

PELLET BURNING INSERT BUYERS GUIDE

With the cost of energy representing an ever larger chunk of the average American household's budget, many homeowners continue to seek alternative ways of heating their homes. Increasingly, homeowners have been turning to pellet stoves as a supplemental (or, in some cases, primary) heat source. Pellet stoves look similar to wood stoves or fireplace inserts, but the similarity ends there. Inside, they are quite sophisticated combustion appliances, and the result of their efficiency is low-cost heating. Unlike wood stoves, they don't burn wood. Instead, they burn small pellets typically made from recycled wood shavings, sawdust, or corn.



Advantages of Burning Pellets

-The pellets are actually recycled sawdust, wood shavings, corn, walnut and peanut shells, and similar bio-mass wastes that are ground up, compressed, and extruded. The 3/8-to-1-inch-long pellets look like rabbit feed and are typically sold in 40-pound bags. Pellets turn wastes that would otherwise be dumped at landfills into energy, lessening our dependence on oil.

-**Won't Harm the Environment.** Due to high burn efficiencies and the density of the fuel, pellet stoves and inserts have extremely low particulate emissions.

-**Pellets burn so efficiently**, there's very little ash to clean up. Many models have automatic cleaning cycles that make maintenance even easier, and extra-large ash pans so you can burn nearly a ton of pellets before emptying is needed.

-**Won't Empty Your Wallet.** If you heat with propane or fuel oil, switching to pellets for heating your home is a smart financial decision that will save you money.

-**Won't Take Up Your Time.** Many pellet stoves provide warmth for up to 24 hours on one hopper of pellets. Homeowners typically need to load pellets only once every day or two, which is as simple as pulling out the hopper and pouring the pellets in.

-**Won't Clash with Your Décor.** Our pellet stoves are designed to fit seamlessly into any décor. You'll have options for styles, colors, finishes and trim.

-**Pellets burn cleaner** without smoke and soot. Both because of the fuel's consistency and the stove's combustion mechanics, pellets burn very hot. This means they burn more efficiently and

more cleanly than wood—putting far fewer particulates into the air. Intense compression squeezes the moisture out of the pellets, dropping their moisture content to below 8 percent, which is very dry compared with cord wood, which has from 20 percent to 30 percent moisture. The drier the fuel, the more heat it can produce. And the hotter the fire burns, the more fuel it can consume. Compared with EPA-certified wood stoves, which give off about 5 grams of particulates per hour, pellet stoves give off less than 1 gram per hour.

-Pellets are easy to store and load.

-Units turn on with the push of a button and many can be used with thermostats.

Effort

Aside from having to load the hopper (the place pellets are stored before they are burned) and regular maintenance, pellet inserts and stoves require minimal effort to operate. Similar to gas, most pellet stoves and inserts can be turned on/off and adjusted via electronic controls. To minimize how often you'll need to load pellets into your hopper, choose a pellet insert that has a large hopper. How often you load the hopper will depend on what temperature setting you select. The lowest setting on your pellet fireplace will burn approximately 1 ¼ lbs of pellets per hour, while the highest setting will burn approximately 5-6 lbs of pellets per hour.

Maintenance

Used regularly, pellet stoves and inserts usually require annual and weekly maintenance. On a weekly basis you'll need to clean the burn pot (the place where pellets are burned) and sweep ash off internal components to prevent air flow blockages that can decrease the efficiency of the unit or stop it from operating. Similar to a wood insert, you'll also need to clean the glass on your pellet insert if you want to maintain a clear fire view. Because pellet inserts have several mechanical components, they require more maintenance. To minimize maintenance costs, maintain your pellet fireplace regularly and pick a fireplace manufactured by a company that takes pride in quality.

Cost/Affordability

Pellet inserts, fireplaces and stoves are generally priced similar to their wood and gas counterparts. The operation cost of your pellet fireplace product will be relative to the efficiency and craftsmanship of the unit you buy, the quality and type of pellets you use, the cost of electricity in your region, and the heat setting you maintain. These high-efficiency heaters let you turn down the household thermostat while warming your rooms, providing ambience, and reducing your energy bills

Flame Experience

The flame produced by pellet inserts is vibrant and lively. Pellet inserts are generally quiet, but you may hear the electric fans required to maintain airflow to keep the fire burning and/or the electronic powered belt that drops pellets into the burner.

