

Bluestem Electric Cooperative's HVAC DICTIONARY

The Heating Ventilation and Air Conditioning Industry can be a maze of unfamiliar acronyms and industry terms. This dictionary will help you navigate the most common terms you'll come across when purchasing a new HVAC System.

A

AC Alternating Current - A type of current where the polarity is perpetually reversing, causing the directional flow in a circuit to reverse at regular intervals.

ACCA - Air Conditioning Contractors of America.

Acoustical - Relating to sound, the science of sound, or a sense of hearing.

AFUE - Annual Fuel Utilization Efficiency. A measurement used to rate furnace efficiencies by dividing the ratio of heat output by heat input.

AGA - American Gas Association, Inc.

Air Conditioner - A device that changes humidity levels, temperature or quality of air.

Air Flow Volume - Measured in cubic feet per minute (cfm), this is the amount of air circulated in a space.

Air Handler - Parts of a system including the fan-blower, filter and housing.

ARI - Air Conditioning and Refrigeration Institute.

ASHRAE - American Society of Heating, Refrigeration and Air Conditioning Engineers.

B

BTU - British Thermal Unit. Measures the amount of heat required to raise or lower the temperature of one pound of water one degree Fahrenheit.

BTUh - British Thermal Units per hour.

Burner - The device that facilitates the combustion of air and gas.

Burner Orifice - The opening in the burner through which the gas or fuel passes prior to combustion.

C

Capacity - HVAC capacity is the output produced by the heating or cooling unit and is measured in BTUs per hour.

Celsius - A temperature scale that registers the freezing point of water as 0° and the boiling point as 100° under normal atmospheric pressure.

CFM - Cubic Feet per Minute. A measurement of airflow volume.

Charging a System - Adding coolant, or refrigerant, to an HVAC system.

Compressor - A pump that increases the pressure of gas.

Condensate - Vapor that is turned into a liquid as its temperature is lowered.

Condenser Coil - Also an outdoor coil. A device that removes heat from the refrigerant, allowing the refrigerant to be converted from vapor to liquid.

Condenser Fan - A fan that passes air over the condenser coil to facilitate the removal of heat from the refrigerant.

CSA - Canadian Standards Association.

D

DC - Direct Current. A type of electrical current that only flows in one direction.

Damper - Found at the exit point of ductwork, this plate usually contains grates that can be opened or closed to control the flow of air into a zone.

Degree-Day - Calculated by subtracting the average outdoor temperature for an area from 65° Fahrenheit. This measurement is used to estimate the amount of heating or cooling a home or building will need.

Dehumidifier - A device that removes humidity, or moisture, from the air.

Diffuser - A grille over an air supply duct with vanes that distribute the discharging air in a specific pattern or direction.

DOE - Department of Energy.

Downflow Furnace - A furnace with an intake on the top and an air discharge at the bottom.

Drain Pan - Also a condensate pan. As the refrigerant vapor is liquefied, the drain pan collects the condensate and funnels it to the drain line.

Dry Bulb Temperature - The temperature as measured without the consideration of humidity.

Ductwork - A network of metal, fiberboard or flexible material flowing throughout a space which delivers air from an HVAC unit to the respective zones of a home or office.

E

EER - Energy Efficiency Ratio.

EPA - Environmental Protection Agency.

Expansion Valve - A valve that meters the levels of refrigerant through a temperature or pressure control.

Evaporator Coil - Also an indoor coil. A device that is designed to absorb heat in the air in order to change the liquid refrigerant that flows through it into a vapor.

F

Fahrenheit - A temperature scale in which water freezes at 32 degrees and boils at 212 degrees at normal atmospheric pressure.

Fan - A device that creates airflow.

Filter - A device that acts like a strainer to remove dirt or undesired particles.

Flue - A vent that removes the byproducts of combustion from a furnace.

Furnace - The major component in heating a home. A device that facilitates the combustion of fuel and air to create heat.

Fuse - A delicate metal strip connecting two parts of an electrical circuit. This strip breaks, or melts, in the event of excess electrical charge, breaking the electrical circuit.

G

GAMA - Gas Appliance Manufacturers Association.

H

Heat Exchanger - A device through which heat is transferred to a cold area or surface.

Heat Gain - The amount of heat added or created in a designated area.

Heating Coil - A coil that acts as a heat source for a heating system.

Heat Loss - The amount of heat subtracted from a designated area.

Heat Pump - A device used for either the heating or cooling of a space by transferring heat between two reservoirs.

Heat Transfer - Moving heat from one location to another.

HSPF - Heating Seasonal Performance Factor. This factor rates the efficiency of the heating portion of the heat pump.

Humidifier - A device that adds humidity, or moisture, to the air.

Humidistat - The device that measures humidity and turns the humidifier on and off.

Humidity - Dampness in the air caused by water vapor.

HVAC - Heating, Ventilation and Air Conditioning.

I

Ignition - Elevating the temperature of a substance to the point of causing a combustion reaction.

K

Kilowatt (kW) - 1,000 watts.

L

Latent Heat - A type of heat that when added to an area produces an effect other than an increase in temperature.

M

Media - The fine material of a filter that traps dirt, dust, mildew or bacteria.

N

NEC - National Energy Council / National Electric Code.

NEMA - National Electrical Manufacturing Association.

O

Orifice - An opening or hole.

P

Package Unit - A heating and cooling system contained in one outdoor unit.

PSI - Pounds per square inch.

PSIA - Pounds per square inch, absolute.

PSIG - Pounds per square inch gauge.

PVC - Polyvinyl chloride; a type of plastic.

R

Reciprocating Compressor - A type of compressor used in cooling systems to compress refrigerant by using a piston action.

Refrigerant - A chemical that condenses from a vapor to liquid and, in the process, decreases in temperature.

Refrigerant Charge - The amount of refrigerant in a system.

S

SEER - Seasonal Energy Efficiency Ratio. A rating system developed by the U.S. Government to indicate the efficiency level of cooling equipment.

Self-contained System - A package unit.

Sensible Heat - Heat added or subtracted that causes a change in temperature.

Sensor - A device that reacts to a change in conditions.

Split System - An outdoor unit combined with an indoor unit.

T

Thermostat - Sensors that monitor and control the output of an HVAC system.

Thermostatic Expansion Valve - A device that creates a constant evaporator temperature.

Ton - One ton is 12,000 BTUs per hour.

U

Upflow Furnace - A furnace that pulls in air from the bottom and releases it through the top.

V

Vacuum - A space where the pressure is significantly below that of standard atmospheric pressure.

Volt - A unit of electro-motive force.

Voltage - The force pushing electrical current along wires and cables.

W

Watt - The unit of electrical power equal to the flow of one amp at a potential difference of one volt.

Wet Bulb Thermometer - A thermometer that measures the relative humidity in the air.

Z

Zoning - A system that divides a home, office or space into different regions in order to better control the temperature and effectiveness of a heating and cooling system.