ECO STOVE

Innovation in

Silicone Carbide

ECO STOVE

More than just a new stove!

A new stove that uses age old principles but with silicon carbide state-of-the-art materials to maximise efficiency, create lower emissions and decrease running costs. This great stove creates a consistent heat not only for the room but for the whole house without over heating the room it stands in and projecting heat evenly throughout the house.

THE STOVE

Innovative use of Silicon Carbide as the whole structure of the stove, incorporating the unique benefits of the material produce a very high temperature in the combustion chamber (typically 900-1000°c) and a catalysing effect to consume the volatile elements in the products of combustion within the Ecco Stove before they exit to atmosphere.

As a result, the efficiency of the stove is tested at 85.3% with a Carbon output to atmosphere of only 0.24% average. The Ecco Stove efficiency satisfies DEFRA smoke control requirements.

Therefore with DEFRA approval the Ecco Stove could be used in inner city and smoke control areas burning wood because it combusts so perfectly.

Although the Ecco Stove is larger than many others it can be installed in a small room without overheating it because it gently projects its heat over a much larger area than a convention steel or cast stove. The room it stands in will not be hotter by more than one or two degrees than surrounding areas (if doors are left open).

ECCO STOVE

Heating Properties

TEMPERATURE

The room in which the Ecco Stove stands is typically the same temperature as surrounding rooms (with connecting doors left open) as the slow radiation of heat from the appliance projects the heat evenly to those adjacent rooms to a similar temperature as the room the stove stands in.

The body temperature of the Ecco Stove is typically 200°c (it begins catalysing at 150°c) whereas a traditional steel or cast iron stove could be 400 - 500°c meaning more intense heat, close to the traditional stove. If the choice is to heat much more of the house without over heating the room the Ecco Stove is the way forward.

HEAT

The Ecco Stove has a labyrinth of flue ways and air channels constructed into the body of the appliance to extract as much heat out of the flue gas before the exhaust reaches atmosphere. This keeps pollutants down to the bare minimum. As much heat is extracted from the flue gasses as possible to heat as much of the building as possible, rather than the just room the stove stands in.

Silicon Carbide has the characteristic of absorbing heat and releasing it slowly. CE Standards tests carried out on the Ecco Stove prove it still releases 25% of its absorbed heat 7 hours after running up to temperature, but typically the fabric of the building is warmed and even a lower heat release will keep a well insulated building up to temperature 14 hours after 20kg of wood has been burned (in 2 x 10Kg batches).

The stove's output is tested and verified as 4 to 11Kw.

ECO STOVE

New technology

Ultra efficiency, clean burning and house heating rather than simply room heating are the Ecco Stove's contributions to reducing our need for the fuels to heat our home that create pollution and our reliance on fuel suppliers whose prices can vary without notice, or whose supply may be subject to "turning off the tap" at will.

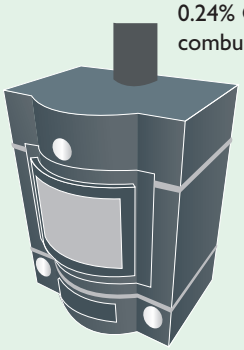
THE CONCEPT

Co^2 Saving Diagram

Co^2 absorbed by healthy living tree.

In 5 years, a rotting tree will give off more Co^2 than if you burn it on the Ecco Stove.

0.24% Co in combustion



SILICON CARBIDE

As a heat emitter Silicon Carbide is a combination of two minerals extracted from the ground (Silicon and Carborundum) and fused together to produce Silicon Carbide (SIC)

The combination of the minerals provides the hardest material next to diamond, having very special properties of heat absorption and slow heat release. Currently Silicon Carbide is primarily used in electrical conductors and furnaces, until we chose it as the mineral combination to be used in our Ecco Stove (we have a patent pending covering its unique use in the Ecco Stove).

The technology we have tapped into and adapted with SIC produces some of the best efficiencies and Carbon free emissions to date.

Due to this unique application we are constantly testing and developing the material in all applications of combustion and re-combustion (gasification) to move the bounds of room and whole home heating rather than specific single room heating.

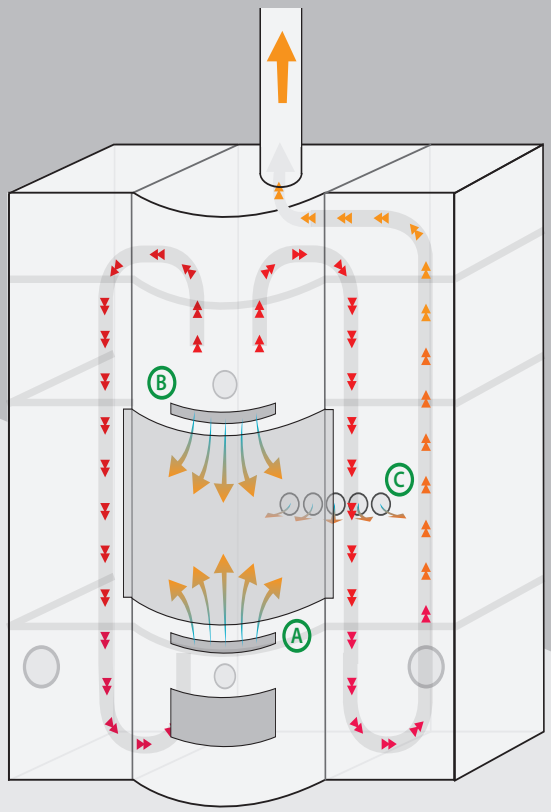
HOW IT WORKS

Ⓐ Air is drawn into the ash pit (primary air) to rapidly heat the mass up to minimum 150°C top centre (ideally 200°C). When catalysing begins within the firebox.

