



# Energy Efficiency: Using a Pellet Stove

(General)

## What are Pellets?

Pellet stoves burn compacted pellets, usually made of wood or other organic material. Wood and other biomass wastes are dried, heated and compressed into 6 mm (1/4 in.) in diameter and 25 mm (1 in.) long cylinders.

## How a Pellet Stove Works

- The pellets come in bags and are poured into a hopper.
- Gravity or an auger system (rotating screw shaped device) pulls the pellets into the burn chamber at a controlled rate. (Auger systems are automated to supply pellets on demand depending on the stove's temperature.)
- This measured rate keeps just the right amount of fuel and air mixture needed for an efficient burn.
- The stove pulls in cold air to heat as the pellets burn.
- A heat exchanger transfers the heat to clean air that will be sent into the home, while the exhaust is expelled through the chimney



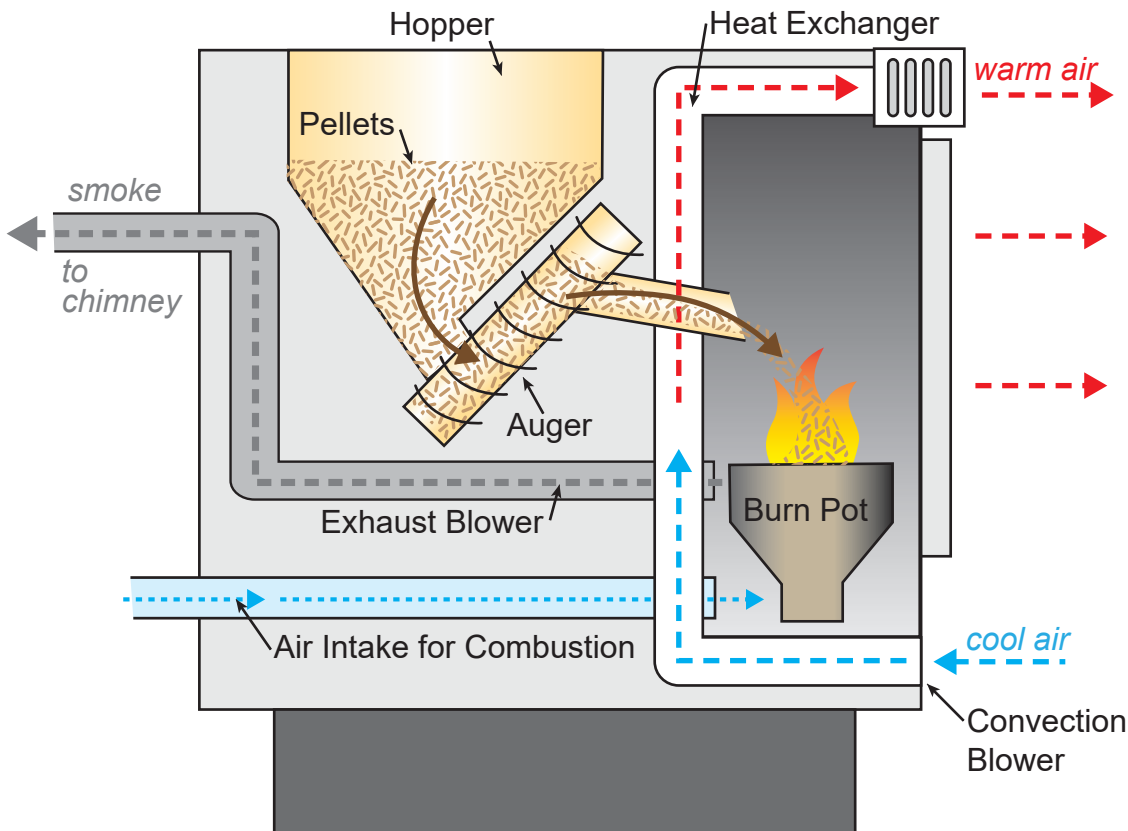
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## Pros & Cons

- A pellet stove produces fewer greenhouse gas emissions when compared to traditional fireplaces.
- The controlled system is very efficient.
- The downside is that the auger system and a fan require multiple motors, consuming electricity, unlike most wood stove systems.
- The pellets can be more expensive than traditional firewood and not always accessible in a rural or remote area.

## Quick Start Guide

1. Ensure that your pellet stove is connected to your thermostat
2. Fill hopper with pellets
3. Power stove ON and OFF by using the stove controls.
4. Adjust controls to select the desired room temperature.

Note: In many models the room temperature must drop 3 degrees below the temperature you set before the stove automatically ignites.

That's it! Many pellet stoves will automatically ignite as long as your controls are set to ON, there are pellets in the hopper and no alarms are active.

### Some control systems will:

- Prompt you to clean it out
- Adjust the feed limit
- Allow you to select either room sensing or constant burn settings
- Perform diagnostics
- Program a heating schedule
- Alert you of errors
- Allow you to switch between automatic and manual operation.

Once you have a fire going, there are many other minor adjustments you can make to customize your control system at a time that is best for you. Please consult your manual.

## Helpful Hints

- If possible have a smart thermostat connected to your stove. This will increase efficiency and access to make adjustments remotely, resulting in fuel and electricity savings.
- It is best to store your pellets somewhere dry and elevated, while keeping them away from the heat of the stove as the pellets can be a fire hazard.



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## Maintenance

### Daily Maintenance

- Scrape the burn pot and remove excess ash.
- Empty ash pan

### Monthly Maintenance

- Glass cleaning
- Scrape and vacuum heat exchanger
- Clean burn pot
- Clean ignitor bracket
- Inspect hopper lid gasket for damage
- Brush and vacuum the distribution fan

### Annual Maintenance

- Vent/chimney cleaning

## Useful Links

The Online Grill - How to Store Wood Pellets

<https://theonlinegrill.com/how-to-store-wood-pellets/>

Blaze King - Run Pellet Stove

<https://www.theblazinghome.com/run-pellet-stove/>

Chimney Sweep - Pellet Stove Operation

<https://www.ctsweep.com/blog/top-sweep-stories/pellet-stove-installation/>

Popular Mechanics - A Pellet Stove Primer

<https://www.popularmechanics.com/home/interior-projects/how-to-a8589/a-pellet-stove-primer-14853590/>

Cozy and Warm Wood Stoves vs. Pellet – Harrowsmith Magazine

<https://www.harrowsmithmag.com/7388/cozy-and-warm-wood-stoves-vs-pellet>