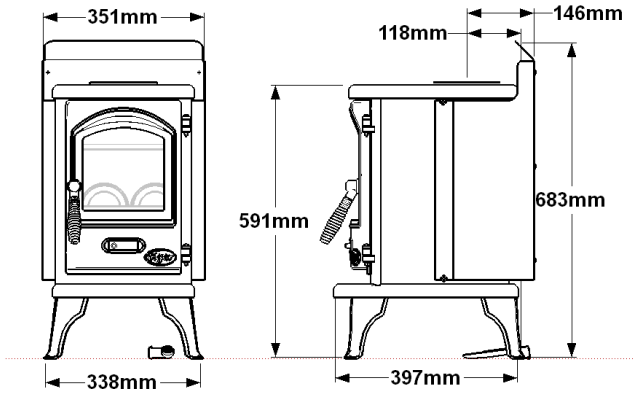
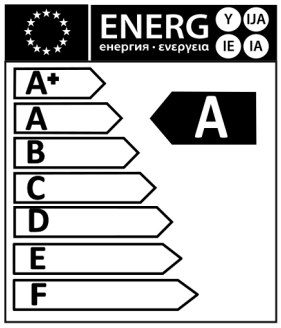


(Shown with optional rear heat shield)



LOW-EMISSIONS SOLID FUEL HEATING STOVE

Eco 2022 version

INSTALLATION AND OPERATING INSTRUCTIONS

LEAVE THIS DOCUMENT WITH THE HOUSEHOLDER!

All Tiger Stoves exceed the safety and performance requirements of European Standards Intermittent burning solid fuel roomheaters for installation with a single dedicated chimney.

CE
EN13240

2022 EcoDesign

MARINE
BS8511

Independently tested in 2019 by SGS Nederland BV, Arnhem Environmental Laboratory, CEN Approved Laboratory No 0608		
Fuel		Wood Logs (Beech)
Test Standard		EN 13240 (Safety & Performance) EN16510-1 (Emissions)
Test Cycle		1x 0.75kg log every 0.75hrs
Settings		Air slide closed
Flue Draught Pa (ins WG)		11
Efficiency %		76%
Recommended Output Rating kW		4.0 kW
Mean Flue Gas Temp Rise ºC		264
Minimum air entry requirement		2200 mm²
Minimum Clearance to combustibles (allow min 50mm clearance to non-combustibles)		500mm (150mm at rear with heat shield fitted) - but see further instructions inside
Emissions as if 02=13%	NOx mg/m³	101
	CO %	0.05
	CxHy mg(C)/m³	29
	Gas flow g/sec	4.6
	Smoke Emission mg/m³	23mg/m³ (≈ 0.29 g/hr)

Glyn Hughes. I declare that this information is true, these products meet the requirements of Harmonised Standards and are fit for sale. Signed on behalf of the manufacturer by Glyn Hughes, Design Engineer, at Winster, Derbyshire, England 4. Oct. 2019

Read these instructions! Use only recommended fuels!

This document, when completed by the installer, constitutes part of a 'Hearth Notice' for purposes of Building Law. It must be left with the householder and placed where it can easily be found.

INSTALLED AT LOCATION:
BY:
EMERGENCY CONTACT:

I assert that this installation is safe, has been lit and demonstrated to the householder, conforms with current building regulations and with these instructions

SIGNED: DATE:

Flue Draught measured on commissioning:

Pa

WG

Fuel used on commissioning

TO FIND A QUALIFIED INSTALLER, FUEL SUPPLIER or CHIMNEY SWEEP, CONTACT:

UK: The Solid Fuel Association, 7 Swanwick Court, Alfreton, Derbyshire DE55 7AS Tel:0845-601-4406 www.solidfuel.co.uk

RoI: Irish Nationwide Fireplace Organisation, 162 Capel Street, Dublin 1 Tel:01-801-5959 www.fireplace.ie

Distributed only by: Percy Doughty & Co, Imperial Point, Stone Hill Rd, Farnworth, Bolton BL4 9TN
Tel: 01204-868-550
www.tiger-stoves.com

THIS APPLIANCE BECOMES EXTREMELY HOT AND CAN PRODUCE POISONOUS GASES.

