






Choosing an efficient furnace

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Are you in the market for a new forced-air gas furnace? Wisconsin's cold climate makes a high efficiency furnace a good investment. Some of the features to look for are an AFUE of 90 percent or higher, multi-stage firing and an ECM fan blower motor.

BUYING A HIGH EFFICIENCY FURNACE

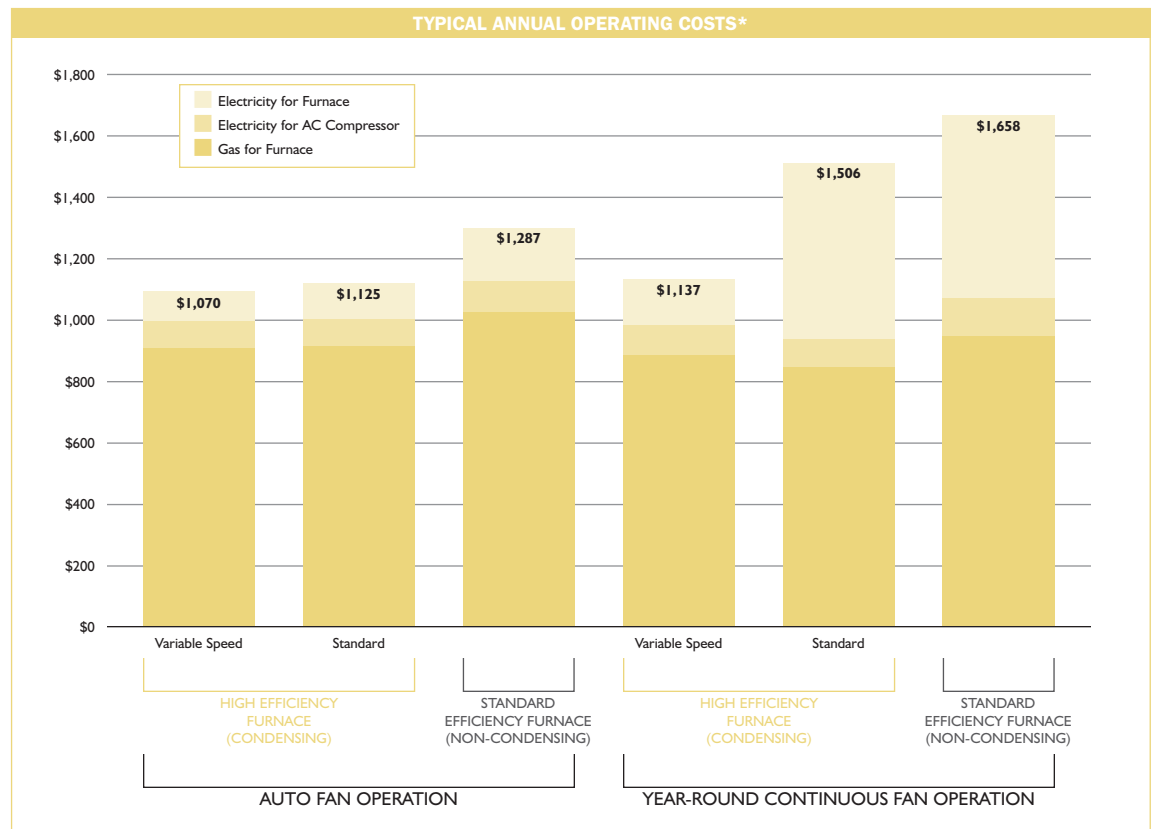
Select a furnace with an AFUE of 90 percent or higher. The Annual Fuel Utilization Efficiency or AFUE measures a furnace's overall energy performance. The higher the AFUE, the more heat you get for your heating dollar. In Wisconsin, a furnace with an AFUE of 90 percent or higher is a good investment.

Select a furnace with multi-stage firing for the right size furnace for all heating conditions. Your furnace must have enough capacity to meet your heating needs on the coldest day of winter.

