



Considerations on choosing and fitting a stove

1. How big should the stove be?

We arrive at the required output by dividing the volume (in cubic metres) to be heated by 14.

This gives the approximate kilowatt requirement to maintain an insulated space to 20°C when it is 1°C outside (assuming average ratio of window to wall area).

e.g. A room measuring 5m x 6m x 2.4m high = 72m³ / 14 = 5.1kw.

So a 6kw stove standing proud in the room would be quite adequate.

However, if the stove is going in a recess or alcove (we'd usually recommend an opening of at least 800mm square), presume up to a third of the radiant heat will be absorbed in the recess, so an 8kw stove would be required. **If the chimney is fairly central in the house, and the stove will be in regular use over the winter, using the recess as a 'heat-sink' could actually be an advantage**; we have on occasion fitted a large stove in a small recess, with double the room requirement. Where **the slow release of heat from the stone of the chimney is of benefit to the whole dwelling**. Of course, the physical difficulty of fitting, and thereafter ease of access to clean the chimney must be considered.

The same heating calculation works for a whole house.

If the stove incorporates a boiler, approximately 20% of heat is in the pipe work, and 3kw should be allowed for the hot water cylinder (this is heated by 'gravity' or thermal convection, while the radiators are fed by an electric pump, which is thermostated from the hot water cylinder – so the pump comes on automatically when the cylinder is properly warm; if a hot water cylinder is not on the system, a heat leak radiator must be installed, in case of pump failure).

It is unusual for every room in the house to be heated to 20°C, so the proportion of heat lost to hot water and pipe work (up to 30%) generally balances out; we find cubic metres divided by 14 a good working equation for most situations.

Boiler versions of our 'Sumo' stoves, we calculate, put out about 25% of heat direct to the room, and about 75% to water.

There is plenty of leeway with our stoves, but the above calculation serves as a rough but sufficient guide. So a 'Sumo 25b' will be adequate for a dwelling of say 260 to 320 cubic metres.

2. What fuels can I use?

Our stoves are tough old things, and will withstand treatment that would destroy or permanently impair other stoves.

'Petroleum coke' (e.g. 'Pet-coke') is the only fuel to be wary of but even then a Dowling will withstand occasional use of this fierce and corrosive fuel (it can burn through a standard fire nest in 3 weeks)

Coke or anthracite, coal of any quality, including 'slack', household rubbish, peat and of course wood (gen. Green wood, if mixed with coal or coke to get the temperature high enough to burn off tars).

Soft woods produce a lot of resin, even when seasoned, a good 5-minute roast twice a day will help burn off condensed tars in the flue. **Birch** and **Ash** will burn beautifully even when green; **Beech** and **Oak** ideally season for a year; **Elm** is slow and reluctant to burn even after 18-month season, but suitable for overnight slow burning.

The compact shapes of the Firebug and Hybrid models make them more suitable for coal and coke; the wide mouths of the Aztec and the Sumo allow logs upwards of 20" (We've made 40 kilowatt wood burners that will accommodate 3 foot logs).

The Aztec is configured just as a wood burner i.e. no grate or ash pan (the wood just reduces down into its own ash bed, and only needs a shovel or two removing a week. 60:1 reduction of wood to ash when burnt!), but the Sumo, Hybrid and Firebug are quite happy burning anything.

Although our stoves are not emissions tested for use in **Smoke Control Areas**, they will quite happily burn **DEFRA approved fuels** such as anthracite, ovals or suitable briquettes ...

Once a stove is burning hot it will generally burn seasoned wood clean enough, but for the full burn cycle, especially on lighting and for damped down burning, we can only recommend that approved smokeless fuel should be used in smoke control areas.

3. How will it fit?

A stove will obviously require a good chimney, the cost of building one would generally be more than the actual stove, so if there is one already there, use it!

If the chimney is sound, it may not need relining.

A visual inspection and smoke test, plus a knowledge of the chimney's history may give sufficient assurance. If in doubt, take professional advice, your local chimney sweep would

be a good place to start. There are various ways to line a faulty chimney; perhaps the most suitable for connecting to a stove a multi-fuel stainless steel liner.

A stainless steel multi-fuel liner running the length of the chimney, from the head directly into the stove gives a wonderful draw, and makes cleaning simple.

The chimney must be thoroughly swept (the liner will get hot enough to ignite any soot left in the lum), and ventilated in the chimney head to prevent condensation building up. A removable cowl of some sort is required to prevent rain ingress, a pot-hanging cowl will suspend the liner as well as protect from the weather. For a more thorough job, it can be backfilled with a pearlite mortar. More expense, but it will prolong the chimney life.

For a new chimney, twin wall stainless steel is usually the most economical and sensible option.

We would be glad to give initial advice or work in conjunction with your own builder. Whether the stove is fitted proud in the room, or recessed within the chimney breast will depend on various factors. Remember, though, that we build to order, and can design the stove to fit widely varying circumstances.