Take care to protect children or the infirm. The installer is required to EXACTLY follow these instructions and to completely comply with all local, national and international standards.

The Cub is a freestanding solid multi-fuel heating stove.

INSTALLING a stove is a 'controlled service', the law expects that it is either supervised by a qualified installer or that the building inspector is informed. Check with your local authority.

ASBESTOS: Your stove does not contain asbestos, but take care to avoid disturbing asbestos in an old installation.

WEIGHT: Your stove is heavy (60kg) take great care when moving it and ensure that the intended fireplace can support the weight- consider fitting a load distributing plate.

YOUR CHIMNEY, by becoming warm, makes the gas inside it rise, pulling fresh air into the stove to make it work. It must:

- Generate a draught in use of at least 12Pa (0.05ins wg)
- Be capable of withstanding the temperatures generated.
- Be absolutely incapable of leaking fumes into the dwelling

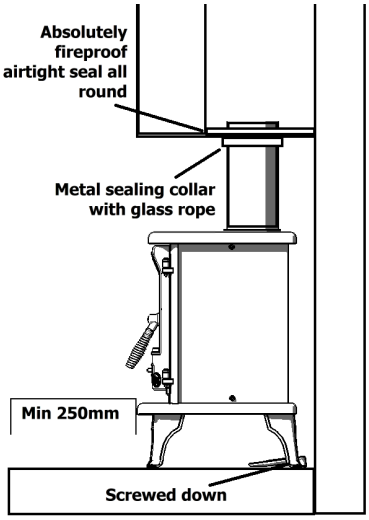
This may *commonly* be achieved by it:

- Being at least 5m high. Terminating at least 1m above any roof ridge.
- Being free from even the slightest crack or source of leakage.
- Having no bends sharper than 45º.
- Being swept and entirely free of obstructions
- Being connected only to this one appliance.
- Being of thick masonry or otherwise highly insulated.
- Conforming to local building regulations.
- Having an internal cross-section preferably never less than 125mm diameter, or more than 0.14m² (eg 375 x 375mm). **Exceptionally**, where 125mm flue is impractical, a 100mm internal diameter flue may be used, which must be short, straight, accessible at both ends for cleaning and completely insulated. An adaptor to connect to 100mm flue is available.

Special rules apply where the flue passes through timber, thatch or other vulnerable materials- take specialist advice.

Although it is possible to access the chimney through the stove, fit hatches to provide access if needed.

INSTALLATION

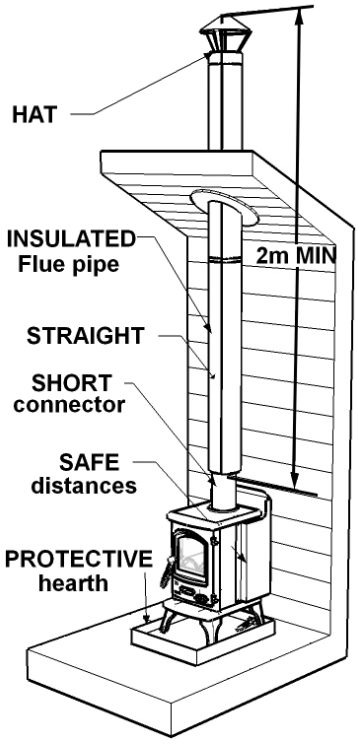


Typical installation (above) in masonry fireplace, shows a short plain flue length (up to 50cm) completely and absolutely sealed into oversize chimney with a 125mm diameter connecting flue pipe.

There should be a hearth of incombustible material underneath the stove, extending at least 250mm in front and 125mm at each side. Where these hearth dimensions are difficult to achieve, a ready-made protective hearth is available.

