

What makes a furnace fancy?

These features and extras are among those most often highlighted in product literature or sales pitches for furnaces. They are more likely to be found on higher-efficiency furnaces; indeed, some are standard features of such furnaces, as the descriptions below make clear. However, some manufacturers also offer them on premium versions of low-efficiency furnaces.

Variable-speed blowers. These can deliver air more slowly (and often more quietly) when less heat is needed. Heat can then be delivered more continuously, with fewer drafts or uncomfortable swings in temperature and airflow.

Variable heat output. Available on some furnaces that have variable blower speed, this feature can further increase efficiency and comfort by automatically varying the amount of heat the furnace delivers, usually between two levels. The furnace can then deliver heat more continuously than a fixed heat output allows.

Ignition systems. Fewer and fewer furnaces have a pilot light, a flame that burns continuously, awaiting the next command to ignite the burners. Furnaces with intermittent, direct spark, or hot-surface ignition do away with the constant pilot light in various ways. That increases efficiency and is usually reflected in the furnaces' high AFUE rating.

Longer warranties. Some manufacturers' basic (usually low-efficiency) models may have less generous warranties than their premium models.

Dual heat exchanger. Heat exchangers are the components that draw heat from the burned gas. To draw more heat from the air they burn, energy-efficient furnaces supplement the **primary exchanger** with a **second exchanger**. Because the exhaust gases in that second exchanger may yield an acidic condensate that can cause corrosion, the second exchanger is made of stainless steel, lined with plastic, or otherwise protected.

Sophisticated air filtration. Fitting a furnace with an electrostatic filter, which uses an electrical charge to help trap particles, or a high-efficiency particulate-arresting (HEPA) filter can reduce the amount of dust that is blown through the heating system. That may help people with asthma or other chronic lung diseases that might be aggravated by airborne particles. But there's little evidence that other people need such filtration (or duct-cleaning services; see "A Clean Sweep?" in the [Main report](#)). And an air cleaner can't prevent airborne particles from entering a home in the first place. Nor is it a substitute for limiting at their source those allergens that come from within the house, such as pet dander.

Zoned heating. This feature employs a number of thermostats, a sophisticated central controller, and a series of dampers that control airflow to deliver different amounts of heating or cooling to different parts of the home. The larger the home, as a rule, the more useful zoning is. That's especially true if sections of the home vary a lot in their heating or cooling requirements--because of wide variations in the number or type of windows, for example. However, contractors said that furnaces connected to zoned ductwork generally require more repair than those connected to regular ducting.