5 Factors For Finding Your HVAC Comfort Zone
A Homeowner’s Guide
To Selecting The Right Heating And Air Conditioning System

Whether you’re a new home buyer selecting an HVAC unit for the first time, or you’re a long-term homeowner looking to replace an outdated HVAC system, the question is the same: How do you know which heating or cooling system is right for your home?

There are so many options: Gas or electric? Single-speed AC or two-speed? Heat pump or traditional system? Which efficiency level is right for your home? What about thermostat options or a humidifier?

These are natural questions for anyone replacing or installing a heating, ventilation or air conditioning (HVAC) system. The key to finding the right answer is to consider which options are right for your home, your budget and, ultimately, your comfort.

Finding the right heating and cooling systems for your home requires that you consider a number of important characteristics about your home, including:

- Your home’s size
- Your home’s age
- The number of rooms in your home
- Your regional climate
- Your local utility costs
- Rebate incentive programs in your area
- Environmental concerns

Against this checklist of characteristics, you need to consider the following five factors to find the right heating and cooling system for your maximum home comfort.
1. Fuel Type

Of all the choices that lie ahead to find your perfect HVAC fit, this one may be the easiest.

Natural gas is the most popular fuel for furnaces and heating systems, is cheaper than electricity and more efficiently heats your home. However, natural gas is not available in all cities or areas.

New home buyers who have the option of natural gas or electricity should choose natural gas in order to save the most on future utility bills. Long-term homeowners who have an electric system may be able to switch to gas if it’s available. Switching to a new fuel type may be expensive, but in the long term, you save more in utility costs.

**Decision Checklist:**
- ✔ Natural gas (recommended, where available) OR
- ✔ Electricity

2. Length Of Stay

The next key question to ask yourself is: How long do you plan on living in your home?

If you intend to stay in your home for 10 years or more, then you should invest in a high-efficiency unit, since it has the best long-term payoff. In this case, a two-stage variable speed air conditioner (discussed in more detail below) is well worth the extra investment.

On the other hand, if you only plan to live in your house for around three years or less, then a less expensive, lower-efficiency unit may save you money during your shorter stay.

If you plan to live in your home between three and 10 years, or if you’re unsure, then the investment/efficiency payoff evens out. However, a high-efficiency unit guarantees lower bills, no matter how long you live in the house.

**Decision Checklist:**
- ✔ 10+ year stay High-efficiency HVAC system OR
- ✔ 3 years or less stay Low-efficiency HVAC system OR
- ✔ 3-10 year stay High- or low-efficiency HVAC system (high-efficiency recommended)
3. Home Size

Home size and characteristics are some of the most crucial deciding factors in selecting the right capacity for your heating and cooling systems.

An HVAC unit that’s too small leaves your home unevenly heated or cooled and overloads your unit, causing premature failure. The opposite is also true: bigger isn’t always better. For example, an air conditioner system that’s too big for your home doesn’t run long enough to remove humidity. This results in a “cave effect,” where the home is cool but too muggy and humid.

The size of your house ultimately determines the size of the system you need. By measuring your windows, walls, floor size, attic and other factors, there is a formula - called a Manual J Residential Load Calculation - that determines the amount of heat gain and heat loss in your home. This heat gain/loss data determines the type of system best suited for your home.

The Manual J Residential Calculation is the official standard for residential load calculation and is required by many building codes around the country. For more information on the Manual J Residential Load Calculation, visit the Air Conditioning Contractors of America (ACCA) website.

Since every house is different, there’s no easy rule of thumb (outside of the Manual J Residential Calculation) for calculating the capacity of the HVAC unit you need, so it’s best to leave the computation to an HVAC professional.

Decision Checklist:
✔ Schedule a Manual J Residential Load Calculation by an HVAC professional
4. Units Available

Now that you’ve determined the fuel type, desired efficiency and capacity requirements for your HVAC unit, it’s time to survey the general categories of units available. Below are the most common heating and cooling systems with efficiency, budget and comfort data to inform your decision.

**Furnaces:**

**Gas Furnace**
An indoor gas furnace is the most common type of furnace. It produces hotter heat and uses natural gas as a fuel, making it cheaper than electricity.