Where the stove is to be fitted in a shed or other building, or inland marine craft, for occasional use a short 125mm or 100mm internal diameter flue may be used, with the proviso that the flue is:

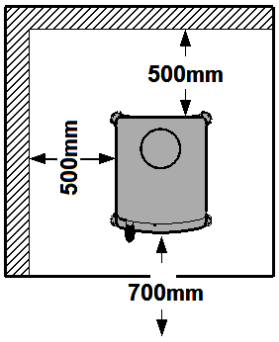
- Substantially straight
- Insulated - to keep the gases hot so that they rise
- At least 2m high
- Accessible from both ends for cleaning
- Protected against rain by a cap
- Free from risk of 'plume grounding' where annoying smoke is blown down into neighbouring properties



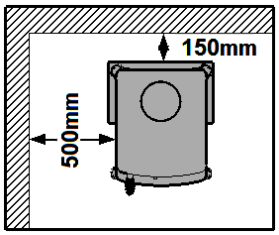
Special care is needed to protect vulnerable materials, such as wood or plastic, buildings, or craft against fire. There must be the correct fire protection air-gap around flue parts (see flue supplier's instructions) where flue - even insulated flue - passes through combustible materials such as a wooden roof.

For marine installations - follow the detailed instructions on a separate leaflet at www.soliftec.com/installation.htm

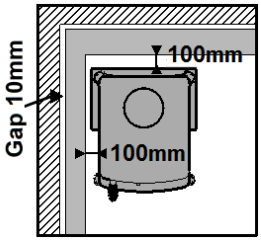
SAFE CLEARANCES



This stove can get VERY hot - hot enough to set fire to combustibles such as carpet, textiles, wood, glass-fibre (GRP), paper, wallpaper, plastics, furniture, clothing, cardboard, plasterboard some distance away. Under normal circumstance, with good ventilation the stove should be fitted at least 500mm away from combustible materials (700mm in front), on a non-combustible hearth (temperature below is <100°C so a light-duty hearth can be used)



If the **optional heat shield** is fitted, the safe distance to combustibles can be reduced to 150mm from the shield **at the rear**



Clearance around at the back and sides can be reduced to just 100mm where any combustible materials are protected by either

(1) 150mm of solid masonry, or
(2) a protection panel of 45mm **calcium silicate foam** board with a 10mm air gap behind

AIR SUPPLY

Your stove needs air to breathe - there should be a permanent fresh air supply into the space in which it is installed equal to about 550mm² for each kW of nominal output.

This degree of air can often be provided by leakage around door

frames etc, especially in older buildings. It is commonly accepted that this alone may suffice for appliances below about 5kW output. It must be a matter for the judgement of the installer as to whether an extra permanent air vent is required. Where extra air is needed an Outside Fresh Air Kit is available - to provide correct combustion air to the stove *and* a trickle of fresh, pre-heated, air to the room. An extractor fan, or another fuel-using appliance in the same building, can remove this air.

CHECK THE INSTALLATION !

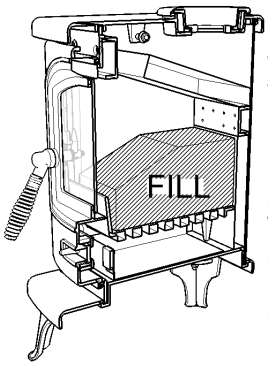
Whichever method of installation is used, It is **imperative** that: (1) The route for gases from the fire to the chimney terminal is **completely** air-tight; even the tiniest gap or crack can spoil the updraught. Seal all joins with fireproof cement and/or heatproof rope. (2) It is possible to sweep the entire length- access doors may be required. (3) The entire construction is of durable fireproof materials. (4) **Fit a CO alarm**. Once installed, light the fire, demonstrate it to the householder, draw their attention to the warnings and maintanance requirements. Check that:

1) It burns controllably and does not emit fumes to the room
2) The route for gases from the stove to the chimney terminal is completely airtight, unobstructed and able to be swept.
3) The entire construction is of durable fireproof materials.
4) Test the flue draught (hot), it should be at least 10Pa

LIVING WITH YOUR STOVE

Every fuel, chimney and condition of use is different. Only experience will show which are the best settings for you.

