

THREE TYPES OF FURNACES

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Today we are shining the spotlight on the three different types of furnaces: single stage, two stage, and variable speed. Deciding which furnace will work best for your home is based on multiple factors including: climate, size and levels of your home, existing duct work, insulation, and of course budget. Understanding how the different types of furnaces work and their different features can help you make the best choice for your home.

Single Stage



- Only one stage – either “On” or “Off”
- Runs at 100% capacity the entire time it’s “On”
- Louder operation (due to the above)
- Generally has lower initial costs
- Higher energy costs due to more fuel consumption
- More drastic home temperature swings

Single stage furnaces are the least expensive initially. They are less energy efficient than the two stage or variable speed furnaces because they run at 100% capacity 100% of the time they are on. However, they are available with AFUE ratings of 90% or more. This means that while they use more fuel than the other furnaces, the fuel they use to convert to energy is still used very efficiently.

Two Stage



- Has two stages – low and high
- Runs at low capacity during milder temperatures and then switches to high capacity as needed to meet thermostat settings
- Higher initial cost (compared to single stage)
- Lower energy costs due to less fuel consumption (compared to single stage)
- Less drastic temperature swings than the single stage
- Quieter operation

Two stage furnaces cost a little more than the single stage furnaces initially but are more energy efficient so they save more over time on utility bills. They do this by running at a lower capacity the majority of the time, using less fuel, and will only run at 100% capacity when it’s needed to meet a comfortable temperature.

Variable Speed



- Constant and precise heat output due to a variable speed blower motor/fan that increases or decreases speeds to precisely control temperatures with the flow of heated and cooled air
- Consumes less energy than the single or two stage furnaces
- Cleaner air –running the fan constantly will continuously circulate the air, and with some specially designed filters, can capture contaminants like allergens, mold, bacteria, and viruses
- Even more noise reduction

Though variable speed furnaces are the most expensive type of furnace, the energy savings over time is generally considered to more than make up for it. They are the most energy efficient because they run at precisely the capacity that is needed to maintain a consistently comfortable temperature. They are an excellent choice for multi-level or zoned homes and because the air is being constantly circulated throughout the home, the air is healthier and the furnace doesn't have to run as often.

For assistance in determining which type of furnace is the best choice for your home contact a licensed heating and cooling contractor. They can do a home analysis and use some calculations to help determine which type of furnace would be the best option for your home. Request multiple option quotes so you can compare pricing and energy efficiency on several different levels of furnaces. Also, don't forget to take into consideration utility rebates. MidAmerican Energy currently has furnace rebates up to \$900 for gas furnaces plus an additional \$75 for qualifying furnace fans. If you choose to go this route, make sure to verify that your contractor is SAVE Certified as it's a requirement to pass SAVE testing to qualify for MidAmerican rebates.



Andrea Pohlsander is an administrative assistant for Resource Services, Inc. She's fairly new to the HVAC industry but is backed with the support of expert technicians, including Resource Services' owner Dennis Sult who has over 45 years of industry experience. She enjoys reading, writing, and pursuing creative endeavors like scrapbooking and experimenting with new recipes.