



## Direct Vent Fireplace

### What is 'direct vent'?

A direct vent fireplace does not require a chimney. The fireplace chimney directly vents outdoors through a single vent, which can be either horizontal or vertical. The fire chamber is not open-burning like a traditional fireplace; rather, the chamber is sealed off from the house. Thus, the direct vent fireplace is a closed system.

### How does it work?

The fire is typically ignited by a switch (either manually or via remote control), and fueled by a gas line. The fireplace draws in air from the single vent for oxygen to fuel combustion. Through that same vent, the fireplace expels unwanted by-products, including carbon monoxide, nitrogen monoxide, and smoke. This is possible because the vent uses a double wall pipe; the outer pipe sucks air inside and the inner pipe vents gasses outside.

The heat from the fireplace is typically transferred to the house via the sealed glass front of the fireplace.

### What are the benefits?

Direct vent gas fireplaces have several benefits, including fuel efficiency, safety, little indoor pollution, and less outdoor pollution than traditional wood-burning fireplaces.



**Efficiency:** Direct vent fireplaces are very efficient for several reasons.

1. The gasses are expelled through the inner pipe are hot, which heats up the air coming through the outer pipe. The fact that the incoming air is already hot increases efficiency, since the air does not cool things down.
2. A direct vent provides the optimal amount of oxygen needed for combustion.
3. Direct vent fireplaces are hot upon ignition, circumventing the loss-efficiency kindling period of wood-burning.
4. The closed system of direct vent fireplaces helps ensure that heat goes where it should instead of being lost through a large chimney.

**Safety:** Direct vent gas fireplaces are know as a safe and healthy choice because the exhaust all by-products of the fire outdoors. The traditional fireplaces let some gas escaper into the house.

1. Carbon monoxide is poisonous and can be deadly.
2. Nitrogen dioxide is toxic and may cause respiratory symptoms.
3. Particulate matter consists of tiny solid particles (basically airborne soot) which irritate the lungs.

Thus, operating a direct vent fireplace has no negative effect on indoor air quality, unlike many other options. Also, because the front is sealed, there is no risk of embers or sparks jumping and catching the rug or other item on fire.

**Convenience:** The direct vent fireplace typically takes up very little space.

1. There is no clearance needed to ensure that flammable items are out of the range of sparks or ashes, so homeowners can have furnishings and items closer to this kind of fireplace.
2. The vent takes up less space than a large chimney would.
3. These fireplaces are rather easy to maintain. There is no chopping wood or getting rid of ashes.
4. It can be ignited as easily as flipping a switch or using a remote.

**Eco-friendliness:** Gas fireplaces pollute less than many other options.

1. Natural gas has less particulate matter than wood.
2. This type of fireplace is very efficient in terms of units of heat generated per unit of fuel used. Because less fuel is needed, fewer pollutants are released into the air.