LIGHTING If lighting after a period of non-use, do check that the flueways and chimney are completely clear. (1) Empty the ashpan and move the air slide beneath the door to the right. (2) Place two or three firelighters close together, or screwed-up paper covered with very thin, very dry sticks in the centre of the grate, and light them. (3) When they are burning well, as the flames die down, gently add dry fuel. (4) Don't over-fill (see diagram). **To minimise smoke emission, don't fully close the door until the fuel is well alight and flaming with a bright flame. With wood logs, this normally takes about 45 seconds.** When the fire is burning well, firmly close the door and adjust the control**.**



CHECK FOR SMOKE: Apart from a little, mostly harmless steam, when cold and first lit, there should barely be any visible smoke from the chimney. How to achieve this will depend on the fuel, air control and the way you use the stove. Check the enclosed Smoke Leaflet, or download an extra copy from www.tiny.cc/TigerCub2

CONTROL How fast the fire burns depends on how much air reaches the fuel. The stove has just one air control, below the window Move the slide to the right for highest output, to the left for 'low'. The control gets *very* hot, so move it only with the handle supplied. With wood logs, best combustion, once the fire is hot, is often with the door control fully 'low' (left) and heat output adjusted by how often and how much fuel is added. The best settings for you will be found from experience.

EMPTYING ASHES Stir the fire with a poker. Use the angled ashpan tool to lift out the ashpan. Remember to let ash cool before disposing in plastic sacks or dustbins. There is no need to empty every last speck, but ash from mineral fuels should never be allowed to build up so that it comes into contact with the underside of the grate.

EXTENDED BURNING Allow the fire to burn down to a low, hot firebed. Empty the ash and fully fill with hard fuel such as anthracite (c30mm size is best). Set the air control to 'low' and your stove can burn for up to ten hours without attention.

KEEPING THE WINDOW CLEAN Simply operating the stove for a few minutes at high output will often burn-off any deposits left by tarry or wet fuels. Severe stains can be removed when cold with a domestic bleach cleaner. The window is not glass but a transparent ceramic, it may develop tiny hairline cracks, these are harmless, and a characteristic of the toughest and most heat-resistant material known. Reduce the risk of staining by using only *very dry* fuel.

OPENING THE DOOR This stove is designed to be operated only with the door closed. Open the door very slowly to minimise fume emission and prevent hot fuel falling out. Remember that the whole stove becomes extremely hot.

SUMMER SHUT DOWN: Before a long period of non-use, empty fuel and ash, remove the throat plate and leave all the air control open to allow ventilation to reduce condensation.

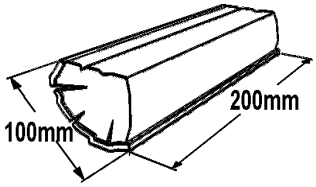
FUELS

Avoid dusty materials like sawdust, they burn far too violently!

SMOKE CONTROL: In certain areas special rules apply to reduce smoke nuisance. Check with your local authority.

WOOD only emits as much carbon to the atmosphere as the tree took in when growing, so wood is considered the 'carbon neutral' fuel. When wood is cut down its cells are full of water. Burning such wet or 'green' wood wastes heat in making steam and produces flammable, acidic tars which will cling to, and rapidly damage, your stove and chimney. Split logs will typically take two years to become reasonably dry, round logs very much longer. Cracks in the ends, a hollow sound when tapped and bark falling away are all signs that a log may be ready for use. The fine, white residue produced when wood burns is not ash, but the remains of cell walls which can burn if kept hot enough, so don't de-ash the fire until absolutely necessary when using wood.

For best performance, and *always* for low smoke emission:



Split logs lengthways for drying

- Use logs no bigger than about 100mm x 200mm
- Ensure logs are absolutely dry (less than 20% moisture)
- Fill the stove criss-cross, so air can circulate between logs.
- Fill 'little and often'
- When first lighting, or reviving a fire from embers, use only very small, thin, dry, sticks.

