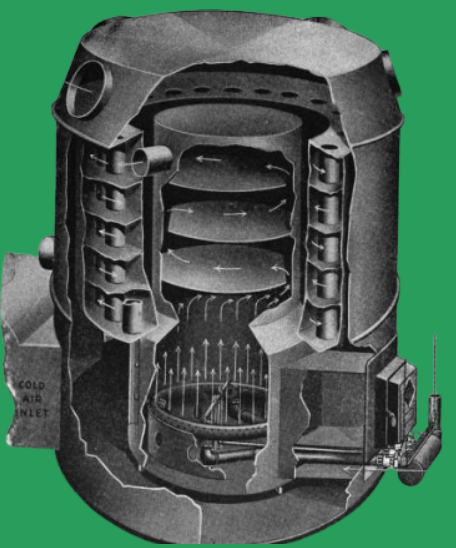
HANDBOOK ON SINGLE, MULTI & VARIABLE SPEED FURNACE BLOWER MOTOR



By Green Leaf Air

Understanding the Differences Between Single-Speed, Multi-Speed and Variable Speed Blower Motors in Gas Furnaces

The most efficient gas furnaces these days often come with three main types of blower fans; the standard single-speed, the multi-speed type, and the variable speed version. All versions have their own set of advantages which make for an efficient heating and air conditioning experience. Today, we'll be looking at the main differences between them, and try to delve a little deeper into what makes each suitable for different situations. Let's jump right into it.

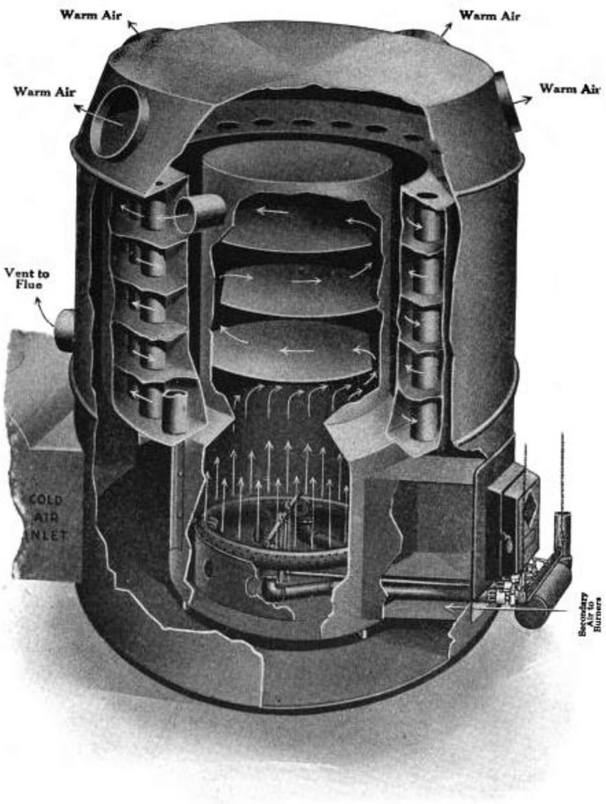
Noise from your gas furnace

If you are growing tired of the fan noise generated by your gas furnace, then it's about time you think about upgrading. One of the best ways to deal with that fan noise is by understanding the differences between the different speed motors available in modern gas furnaces and installing the best type.

How does a gas furnace work?

As you already know, the gas furnace burns fuel to heat the air and then blows it away to circulate it through your home during the winter. Once the temperature has increased to a comfortable point, it

shuts off again to let things cool down until it is needed once again. A significant part of the efficiency of the system is determined by the blower motors used in the system. Listed below, are the different types of blower motors you will often find in HVAC systems.



Differences Between Single-Speed, Multi-Speed, and Variable Speed Blower Motors in Gas Furnaces

1. *Fixed Speed or Single Speed*

This variation of the blower motor is often found in single-stage gas furnaces, which simply turn on when needed and turn off once your home is warm enough. For the entire duration of the time that the gas furnace is on the blower operates in a single fixed speed circulating air across your home.

Although the simplicity of their design and function is an advantage, it does come at a price to noise and efficiency. Single-speed motors are consuming more energy overall because regardless of the heating requirements of your home, the fan and motors operate in the same fixed-speed. Additionally, once the blower motor does turn on, it comes to life with a lot of noise and turns off again leaving no circulation in your home.

2. *Multi-Speed*

These motors are a step above single-speed motors and come with, often, two additional speed settings that allow for better control of the heating and cooling in your home, along with smoother transitions between the settings.

Your home requires gentle temperature adjustments during the winter and so, these motors often operate in the lower settings for longer periods to carefully maintain the temperature in your home. As a result, you also get better air circulation in your home. However, to maintain these cycles of operation and change settings, the gas furnace requires more complicated circuitry, which is often more expensive to repair should something go wrong.

3. *Variable Speed*

The best Gas Furnaces out there support variable speeds. The use of this type of motors means that the HVAC can finely control the temperature in your home, by operating the fan in the speed required rather than relying on pre-defined speeds.

These units are distinguished since they produce very little noise during operation. The fans turn on slowly, and increase to meet demand gradually, and then slowly turn back down again. Your system is continuously monitored and the blower motors operate in the appropriate setting. Overall, the system will always use the lowest setting required and therefore, use as little energy as possible. And so, the gas furnace operates more efficiently than its predecessors with the fixed and multi-speed motors.

With air continuously blowing through your home, in addition to better air circulation, you get cleaner air because it is passing through your air filters more often.

GREEN LEAF AIR

SINGLE SPEED VS. MULTI SPEED VS. VARIABLE SPEED GAS FURNACES

1

SINGLE SPEED

This variation of blower motor is often found in single-stage gas furnaces, which simply turn on when needed and turn off once your home is warm enough. For the entire duration of the time that the gas furnace is on the blower operates in a single fixed speed circulating air across your home.

2

MULTI SPEED

These motors are a step above single-speed motors and come with, often, two additional speed settings that allow for better control of the heating and cooling in your home, along with smoother transitions between the settings.

3

VARIABLE SPEED

The best Gas Furnaces out there support variable speeds. The use of this type of motors means that the HVAC can finely control the temperature in your home, by operating the fan in the speed required rather than relying on pre-defined speeds.

Conclusion

These are the different types of blower motors available in modern air conditioning units. Weighing between your comfort, efficiency and cost is the best way to go about selecting the right gas furnace for your home. As always, your AC maintenance & repair specialists are always there to help you out.

See the summary of this article here – ***Single-Speed vs. Multi-Speed vs. Variable Speed Gas Furnaces [Infographic]***

By the way, are you looking for an HVAC system for your home?

Check out ***Green Leaf Air*** Store where we have a wide range of residential & commercial HVAC system including: –

Complete Goodman HVAC System – ***Heat Pumps*** – ***Trane HVAC system*** – ***Air Handlers*** – ***Gas Furnaces***

Besides, for any AC installation, AC replacement and AC repair services, call ***Green Leaf Air*** to ensure you get the best quotes and satisfying service.