



## Guides and Information

**Paddock Wood**  
Maidstone Road, Paddock Wood, TN12 6QJ  
**Telephone:** 01892 838 834  
**Email:** info@thekentstovecompany.co.uk

**Tenterden**  
10 Bridewell Lane, Tenterden, TN30 6EY  
**Telephone:** 01580 766 661  
**Email:** tenterden@thekentstovecompany.co.uk

## New to Wood Stoves? A brief A-Z Guide

This brief guide is designed to help you find your way around some of the jargon and terms you will come across as you search the world of wood-burning and multi-fuel stoves, often referred to as "Woodburners" or "Stoves".

While we've tried to make it as accurate as possible it is a general and generic guide, not a technical manual. Please accept that there may be more than one correct way of doing or describing things.

**For individual stoves always follow the manufacturer's instructions and user manuals.**

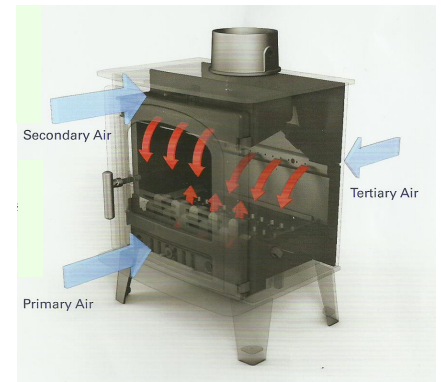
An expanded version of this guide and lots more information can be found on [www.thekentstovecompany.co.uk](http://www.thekentstovecompany.co.uk)

### Air and Air Controls

Nothing burns without air. Most modern stoves are fitted with two and possibly three sources of air supply and controls to the fire box. Some have just one multi, or combined-control doing a similar job.

**Wood** burns best on a bed of ash on a flat base and likes to draw air from above and sides. **Coal** prefers to sit on a grate and draw at least some of its air from below. (See Wood or Multi fuel).

The **Primary** and **Secondary** air controls are used to control the flow and direction of air entering the stove. **Tertiary** air is a flow of air usually fed in through small vents above the fire bed to provide oxygen to any unburned gases, causing them to ignite for a "clean burn". This also gives a "dancing flame" effect in the fire box.



### Airwash

Common now on almost all new stoves. This is a design feature where air flow through the firebox is directed down the face of the stove glass keeping it clear and preventing the glass going black and sooty.

### Air Vent

Regulations require an air vent to be installed - an un-blockable hole through the wall - to provide sufficient air for a stove to operate and not "starve" the room of air. This applies to all newly built properties (which are tightly sealed under modern building regulations) and where the KW output of the stove exceeds 5KW.

You may notice a number of stoves on the market with a claimed maximum output well in excess of 5KW but which conveniently have a quoted "Nominal output" of 5KW in order to get around this requirement.

Some stoves have a **Direct Air** option where air can be ducted straight into the back of the stove from outside.

### Cast Iron or Steel?

Stoves can be made from all cast iron, all steel or different components of the stove made from the different metals. It is common for steel stoves to have cast iron doors as this offers wider design options.

Steel stoves tend to heat up and radiate heat more quickly but then lose it more quickly as the fire dies down. Cast iron is slower to radiate initially but lasts longer and gives a more even heat with fewer peaks and troughs.

With modern materials both are arguably equally durable. Some people prefer the look of cast iron but it is generally more expensive than the steel equivalent. Cast iron can be enamelled to give a gloss finish in different colours.

### Chimneys, Liners & Twin-Wall chimney systems

We could write a book just about Chimneys, Liners and chimney regulations but these are the very basics:

**If you have an existing brick Chimney: A chimney liner will likely be required.** This is a stainless-steel flexible tube, usually 5 or 6 inches in diameter, that is fed into your existing chimney and connected to the stove at one end and a cowl on the chimney top at the other end. This provides a safe, sealed path from the stove to the outside of the building.

**If you do not have a Chimney: A Twin-Wall System will likely be required.** This is a rigid stainless steel tube with an inch of insulation around it and then a second tube around that (hence: twin wall). This pipe comes in sections and can either go straight up through the house and roof or directly through the outside wall and then externally up the side of the building. It is effectively building a new chimney. A twin-wall system may well cost more than the stove of your choice.

There are lots of considerations and regulations. Please ask for further details or a home survey to find out more.