JOINERY WASTE Dry wood offcuts will burn well, but don't expect softwood waste to burn as cleanly or for as long as hardwood logs.

Other fuels:

PEAT: Sod turf must be thoroughly dry. BNM peat briquettes are approved for use in Smokeless Zones in the RoI.

LIGNITE (not smokeless) is a natural mineral, between peat and coal. It lights easily and burns well, but produces much ash

HOUSECOAL *or* **BITUMINOUS COAL** (not smokeless) makes lots of tarry smoke and large volumes of flammable gas which make it difficult to control and risk explosions. Despite its low cost, it rarely represents value for money. Don't use housecoal.

ANTHRACITE (Smokeless) is a natural hard, shiny form of coal. Slow to light, it can burn for very long periods with great heat. Despite its high price-per-bag it generally works out to be one of the cheapest of all fuels. Use the 'small nuts' size.

BRIQUETTES Are compressed blocks of fuel, generally able to burn for long periods and remarkable for their consistency. **Beware!** Some 'smokeless' 'ovoids' contain excess sulphur and *will* damage your stove. Use only approved products.

PETROLEUM COKE 'Petcoke', 'Longbeach' is made from oil, it should never be used, it will rapidly degrade interior parts.

HOUSEHOLD WASTES Some plastics give off toxic fumes when burned and remember that batteries and aerosols explode! The stove is not an incinerator, so only ever use the recommended fuels and NEVER use liquid fuels in any form.

PROBLEMS?

Problems like those listed here are usually due to some difficulty with the installation, chimney or fuels, so please check back through this leaflet carefully. If necessary seek specialist advice.

SMOKE FROM THE CHIMNEY It is quite normal for a little smoke to be emitted from the chimney when the fire is cold. Use only VERY dry wood or smokeless fuels and follow the 'Lighting' and 'Smoke' instructions above. A stove will only operate smokelessley with a flue draught of 10Pa or more This draught is generated by the chimney being sufficiently tall and *very* hot inside. Is the flue clear and *properly insulated*?

DAMAGED LINERS The Cub stove gets very, very hot inside, it is quite usual for the replaceable liners to crack or craze. They need only be replaced when they have almost completely disintegrated. Help them last longer by using only *very dry* fuel.

POOR HEAT OUTPUT: A stove can heat a typical room of *about* 12m³ volume for each kW of output, so a 5kW model can heat up to (12 x 5) 63m³, a room of about 5m square. The actual size depends on the insulation and air-change ratio of the room. To attempt to heat a larger room will result in excessive fuel consumption and damaging overheating.

LACK OF CONTROLLABILITY Wood and some other fuels may burn excessively until the gases in them have been used up. You can reduce this effect by making sure that the fire is set to 'low' for a while before refuelling and checking that the door seals fully

DIFFICULTY BURNING FOR EXTENDED PERIODS If the fire goes out with fuel still in the firebox, then this is probably because too little air has been reaching it, try leaving the air control open a little more. Check that the door seals are sound and that there are no cracks or gaps anywhere in the flue. For longest burning, we recommend hard fuels such as anthracite.

CONDENSATION onto cool surfaces inside the stove can be severe if fuel is in any way damp. *Use only very dry fuel.*

OVER-FIRING: It is possible to leave the fire too long with the control set too high leading to 'over firing', seen as glowing metal parts, excessive chimney temperature and risk of parts failing or chimney fires. Always set control to the lowest practical setting.

SMOKE COMING INTO ROOM Fumes are poisonous- smoke emission must NEVER be tolerated, causes might be:

NEW STOVE: There is often a smell and sometimes visible fumes as the paint cures. This normally stops after an hour or so.

INADEQUATE SEALS: Are all flue pipes and connectors *absolutely* gas-tight? Even the tiniest crack or gap can spoil the draught. Does an inset appliances fully seal against the fireplace?

BLOCKED THROAT PLATE: Has soot and ash collected on the 'throat plate' above the inner back part of the firebox?

