

THE HOMEOWNERS ULTIMATE GUIDE TO REPLACING YOUR HVAC SYSTEM

HVAC stands for Heating, Ventilation and Air Conditioning. Based on the principles of thermodynamics, heat transfer, and fluid mechanics, HVAC systems are responsible for maintaining the comfortable indoor environments that we depend on every day.

Heating: Furnaces and heat pumps are the primary systems used to control and maintain higher temperatures.

Ventilation: Ductwork, filters, air purifiers, and exhaust fans in kitchens and bathrooms keep air constantly circulating within your home to control temperature, remove moisture, odors, smoke, and carbon dioxide.

Air Conditioning: Central and room units are used to remove heat and humidity from closed spaces.

The individual components that make up your HVAC system don't all operate at once. Instead, they take turns doing the heavy lifting; heating elements keep you comfortable throughout winter, while your air conditioning takes over once temperatures rise.

When Is It Time to Replace Your Home's HVAC? Spot the Signs.

It's easy to take one element of your HVAC system for granted during its off-season. That's why we recommend thinking about the following factors when seasons are about to change. Replacing your HVAC system might be unavoidable, but at least you won't be taken by surprise.

Troubleshooting Your Current HVAC Concerns

- 1. Some rooms in your home are too hot or too cold.** Improper equipment operation, duct problems or inadequate insulation could be the cause.
- 2. Your home has humidity problems.** Poor equipment operation, inadequate equipment, and leaky ductwork can cause the air to be too dry in the winter or too humid in the summer.
- 3. Your home has excessive dust.** Leaky ducts can pull particles and air from attics, crawl spaces and basements and distribute them throughout your house. Sealing your ducts may be a solution.
- 4. Your heating or cooling system is noisy.** You could have an undersized duct system or a problem with the indoor coil of your cooling equipment.
- 5. Your equipment needs frequent repairs and your energy bills are going up.** According to EPA estimates, about half of the energy used by the average home goes into heating and cooling the home. Depending on how old your existing system is, you can cut your cooling costs by up to a third by replacing that old air conditioner with a new energy-efficient air conditioning system.

Condition	Repair Your HVAC When...	Replace Your HVAC When...	A New HVAC Can...
System Age Is:	0-11 Years	Over 12 Years	Save you up to 20% on heating and cooling costs.
Number of Past Repairs	Totals 2 or less in the past 10 years.	Totals 3 or more major repairs on your unit.	Provide even, consistent temperature control and a more comfortable environment.
Existing Problems	Are minor, such as loose or broken ductwork, clogged drain lines, or electrical problems.	Are extensive, such as a blown motor, compressor, or condenser coils.	Reduce or eliminate respiratory problems associated with excess dust and moisture.
Cost of Required Repairs	Equals less than 50% of the cost of a new unit, or your current system is still under warranty.	Equals at least 50% of the cost of a new unit. While pricey, new models are more efficient and save you money over time.	Eliminate surprise repair costs with a warranty while increasing the resale value of your home.
Efficiency of Unit	Systems that match your household's heat-gain calculations will last longer and run more efficiently.	Oversized units are forced to constantly cycle, leading to poor humidity control and premature failure.	Create savings with geothermal technology, convenience with remote thermostats, and efficiency with low-maintenance, ductless systems.

Choosing a New HVAC System

When it comes to choosing the system that's right for your home, you'll need to consider the size of your home, your budget, available tax credits, whether or not your home has ductwork, and of course, which of the following options best suit your household's heating and cooling needs:

A **split air conditioner** is the most common option. It consists of two units: one that sits outside your home and one that resides inside. The two units communicate via coolant lines.

A **packaged system** puts both units in the same cabinet, which your HVAC technician installs outside. These models take up less space and often cost less to install.

A **variable-speed furnace** increases your system's heating and cooling efficiency by running for longer periods of time. It adjusts the speed based on what is needed. This increases energy efficiency by eliminating the waste caused by frequent stops and starts.

A **heat pump** is an air conditioner that can also work in reverse to heat your home during the winter. Heat pumps are more energy-efficient than furnaces. However, they are best used in climates that don't see extreme winters unless paired with a gas furnace for powerful heating during the winter.

A **dehumidifier** extracts humidity from indoor air by cooling the temperature transform ambient moisture from vapor to liquid, which is then trapped to prevent recirculation.

Cooling capacity size is measured in British thermal units per hour (Btu/hr.) or in tons. One ton of cooling equals 12,000 Btu/hr.

SEER stands for Seasonal Energy Efficiency Ratio — the measurement of any cooling unit's efficiency. The higher the SEER rating, the more efficient the system. A 25-year-old system has a SEER rating of about 6; today's systems are built with a SEER rating of a minimum of 13, which can reduce energy usage by about 49% compared to a system with a SEER rating of 6.

Programmable thermostats increase the efficiency of your system and can reduce household cooling costs by up to 20%.

A **service plan** that combines regular inspections with discounts on repairs and an extended installation warranty is worth the investment.

We're Here to Help with Your Next Steps

Our experts make saving on a new HVAC system simple by suggesting appropriate units made by durable, trusted brands, high SEER ratings, lower operational and energy costs, and rebates.