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What is the difference between a Euro Fireplace and conventional wood heaters?

A Euro Fireplace is a combination radiant and natural convection heater (no fan required), which may utilise Heat Bank, Vermiculite Linings, fresh air intake and a primary and secondary air control system (depending on the model) to give you more heat for less wood.

Why does a Euro Fireplace have no fan?

In short, A Euro Fireplace does not need a fan. These heaters are constructed to create strong natural convection which makes a fan obsolete.

Fan forced wood heaters were preferable in older, poorly insulated houses with gaps that let cold air in and hot air out. These heaters absolutely need their fans as they rely on warm air forced out of the heater that rises to the ceiling where it sits until it cools. The heater then must continuously force warm air away from the firebox using an electric fan. A fan forced wood heater is simply an outdated technology that is no longer necessary with modern buildings or retroactive insulation of older houses.

How does natural convection work?

A natural convection wood heater draws cold air at floor level from your house into the heater's convection channels. As that air passes through the sides of the heater it is warmed and expelled from the top of the heater into the living space. Warm air will travel throughout the house and as it cools it again returns to the heater, creating a continuous cycle and resulting in less energy needed to maintain warmth. Natural convection is globally accepted as the most efficient wood heating system. In Fact, more than 85% of wood heaters worldwide use natural convection to circulate warmth and with correct operation this system uses the smallest amount of firewood.

How does radiant heat work?

Radiant heat is sometimes called "The Healthy Heat"; it behaves like the heat from the sun and, like the sun, you need a direct line of sight to feel it. In the direct line of radiant heat 17 degrees will feel like 21 degrees, resulting in a feeling of wellbeing. Radiant heat from a wood heater will linger near the heater vicinity; this may be important in less insulated houses or two storey houses. A heavier heater with more Heat Bank will result in longer lasting output of radiant heat. In addition to convection, our heaters also release radiant heat from the glass and body of the heater.

What is Heat Bank?

Heat Bank is unique in Australia to Euro Fireplaces. By adding thermal mass in form of a tile or stone finish, or the addition of heat absorbing stones between the inner and outer steel layers of the heater, heat is stored and released slowly in the form of radiant heat as well as prolonged convection. The principal of Heat Bank comes from the traditional ancient wood heating method called Kachel Oven (Austrian), where heaters were built

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with masonry building materials creating around 1000 kg + of thermal mass. Like floor heating, the heater retains warmth for up to 24 hours with minimal wood usage.

Do all Euro Fireplaces have Heat Bank?

No, Heat Bank is not always necessary. If a heater is used intermittently, such as in a business or a holiday home, or as a supplementary (as opposed to primary) heat source, a steel finish will heat quicker and convect warm air further throughout the house than a heavier Heat Bank heater. However, once a Heat Bank heater has charged the thermal mass (approximately 40 minutes after lighting the fire) natural convection will also travel efficiently through the house.

Is there a big price difference between a Heat Bank Heater and a non Heat Bank Heater?

Heat Bank heaters are more expensive than a steel heater, however in most cases the extra cost is quickly recuperated by even lower wood usage as heatbank not only keeps your home warmer for longer, it also reduces your fuel usage. With many models Heat Bank is optional and can even be added after the fireplace has been installed and operated.

What is Vermiculite?

The thermal panels (vermiculite) that line the firebox in most Euro Fireplaces are made of aluminium-iron-magnesium silicate. They are asbestos free, non-toxic, odourless, light, fireproof and acid proof.

As a lightly compressed and fireproof material of minimal weight, it is the perfect raw material for the firebox lining. Vermiculite linings reflect heat and protect the steel of the firebox from wear and create higher burning temperatures within the firebox and stronger radiant heat through the glass.

What is a fresh air intake?

A connected fresh air intake allows the heater to draw oxygen needed for combustion directly into the firebox from outside. This means that the inside of your house can stay fresh and warm at the same time without the fire needing to draw oxygen from your immediate surrounds.

With oxygen rich combustion air, the heater will burn even more efficiently, causing the wood to burn longer and cleaner. A fresh air intake is an absolute advantage in every home and a must in 7+ star rated houses.

What is Primary and Secondary air control?

The actual operation of the primary and secondary air control will vary from model to model, but it is usually a single lever that pulls open and pushes closed with ease. This controls both the Primary and Secondary airflow.

Primary air is fed into the firebox from underneath the grate, it moved quickly because the heat source is above it and allows you to light your fire quickly and effectively. Primary air should be turned off once the firebox has reached its correct operating temperatures as it can burn your coals away and allows heat to escape into the flue

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before it has a chance to transfer into the body of your heater. This is important on startup, but inefficient during normal operation.

Secondary air is prewarmed in a chamber behind the firebox and is fed into the top of the burn chamber. This essentially places the fire itself in an oxygen rich environment rather than actively blowing it like primary air does. This air wash is directed over the glass on the fire door to help keep it clean, before being drawn over the fire. This results in secondary combustion, reducing smoke and emissions by burning them before they can escape into the flue, reducing fuel usage and creating a clean efficient burn.

How important is a large kW output?

A natural convection wood heater does not rely on a large kW output. The aim is for the same warming air to keep coming back and to not let heat escape through the flue. The unique Euro Fireplace burn chamber and air supply is designed to not only burn clean, but also use every last bit of energy from the firewood and, with correct operation, leave only fine ash. This system doesn't require a big kilowatt output; it creates less energy (using less wood) but effectively transfers those kW from the heater to your home.

Is a Euro Fireplace suitable for any house?

Euro Fireplaces are suitable for all homes with basic insulation and few air leaks, where it is possible to install a flue to Australian standards (this may not be possible some multistorey situations).

A natural convection wood heater may be unsuitable for older, poorly insulated homes with gaps and air leaks present. If the house is leaky at floor level (gaps under doors) and those leaks cannot be covered then a fan forced heater may be a better option.

It is, however, good sense to address gaps at floor level regardless of the heater.

Leaks at ceiling level are an issue whether the heater is fan forced or natural convection as the warm air created by the heater can be lost.

How can less wood possibly mean more heat?

Every aspect of the design of a Euro Fireplace is geared towards effective heat transfer from inside the firebox to inside your home. You will burn less wood because you are producing less Kilowatts but transferring the kilowatts that you DO create much more effectively.

Doesn't Europe use a different kind of wood?

Europe's firewood is mostly beech, a type of hardwood. It is a misconception that Europeans use pine as firewood. Although beech is not as hard as some Australian hardwood like River Red Gum, the most important aspects of firewood are dryness and size. Wood with high moisture content will not provide a hot burn and larger (thicker) logs will need primary air to combust properly which will result in heat loss through the flue and poor coal retention. Euro Fireplaces are optimized for Australian wood and heating conditions.

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How important is the correct operation of a Euro Fireplace?

Correct operation is imperative. From using appropriately sized, well-seasoned firewood to not overloading and correct air control position, only a correctly operated Euro Fireplace will provide the most heat, a clean burn and high efficiency.

Overloading a heater and smouldering (depriving the heater of enough combustion air) instead of a bright burn will result in a blackened glass and a dirty flue. This can not only lead to blackening walls and ghosting (black marks on the ceiling) but also flue fires.

Can I shut the heater down overnight?

With correct operation most Euro Fireplaces Heat Bank heaters will retain embers without blackening the glass or the flue for up to 8 hours. After the embers have gone out the heat bank will continue to release heat for another few hours. The way in which an overnight burn is executed is important. See our operation manuals for more information.

Where can I get more information?

Give us a call on 1800 733 705 or send an email to info@eurofireplaces.com.au and talk to one of our team of experts if you would like further information.