

PURCHASING A FURNACE WITH CONFIDENCE

JANUARY 29, 2015



Furnaces are some of the most expensive appliances that you will ever purchase for your home. Unfortunately, they are also appliances that people don't generally know a whole lot about. So how do you know you are purchasing the right one for your home? In this post we'll go over the main things you need to know to be confident you are making the right decision.

UNDERSTANDING FURNACE TERMINOLOGY

AFUE: Annual Fuel Utilization Efficiency is a rating that represents the season-long average efficiency of a unit including the operating transients. The higher the rating the higher the energy efficiency.

BTU: A British Thermal Unit is the unit of measure that describes the amount of energy needed to heat one pound of water by one degree Fahrenheit. The higher the rating

the greater the heating capacity.

Single Stage: Traditional furnaces have an "ON" or "OFF" mode. When there is a need for heat, regardless of the amount needed that furnace kicks on at full capacity. This makes them less energy efficient.

Two-Stage: A multi-speed furnace that operates on two different settings. Approximately 80 percent of the time it runs on the lower setting. Then, when there is an additional need for heat, like severe drops in temperature, the furnace will switch to the higher setting to provide the additional power needed. This makes it a more energy efficient option over the traditional single stage option.

Variable Speed: Variable speed refers to the blower motor, the part of the furnace that moves and controls the airflow. A variable speed motor adjusts the speed based on the heating needs of the home, resulting in consistent heat output. They consume less electricity than single or two-stage furnaces so you save on energy bills. They also circulate air continuously through the filtration systems which improves the air quality in your home.

Sealed Combustion: A furnace with sealed combustion brings air from outside your home directly into the burner and releases exhaust gases to the outside through the flue pipe without the need for a draft hood or damper. This is safer because it greatly decreases the risk of carbon monoxide and other gases from being released into your home. However, this option tends to cost more due to added system and installation costs but is generally recommended as it is safer and generally more energy efficient.

SIZE MATTERS

Buying the right size furnace for your home is very important. The actual physical size of the unit isn't as important as the BTU rating. A qualified mechanical contractor will perform some calculations for energy loss figured from your house size, windows, insulation, and other related features. Don't accept a bid on a furnace based solely on the square footage of your home. Also note that newer furnaces tend to be physically smaller than older models as they are able to generate more usable heat more efficiently.

CHOOSING A CONTRACTOR

1. Request a detailed quote from several different contractors. Remember that while price is important the cheapest isn't always the best and often the contractor with the lowest bid makes the most mistakes.
2. Quotes should be detailed and should include all parts, labor, taxes, etc. This will reduce the likelihood of surprises when you get your bill. Also, if you are replacing an older furnace they should also include a new digital thermostat. Installing a new furnace with an old model thermostat is an easy way to pick out the professionals from the amateurs.
3. A good contractor will ask a lot of questions, take measurements, and run diagnostics to get the information they need to determine the right size unit for your home. No two homes are the same so never trust a contractor that doesn't do those things first. Also, they should be able to provide computerized equipment sizing calculation results.
4. Don't choose a contractor that doesn't clearly explain your options. Most will explain the different options available and even provide quotes on a couple of different units that will meet your needs. They should be able to explain what they learned about your home during diagnostics and how each option will benefit you.
5. If the contractor doesn't quote the kind of furnace you want, either ask for another quote or choose a different contractor.
6. Ask if NATE (North American Technician Excellence) certified technicians will be performing the work. NATE trains and recertifies technicians so that skills stay current.
7. If you are considering rebates from your utility company, make sure that your contractor meets their requirements. In Iowa, MidAmerican Energy requires new installations to be performed and tested by a SAVE-Certified contractor. They should provide you with a certificate that rates your home's energy efficiency.
8. Ask about Warranties and Rebates. Contractors should have information available and/or included in their quote regarding manufacturer's warranties and rebates and other incentives available.

AFTER THE INSTALLATION

Before you pay your invoice, inspect the installation and make sure it was performed properly. Ask the installer to walk through the check with you and ask them questions. A good installer will be happy to answer any questions you have and show off their work.

Check the following after any furnace installation:

1. Airflow to the unit should be easily accessible.
2. All duct work to the unit should be properly sealed to prevent leaks.
3. The unit should be placed on rubber insulation pads to reduce noise during operation.
4. If the unit is in the basement it should be at least 4 inches above the floor. This is usually accomplished by placing the unit on blocks.
5. An electrical disconnect should be located within three feet of the furnace.
6. The area around the furnace should be cleared of all debris.
7. Allow the unit to run a full normal cycle to make sure it's working properly. Listen for popping noises from the ducts when the fan starts or stops, a sure indication there is a problem.

For Gas or Oil Furnaces also check for:



1. Vent pipes should be sloped towards the furnace at a rate of $\frac{1}{4}$ inch per foot and needs to be supported at every four feet to prevent sagging. They should be as short as is practically possible. Note: High efficiency units should have two, an intake and exhaust. Some, less reputable contractors will only install an exhaust.
2. There should be a shutoff valve for the gas or oil nearby and you should not have to remove any access panel from the unit to reach it.

I hope this helps you to feel more confident in purchasing a new furnace. Next week we'll be digging deeper into energy efficiency and how to choose the right unit efficiency for your home.

Do you have any questions we didn't answer in the above post? Please feel free to share them below and we'll help you get the answers you need.



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.