

SEER GUIDE



We all want our homes to be as energy efficient as possible. After all, the more efficient the more cost effective.

There are two measures of efficiency for heating systems:

- 1 Annual Fuel Utilization Efficiency (AFUE) measures the efficiency of your gas furnace (percentage of gas waste vs utilization).
- 2 Heating Seasonal Performance Factor measures the efficiency of your heat pump when heating your home.

There are two measures of efficiency for cooling systems:

- 1 Energy Efficiency Ratio (EER) which is used to for smaller, window-mounted air conditioners.
- 2 Seasonal Energy Efficiency Ratio (SEER) which is used for central air conditioners and heat pumps.

This guide takes a deep dive into SEER.

Air Conditioning Facts

5% of All Electricity

Air Conditioners use 5% of all electricity produced in the US.

\$11 Billion +

Air Conditioners cost homeowners over \$11 billion.

50-70% of All Energy

Heating and cooling account for 50-70% of the energy used in the average American home.

\$11 Billion +

Every degree setting below 78F will increase your energy consumption and cost by approximately 8%.

High-efficiency = Energy Savings

According to [Maryland Energy Administration](#), switching to a high-efficiency air conditioner can reduce energy use by 20-50%.

Up to 70% More Efficient

The most efficient air conditioners are up to 70% more efficient than a room air conditioner.

When it comes to cooling your home, you will want to understand the SEER rating on your air conditioning unit.

What are SEER Ratings?

SEER ratings are the ratio of an air conditioner's heat removal over a typical cooling season (in BTUs -British Thermal Units) divided by the electrical energy it uses in watt-hours. Said more simply, SEER equals the cooling output of an air conditioner divided by its overall power consumption during the warm months of the year.

SEER is determined by AHRI (Air Conditioning, Heating, and Refrigeration Institute). SEER measures the cooling efficiency of your air conditioner. The higher the rating the more efficiently the air conditioner uses energy in which to cool your home.

Air conditioners fall into three categories based on their SEER Rating:

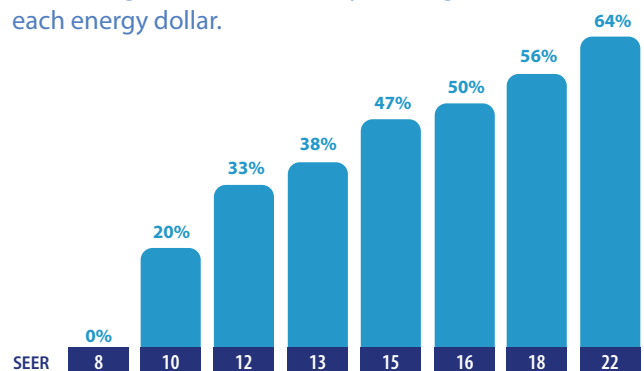
Entry-level efficiency: 13-14 SEER

Mid-efficiency: 16-18 SEER

High-efficiency: 20+

Annual Savings for Cooling Your Home based on the efficiency of a matched system.*

Like miles per gallon in a car, the higher the system SEER rating, the more comfort you will get from each energy dollar.



*The majority of systems installed prior to 2006 are 10 SEER or lower. Potential energy savings may vary depending on your personal lifestyle, system settings and usage, equipment maintenance, local climate, actual construction and installation of equipment and duct system. Source: <https://indoortemp.com/resources/whats-a-good-seer-rating-and-why-is-it-important>

Benefits of a Higher SEER Air Conditioner

Comfort

Entry-level systems have one setting. They are either on or off. They struggle to cool homes with multiple levels. And those rooms furthest from the thermostat tend to be warmer.

A mid-efficiency system has two-stage cooling. It has a 100% capacity and then a lower setting that allows the system to better maintain the temperature throughout the home without spikes.

A high-efficiency system has variable-speed cooling. Variable-speed systems can have up to 700 distinct settings anywhere between 30% - 100%. The wide range of settings and variables allow these 20+ SEER high-efficiency systems to precisely maintain your home's temperature just as you set it.

Lower Energy Costs

Entry-level systems, due to their single-stage cooling, give 100% output every time they turn on. They are designed for the hottest days of summer. During the beginning and end of the cooling season, however, you could use less output while still maintaining your comfort.

A mid-efficiency system, due to the two-stage cooling, runs on its lower setting – usually 75% - on those cooler days of summer. This saves on energy use which you will see on your energy bill.

A high-efficiency system, due to the variable-speed cooling, adjusts its energy usage on any given day. It can even have a longer runtime, but because it's running at lower settings, there are fewer temperature spikes and thus lower energy usage.

Lower Humidity

Two-stage and variable-speed air conditioners have longer runtimes due to their lower output settings than the lower efficiency single-stage air conditioners. The longer an air conditioner runs, the more humidity it pulls from the air.

Rebates + Tax Incentives

Manufacturers and utility companies often provide incentives and rebates for higher-efficiency systems. Federal and State tax credits area also available.

These incentives and rebates vary by State, manufacturer, and time of year. Check with your HVAC specialist to find out what is available for you.

Should I Replace My HVAC With a Higher SEER Rating?

The majority of air conditioners installed prior to 2006 are 10 SEER or lower. There are potential energy savings to be gained and energy expenses to be saved by replacing an older model with a more efficient system. The Department of Energy suggest replacing cooling and/or heating systems that are 15+ years old.

[Read the New 2023 HVAC Guidelines](#)

There are several factors you should take into consideration when purchasing a new air conditioner. A high-efficiency air conditioner may not be the right option for you.

How long will you be in your home? You may not recover the initial higher cost of a high-efficiency air conditioner. If you plan on moving within the next five years, you may want to consider a lower efficiency model.

Are you comfortable with your how your current air conditioner performs? Are you comfortable with your current energy costs? If you are then you will want to replace your air conditioner with a newer model with a similar SEER rating. If, however, your goal is to decrease your energy costs and increase your comfort level, then you will want a higher SEER rated air conditioner.

Are you replacing your heating system at the same time? It is best to do both at the same time as their efficiencies and capabilities will match. If you're only replacing your air conditioner, you will be better suited not getting the highest SEER as you will likely not get the efficiency you paid for.

Do you have the room for a larger system? The more efficient your HVAC system the larger the indoor and outdoor units are. Ask your heating and air conditioning specialist what your home can accommodate.



Use this free [SEER Energy Savings Calculator](#) to understand your current costs and how much you could save by upgrading to a higher efficiency air conditioner.

If you would like to consult with an expert on SEER air conditioners and heat pumps, call Presidential Heating and Air Conditioning to book your consultation at 301.615-2755 or [schedule an appointment online](#). The experts at Presidential Heating and Air Conditioning have been advising the residents of Montgomery County, MD since 1982.

Consult with our experts on SEER air conditioners and heat pumps

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