- **Efficiency:** Highest efficiency
- **Budget:** Lower utility bills; cost to switch from electric is high
- **Comfort:** Hotter heat means cozier winters

**Electric Furnace**
An indoor electric furnace is an alternative for homes where natural gas is not available. This type of unit converts electricity into heat using heating coils.

- **Efficiency:** Low efficiency
- **Budget:** Higher utility bills; cheaper to install if not on gas
- **Comfort:** Less even heat means chillier winters, or higher thermostat

**Air Conditioners:**

**Two-Stage Air Conditioner**
A two-speed AC unit has a low and a high speed. Around 80% of the time, it runs at low speed (usually half capacity), saving you on electricity. When needed, it kicks into high speed and runs at full capacity.

- **Efficiency:** Highest efficiency
- **Budget:** Lower utility bills; Pays for itself quicker
- **Comfort:** Does a better job at removing humidity than a single-stage AC

**Single-Stage Air Conditioner**
A single-stage air conditioner is like a light switch. When it’s on, it’s on all the way. A single-speed AC unit consistently runs at full capacity no matter your cooling needs.

- **Efficiency:** Low efficiency
- **Budget:** Higher utility bills; cheaper upfront cost
- **Comfort:** Comes on and shuts off more frequently than a two-stage unit
Heat Pumps

Outdoor Heat Pump
An outdoor heat pump functions as both an AC cooling unit and a heater unit, simply reversing the flow of heat to indoors or outdoors according to the season. Heat pumps are best for homes that don’t have the option of natural gas and must use only electricity for heating. A heat pump is more efficient than an electric furnace.

Efficiency: Higher efficiency
Budget: Medium utility bills; better than electric furnace for heating
Comfort: Varies according to installation

While the efficiency, budget and comfort information of each unit helps you narrow down your decision, only an HVAC professional is able to recommend the particular brand or size that fits the specific needs of your home.

Once you’re ready to take the next step, make sure to have your HVAC technician handle the installation. If installed incorrectly, the system will not cool or heat properly, which will increase operation costs and reduce the system’s life cycle.

5. Other HVAC Options

Deciding on the right HVAC system for your maximum home comfort involves more than just selecting heating and cooling systems. The following options are also important to consider for your specific home comfort:

Zone Damper System
If your house is unevenly heated or cooled, it’s best to have your ductwork checked for leaks and efficiency. However, if your ductwork is fine, then you may want to add a zoning damper system to cut off certain rooms while continuing to heat or cool other rooms in the house.

With a single thermostat, you pay to cool (or heat) your entire house, even if only a few rooms need to be cooled (or heated). A zone damper system addresses this issue by placing different thermostats in each room of the house you want controlled separately.
A few examples of zone damper system uses include:

- In the winter, keeping bedrooms warm at night while other rooms are allowed to cool
- In the summer, setting high-traffic rooms in the house to 70 degrees, while less commonly used rooms are set to 78 degrees to save on costs
- Setting up different thermostats for each bedroom in the house to suit each person’s comfort

A zone damper system levels out the heating and cooling of your home, maximizing your comfort and minimizing utility bills.

**Whole-Home Humidifier**

When you switch on your furnace in winter, the heating process significantly reduces the amount of moisture in the air. Drier air causes skin irritations, irritates nasal passages and allows for more static electricity buildup.

However, with a whole-home humidifier, the dampness is restored to the air. Moist air feels warmer, so you feel comfortable without having to always raise the thermostat.

**Decision Checklist:**

✔ Zone damper system for more even heating and cooling AND/OR
✔ Whole-home humidifier for more comfort and lower thermostat settings

Whether your home is brand new or you’re just looking for an HVAC upgrade, your decision must always be guided by the specific needs and capacity of your house - guidance only a professional HVAC professional provides. However, this information empowers you to discuss your home’s heating and air conditioning needs with an HVAC technician without being tricked into the wrong unit for your home or being overwhelmed by too much “helpful” information.

With so many choices for heating and cooling systems, finding the right HVAC units for your home is never easy. However, these five decision factors should direct your search toward the best solution for your home - and your comfort.

Need more help deciding on an HVAC unit for your home? Call the Comfort Consultants from On Time Experts today at 214-414-1002 or visit us online to begin your Home Comfort Process today.