Ⓑ Flue gas is then deflected by a baffle system toward band B simultaneously for clean glass operation via double pass flue ways to absorb as much heat from the flue gas before exiting to atmosphere.

Ⓒ Gasification takes place via tertiary air introduction for cleanest combustion after which flue gas passes through the appliance before exhaust to atmosphere.

Gas Flow Diagram 80-120°c



A. Primary Air
Cold air in.

B. Secondary Air
Pre-heated air for clean glass operation

C. Tertiary Air
Pre-heated for final re-burn within fire chamber for clean exhaust gases.

The multitude of flue ways within the Ecco Stove extract almost all heat from the gas before exhaust to atmosphere.

OPTIONS

COOKING

The Ecco Stove has 4 usable hotplates on its top surface. The 2 front are boiling and the two rear are simmering when the stove is up to full temperature.

DOMESTIC HOT WATER (E678)

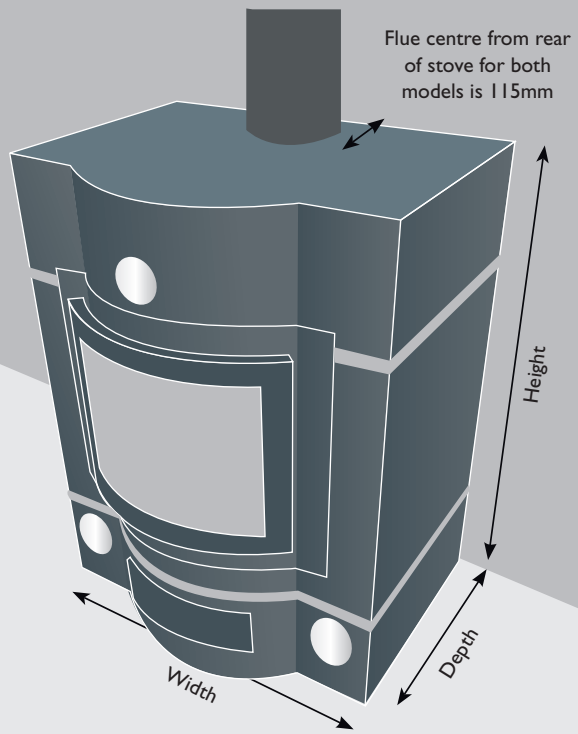
A heater coil can be added to the hotbox of the E678 for domestic hot water production, as the coil is not within the combustion chamber, the combustion efficiency is not affected.

HEATING

The hotbox can also be used to duct warm air to other rooms by convection (increasing the height of the stove by 100mm).

COLOUR & TRIM

The Ecco Stove is available in Black or Grey paint as standard. Other colour options are available. (see below) Alloy or black trim and alloy or black front discs are available. Alloy discs for hot plates are also available.



	Height	Width	Depth	Weight	Flue Diameter	Max. Log Length
E678	878mm	678mm	525mm	550kg	150mm	380mm
E850	1120mm	850mm	540mm	650kg	150mm	480mm

Ecco 678 - Available late 2010 (please call for delivery dates)

A unique design using

SILICON CARBIDE SLOW HEAT RELEASE

(Still producing 25% heat after 7 hours)

or

CONSTANT WOOD BURNER

85.3% efficient
0.24% carbon production

Your local Ecco Stove Specialist

Landy Vent UK Ltd., Foster House,
2 Redditch Road, Studley B80 7AX
Telephone: +44 (0) 1527 857814
Fax: +44 (0) 1527 854101
E-mail: sales@landyvent.co.uk
www.landyvent.co.uk


GASTEC

GASTEC at CRE Ltd hereby declares that the solid fuel appliance:-

Eco-stove Woodburning stove

Manufactured by: Landy Vent UK limited

Address: Foster House
Redditch Road
Studley
Warwickshire
B80 7AX

meets the essential type-testing requirements of:-

BS EN 15250:2007

when tested as a woodburning stove.

A summary of results is as follows:-

Test fuel	Efficiency, %		Nominal heat output, kW			CO, % (at 13% O_2)
	Net	Gross	Total	To space	To water	
Wood logs	85.3	78.2	11.6	11.6	-	0.24
	Time to 30% of thermal capacity, h					5.1

Test dates: 06.04.09 to 16.04.09 Test Report No: 836712

Signed: John Tucker
Authorised Signatory

Date: 23rd September 2009

GASTEC at CRE

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Tel: 01242 677877

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GASTEC at CRE Ltd is a notified testing laboratory, No.0658, under the Construction Products Directive.

CERTIFICATE

Specific technical information should be sought direct from the Ecco Specialist in your area. We reserve the right to change dimensions and specifications in our product development without notice.

Contact us for new developments.