air conditioning system actually uses the heat in your home to make your home cooler? Often referred to as a split system, an air conditioning system is made up of three major components. The indoor evaporator coil that is attached to your furnace or air handler, the outdoor condensing unit, and the compressor that sits inside the condensing unit. The split system is filled with a chemical refrigerant that will boil both at a high and low temperature.



The refrigerant leaves the compressor as a hot, high-pressure gas and flows through the coils on the outdoor unit condensing the gas to a liquid before entering the evaporator coil in the house. The heat from the indoor air blowing across the evaporator coil causes the liquid to evaporate, converting it back to a low temperature gas. This process also removes moisture known as humidity from the indoor air. The refrigerant returns to the compressor where it is compressed back into a hot, high-pressure gas. The cycle continues until the temperature inside the house reaches the desired setting on the thermostat. The result is a cool and comfortable home.

There are many different brands of air conditioners available on the market today but what do all the terms and numbers mean such as SEER, tonnage or tons of cooling, and the type of refrigerant.

SEER (Season Energy Efficiency Ratio) is used to rate the efficiency of the air conditioning system, the higher the SEER the more energy efficient the system. The SEER is determined mathematically by dividing the total cooling capacity during a specific period by the input of total electric energy used during that same period. In 2006 the United States Government required that the manufacturing of all new air conditioning units must be a minimum 13 SEER. Systems available on the market range from 13 SEER to 21 SEER.

Air conditioning sizes are referred to in tons. This is not a weight measurement. Heating systems are rated in BTUs (British Thermal Units). One ton of air conditioning equals 12,000 BTUs per hour. For each ton, an air conditioning system removes 12,000 BTUs of heat from the home per hour. There are currently two different refrigerants used in the air conditioning system. The universal term for refrigerant is Freon. The official names are R22 and R410a. Used for almost 4 decades, R22 has been the refrigerant used in air conditioning systems. R22 was found to cause global warming and is in the process of being phased out. The new chlorine-free, environmentally friendly refrigerant replacing R22 is R410a. Each refrigerant operates at a different pressure and cannot be mixed together. When upgrading to a new air conditioning system, both the indoor evaporator coil and outdoor condensing unit must be rated for the same refrigerant.

Thinking of replacing your air conditioning system?

Here are a few questions to ask yourself when considering purchasing a new air conditioning system.

How long do I plan on living in my current home?

If you are planning on moving in a less than three years a 13 SEER system would offer great savings right away. If you are planning on living in your home for over 10 years, you may want to invest in a higher SEER system that will provide substantial savings and be a great return on your investment.

What size system will I need?

Depending upon the size of the home, residential air conditioning systems range from 1 ½ tons to 5 tons capacity. Larger homes may have more than one air conditioning system. A Project Estimator from Whole House Mechanical would be able to determine what size system your home would need by using the measurements of your home and windows to calculate a heat loss/heat gain load on your home.

Are you planning on adding onto your home or remodeling? Is your house properly insulated and sealed? Do you have energy efficient doors and windows?

All these factor into how efficiently your home heats and cools.

If you are interested in having an estimate on a new air conditioning system installed, call Whole House Mechanical today (219) 879-6264. The process takes about an hour and you will receive a written proposal in one to two days.