Heat Production

Pellet inserts are hot, consistent and efficient heaters. The amount of heat your pellet fireplace produces is relative to the efficiency and craftsmanship of the unit you buy, the quality and type of pellets you use, and the heat setting you maintain.

Performance is affected by your home's layout, insulation, and regional climate, but generally 5,000 BTU's of fire power will heat 200 square feet. For a precise match for your space, have us visit your home and recommend a model. Just keep in mind that the warmth from your stove will be concentrated in rooms closest to where it's installed. If used for supplemental heat, one trick is to put the stove near a furnace return vent and run the furnace fan to circulate warmed air throughout your home.

Installation

The only thing easier and cheaper to install than a pellet insert is a pellet stove. Pellet inserts install smoothly into existing masonry fireplace openings. They are more simple to install than gas fireplaces because they don't require a fuel line.

Requires Electricity?

Yes. Almost all pellet stoves require a nearby outlet to run the fans, thermostat, and circuit board. If the stove is your sole heater, consider adding a battery backup in case your electricity goes out.

Safety

If you purchase a premium crafted pellet insert or stove from a reputable dealer, have it installed professionally, and you maintain it as per the owner's manual, it should perform safely and efficiently. Pellet inserts and stoves score high in the safety department because you don't need to open the viewing window to fuel them.

What do they cost?

About \$1,000 to \$5,000 for a pellet stove or an insert, depending on style, size, and heat output, plus the cost of professional installation (HIGHLY recommended).

DIY or hire a pro?

Unless you're comfortable cutting holes in your house for the venting, leave installation to the pros. Pipes can run horizontally out an exterior wall, vertically through the roof, or up the chimney if adding an insert. Installation prices vary by job and can be provided to you after an in-home consultation.

Floor protection



Pellet stoves must rest on a noncombustible surface, such as stone or ceramic tile, to guard against errant embers. A pad should extend 6 inches beyond the door.

How They Stack up Against Woodstoves

Efficiency:

Pellet: 60-80 % of fuel is converted to heat for your home.

Wood: 30-80%

Maintenance:

Pellet: High-quality pellets limit ashpan cleaning to once a week or less.

Scrape the burn pot weekly to remove combustion residue and unburned pellets.

Have unit and vents professionally cleaned at the outset of heating season.

Wood:

Remove ash every one to three days.

Have the chimney and unit professionally cleaned and inspected at outset of heating season.

Venting options:

Pellet: Very little smoke; exhaust is drafted outside with a fan through a horizontal or vertical vent pipe. The exhaust pipe, which can go straight out an exterior wall or up through the roof or chimney, must be tightly sealed to prevent flue gases from entering the home. A second intake line provides outside air for combustion.

Wood: A passive system requiring a more complex vertical chimney so that smoke can rise and flow outside. This type of chimney is more expensive as more is required for the appropriate flow.

Fuel availability:

Pellet: You can find 40-pound bags of pellets at home centers and hardware in cold climates. We will also deliver pellets by the ton.

Wood: You may be able to harvest your own hardwood, but it must be properly seasoned. It's also sold by the bundle at stores or by the cord from tree-care pros.

Fuel storage:

Pellet: Bags of pellets should be kept indoors to guard against moisture infiltration.

Wood: Wood can be stacked outside under cover and away from the house to prevent damage from termites.

Fuel Quality

The Pellet Fuels Institute has two grades for pellets: premium, which is usually made of only wood, and standard, which contains some bark. Premium pellets are marginally more expensive than standard—about \$5.50 for a 40-pound bag— but they produce less ash. Another indicator of quality is the amount of fines, or dust, at the bottom of the bag; there should be less than 0.5 percent, which works out to half a cup. Any more dust can create fused ash chunks, called clinkers, that block air

flow into the stove. The last variable is sodium content; pellets should have fewer than 300 parts per million (ppm) to ensure an efficient burn.

