



Heating and Air Conditioning Glossary

If you hear a word that you are not familiar with, look up the word and feel like a professional:

13 SEER

This is a new minimum efficiency standard (January 2006) for an air conditioner or heat pump. All new units must now meet this standard. Previously manufactured equipment may be used, sold and installed. SEER will be defined later.

ACCA

The Air Conditioning Contractors of America, a national trade association that represents heating, ventilation, air conditioning and refrigeration contractors.

AIR HANDLING UNIT

Equipment with a heating element and/or cooling coil and other components in a cabinet or casing.

ARI

Air Conditioning and Refrigeration Institute, a non-profit, voluntary organization composed of heating, air conditioning and refrigeration manufacturers. ARI publishes standards for testing and rating heat pumps and air conditioners.

BALANCING or AIR BALANCING

Adjusting an air conditioning system so that the right amount of air is delivered to the right places in your home in order to achieve the right heating or cooling effect.

BTU

British Thermal Unit, the measurement of heating and air conditioning capacity. A BTU is the amount of heat that must be added to one pound of water to raise its temperature one degree Fahrenheit.

CFC

Chlorofluorocarbons, used as refrigerant in air conditioners and heat pumps, linked to depletion of the ozone layer.

COP

Coefficient of performance, an efficiency ratio that compares the amount of heat delivered to the amount of energy used. As with MPG on a car, the higher the score the more energy efficient the equipment is.

COIL

A heating or cooling element made of pipe or tubing, usually with plates or fins.

COMMISSIONING

The final step in installing a heating or air conditioning system. Every component is checked and tested for compliance with codes, ACCA manuals, manufacturer requirements and occupant needs. After commissioning, the technician will: provide documentation of testing, provide all equipment manuals and show the homeowner how to operate the system.

CONDENSER (HEAT EXCHANGER)

The outside unit of a heating or air conditioning system. Here the refrigerant condenses from a gas to a liquid and hot or cold air from the building is released to the outside.

DEHUMIDIFIER

A device that removes excess moisture from the air.

DOE

The U.S. Department of Energy, the federal agency that sets industry efficiency standards.

DUCT

Conduits used to carry air. They can be round or rectangular, sheet metal or fiberglass or vinyl tubes. In air conditioning system they carry air from the home to the air conditioning system or furnace and back to the home.

ERV

Energy Recovery Ventilator, a machine that draws fresh air into the home and exhausts stale air from the home. It uses a process to pre-heat or pre-cool (depending on the season) to reduce energy costs associated with conditioning the air.

ENERGY STAR

A government supported branding used to identify energy efficient products. The branding was developed by the US Department of Energy and the US Environmental Protection Agency.

EPA

The US Environmental Protection Agency

FAN COIL

See AIR HANDLING UNIT

FURNACE

A self-contained heating unit that is designed to deliver heated air to a home.

GAMA

Gas Appliance Manufacturing Association is a national trade association serving the interests of manufacturers of gas, oil and electric appliances and equipment, components and related products used in residential, commercial and industrial applications.

HCFC

Hydrochlorofluorocarbons, used as a refrigerant in air conditioners and heat pumps. HCFCs were thought to contribute to the depletion of the earth's ozone layer.

HEAT EXCHANGER

1. The part of a furnace that transfers heat from burning fuel to the air used to heat your home. Also, from a boiler to water for hydronic heating.
2. A device, such as a condenser or evaporator, in which heat is added or removed in order to heat or cool your home.

HEAT PUMP

A single refrigeration system designed to provide both heating and cooling. Compare to a furnace and an air conditioner, separate units that only heat or cool.

HRV

Heat Recovery Ventilator, a machine that brings fresh air into a home through a process that preheats the air so it has less impact on your utility bill.

HSPF

Heating Seasonal Performance Factor, an equipment efficiency rating. As with MPG on a car, the higher the rating the more fuel efficient the equipment is.

HUMIDIFIER

A device that adds moisture to warm air for your home.

HVAC

Heating, Ventilation and Air Conditioning

HVACR

Heating, Ventilation, Air Conditioning and Refrigeration

INFILTRATION

Air that enters your home through holes, gaps and cracks (ie. Plumbing or electrical holes, the heating and air conditioning system, doors and windows).

IAQ

Indoor Air Quality

LATENT HEAT

The energy that suspends moisture vapor in the air.

LOAD CALCULATION

A mathematical determination of how much cooling and heating an HVAC system must deliver for occupancy safety and comfort. It is based on a variety of factors: square footage, building orientation, number of occupants, size and placement of rooms, number and size of windows and doors, amount of insulation, number of floors and climate.

MATCHED SYSTEMS

An air conditioner or heat pump system composed of equipment that has been certified by ARI to work together to deliver the specified heating and cooling capacity at the stated efficiency rating.

MOLD

A natural byproduct of the fungi family that thrives when organic substances and water combine under certain circumstances. Mold reproduces via spores that can remain dormant, yet viable, for years. Many molds are beneficial. For example, they are the “bleu” in bleu cheese, and we use them to make wine, penicillin and antibiotics. However, some molds can cause health problems.

NATE

North American Technician Excellence, the nonprofit organization that tests and certifies HVACR technicians.

R-22

A refrigerant containing chlorine used in air conditioning systems. The EPA has mandated that R-22 cannot be manufactured after 2010 because it has been linked to the depletion of the ozone layer and global warming. Most commonly referred to by its trademarked name, Freon.

REFRIGERANT

A fluid that absorbs heat at low temperatures and rejects heat at higher temperatures.

REFRIGERANT CHARGE

The procedure an HVACR technician performs to ensure that the system has enough of the right kind of refrigerant for peak operating performance.

RELATIVE HUMIDITY

The percent of moisture actually in the air compared to the maximum amount of moisture the air can hold at that temperature.

RETURN, RETURN AIR, RETURN SIDE

The path that air takes to get to an air-handling unit of furnace so it can be cooled or heated. It's the "return" path. The return side should be "balanced" with the supply side to ensure proper air flow and comfort.

SEER

Seasonal Energy Efficiency Ratio, an equipment efficiency rating that measure how much energy it takes to cool the air. As with MPG on a car, the higher the number the more efficient the unit.

SENSIBLE HEAT

The temperature of the air. This type of heat is measured with a thermometer.

SPLIT SYSTEM

A two-component heating and cooling (heat pump) or cooling only (air conditioning) system. The condensing unit is installed outside, the air handling unit is installed inside (preferably in conditioned space). Refrigerant lines and wiring connect them together.

SUPPLY

The part of and HVAC system that takes the conditioned air from the air-handling unit or furnace to your home. The supply side should be "balanced" with the return side to ensure proper air flow and comfort.

ZONES, ZONED SYSTEM, ZONING

A single HVAC system that can meet different heating and cooling needs in different areas (zones). Each zone of a home has its own thermostat with which it can regulate the temperature and humidity in its area. One "zoned air conditioner" could be set for a high temperature in one zone and for a lower temperature in the other zone. Zone systems have two or more zones and thermostats.