However, for most of the heating season it will be more heating capacity than you need. Unlike a furnace with single-stage firing that is either firing at full output or completely off, a furnace with multistage firing can selectively turn some burners off when the full furnace output is not needed. Multi-stage firing gives you the right size furnace for the majority of the heating season, and a reserve capacity to meet additional heating needs on really cold days or to recover from a temperature setback period. Multi-stage furnaces are usually equipped with another efficiency feature as well: an electronically commutated motor (ECM) that uses considerably less electricity to run the fan.

Select a furnace that uses electricity efficiently.

A gas furnace uses electricity to run the fan blower motor. Furnaces equipped with an ECM have lower annual operating costs and can save you \$70 to \$400 per year depending on



*Gas costs calculated at \$1.18 per therm. Electricity costs calculated at \$0.12 per kWh.

how you use the furnace fan. Multi-stage ECM furnaces not only can save you money, they are usually much quieter and less prone to producing unpleasant drafts.

Proper installation is important. Your new furnace must be installed properly to ensure that it operates safely and efficiently. The contractor should adjust the air flow so the furnace fan setting is matched to the ductwork and furnace characteristics. An improperly installed furnace can result in higher energy costs and a less comfortable home.

Regularly setting your thermostat to a lower temperature, by five degrees for eight hours every day, will save about five percent on your heating bill.

OPERATING TIPS

How you operate your heating system will influence how much energy you use. The following tips will help you lower your heating bill and ensure that your furnace functions safely and efficiently.

- Set your thermostat between 68 degrees and 70 degrees when you are at home. Turn down the thermostat when you are away or sleeping. Regularly setting your thermostat to a lower temperature, by five degrees for eight hours every day, will save about five percent on your heating bill. Use a programmable thermostat to adjust the temperature automatically, depending on the time of the day and the day of the week.
- Leave the fan switch on your thermostat set to “auto” unless you have a specific need for additional air circulation. Setting the fan switch to “on” will cause the fan to run all the time, whether or not there is a need for heating or cooling. Those extra hours of operation will add to your annual electric bill. In the summer, constant fan operation makes your air conditioner work harder, and decreases its ability to dehumidify. (If you do need to run your fan continuously, installing a furnace with an ECM will save you the most money over the life of your furnace.)

TIP BOX

If you upgrade to an energy efficient furnace that vents out the side of the house and you are no longer using your chimney, you can seal it off for additional savings.

If your water heater still vents into the chimney, consider replacing the water heater with a high efficiency, power-vented model. If you don't replace the water heater, your contractor should perform a draft test to ensure harmful combustion gases are being vented out of your home. You may need to install a chimney liner to ensure it is properly sized for venting only the water heater.

INSULATE FIRST



Before you buy a new furnace, it is a good idea to seal air leaks and add insulation to your walls and ceilings. Adding insulation and sealing air leaks will make your home more comfortable and may enable you to purchase a smaller furnace.

Pay attention to your ducts—make sure your ducts are well-sealed and balanced. Insulate and seal ducts that go through unheated areas.

- Clean or replace furnace filters as recommended by your contractor, or as noted on your filter packaging. This may be as often as once a month.
- Make sure registers in occupied rooms aren't blocked by furniture or draperies.
- Have your furnace tuned up according to the manufacturer or contractors recommendation. The contractor will test the efficiency, adjust the air and fuel flow, inspect the fan and clean the unit.
- Install carbon monoxide detectors on every floor with a bedroom. Carbon monoxide detectors are not a substitute for properly maintaining your combustion appliances, but provide added protection against carbon monoxide poisoning

FOR MORE INFORMATION

Focusonenergy.com

Contact Focus on Energy to learn more about smart energy choices.

Energystar.gov

The ENERGY STAR® program provides information on energy efficient products that meet high efficiency standards.

ACEEE.org

The American Council for an Energy Efficient Economy publishes the “Consumer Guide to Home Energy Savings.”