**For more information look on the website: [thekentstovecompany.co.uk](http://thekentstovecompany.co.uk)**

## DEFRA (Department of the Environment Farming and Rural Affairs)

You may see "DEFRA Approved" claims in many brochures. "DEFRA exempt stoves" (the correct terminology) or SE (Smoke Exempt) are stoves that are cleared to burn specified fuels in smoke control areas. In old terms: you can use these stoves in Smokeless Zones, usually towns. This is usually achieved by including a mechanism in the stove that prevents it being fully shut down. A fully shut down stove is not burning efficiently or "cleanly" and therefore emits more polluting gases and particles.

### Efficiency

In a typical traditional open fire approximately 70-80% of the heat produced goes up the chimney and is lost. This makes the fire approximately 25% "efficient". In wood burning stoves only around 25% of the heat is lost up the chimney making them around 75% "efficient". Most manufacturers quote an "efficiency" rating for each model, some claiming as much as 88%. E.G. a stove claiming 76% efficiency means heat loss up the chimney is 24%.

A word of warning though: take advice before choosing an ultra-efficient stove. Hot air rises through the chimney helping to give a healthy draw. If there's very little hot air rising the stove may prove difficult to start and keep going well. You may need to run it hotter than you wish (and burn more fuel) to keep the chimney working well. Chimney length and other local factors may favour a less efficient model.

### HETAS (Heating Equipment Testing & Approval Scheme)

HETAS is the official body recognised by Government to approve biomass and solid fuel heating appliances, fuels and services, including the registration of competent installers and servicing businesses.

### Inset / Insert / Cassette

While there are technical differences between Inset, Insert and Cassette stoves they are often referred to as the same. They can be inset into an existing fireplace or flush with a wall to give a clean, minimalist look. They also have the advantage of saving space.

### Free-standing Stoves

As the name implies stand freely on their own. Although they can be sited in small openings there may be distance clearance requirements and limits around the stove. Models vary.



### Kilowatts KW: Rating and How much do you need?

**Stove heat output** is normally given (or claimed) in Kilowatts. For 1KW think of the heat given out by ten 100 watt light bulbs or one bar of an electric fire as a comparison. It is not easy to prove the manufacturer's claims or even to find out exactly how they have been arrived at. Most give a range of KW output and a "Nominal" output: e.g. 3 - 7 KW but a Nominal 4.7KW. Think of the Nominal output as the "Normal" output - neither running the stove flat-out, nor closed down. See also "Air vent" overleaf: a quoted Nominal output may well be less than true output, particularly if quoted as 5KW.

**Calculating KW required.** This is a very rough calculation as so many factors, other than just room size and capacity have to be taken into account. 1KW of heat is generally reckoned to be sufficient to heat 15 cubic metres of room capacity. So calculate the cubic capacity of the room (W x L x H in metres) and divide by 15 to arrive at KW required.

**BUT,** this assumes an "average" dwelling, i.e. not a new-build that under current building regulations will be highly insulated and sealed, nor a draughty old barn with solid walls and no central heating or double glazing. Other factors to consider are heat "spillage" into other rooms and upstairs, and the property location: an exposed position on the north coast of Shetland may need just a little bit more heat than a sheltered spot in the south of England.

Please ask for further advice or a free home survey to help you assess the KW requirement and advice on suitable stoves.

### Wood burning stove or Multi-fuel?

The main design difference between the two is that a pure Wood burning stove will generally have a flat base inside where the burning takes place (see "Air & Air Controls overleaf) and a Multi-fuel stove will have a grate and most probably an ash pan to remove the higher level of ash created when burning coal. Here are just some of the differences and (alleged) pros and cons between the two to help guide your choice:

#### Wood burning stoves

Burn wood only.  
More eco-friendly and environmentally sustainable. Carbon neutral or close to it.  
Cleaner burning and potentially less polluting.  
Little ash produced compared to coal.  
You may have your own cheap/free supply of wood - you're unlikely to have a coal mine!

#### Multi-fuel stoves

Can burn wood, smokeless fuels, Anthracite, Peat / turf briquettes.  
More ash created. Generally fitted with an ash pan and require more frequent ash removal.  
Some fuels can produce greater temperature than wood equivalent.  
Some fuels can last longer than wood equivalent so less frequent refuelling required and possibility to keep the fire in for longer.  
Greater flexibility: if you can't get hold of logs / wood.

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