UNSUITABLE, BLOCKED OR UN-SWEPT CHIMNEY: The first requirement for correct operation is a sound chimney. Check the requirements earlier in this document and in any case of doubt engage a professional sweep or chimney engineer.

POOR AIR SUPPLY: Lack of air to the fire may cause smoking and poor performance, and may be worse in certain wind conditions where air can be sucked out of the room. The optional Outside Fresh Air Kit will usually provide a complete answer.

DOWNDRAUGHT: Wind can blow *down* a chimney if there is something higher nearby such as a tree, hill or high building. Fitting an anti-downdraught cowl to the chimney top can cure this. Types which cannot be swept through are not recommended.

POOR CHIMNEY DRAUGHT- Chimney draught in use MUST be at least 10Pa. Is the flue straight enough? Tall enough? Well insulated and always *very* hot inside?

CHIMNEY FIRE: In the rare event of deposits inside the chimney igniting (roaring sound + dense smoke and sparks from the chimney) immediately close the door, shut all air control and call the fire brigade. Prevent fires by using *very dry fuel* and having your chimney swept regularly.

MAINTENANCE

MONTHLY- With the fire cold, remove, carefully check that there is no blockage above the throat (baffle) liner (2 in the diagram below) and that the route fof flue gases is clear and unblocked, and that the door seals are sound.

ANNUALLY- SWEEP THE CHIMNEY The entire length of the chimney from stove to outlet should be swept annually, more often if smoky fuels are used.

NEW PARTS Your stove has been carefully tested for safety - please don't try to modify it and always get genuine spare parts**.**

SURFACE FINISH Wipe the stove body with a slightly damp cloth when cool. NEVER use aerosol spray or wax near the hot fire – they can ignite. Refurbishment paint is available.

Your stove generates **VERY** high temperatures. Eventually the internal parts will require replacement . Help parts to last by:

- Using only recommend, very dry, fuels.
- Emptying the ash very regularly when using mineral fuel -never allow it to touch the underside of the grate.
- Avoiding 'over-firing'

PARTS AND ACCESSORIES

When ordering parts, you have the 'Cub 2022' or 'Tiger Cub 2022' Stove

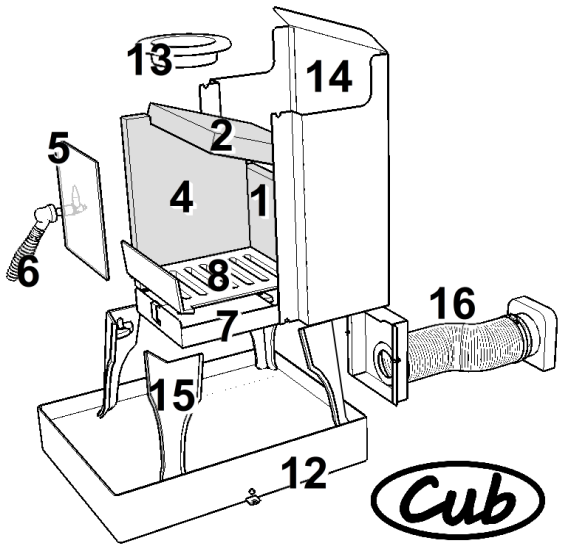
Tiger spares Tel: 01204-868-550

Replaceble Parts

1 Replaceable Lining - Rear
2 Throat (baffle) Liner
3 Hinge Pin
4 Replaceable Lining, left or right
5 Window
6 Door catch Assembly
7 Ashpan
8 Grate
9 Touch-up paint, black
10 Rope seal kit
11 Tool

Optional Extra Parts

12 Protective hearth for wooden floors & marine use
13 Adaptor to 100mm diameter flue
14 Optional Heat Shield Kit
15 Longer Legs (add 115mm to standard leg height)
16 Outside Fresh Air Supply kit, fits to heat shield (meets UK/RoI Doc.J)



Metal parts (Ferrous metals - iron and steel)	Widely recycled
Linings (Brick and concrete)	Recycle with rubble
Linings (vermiculite composite)	Not recyclable at this time - but inert in landfill
Windows (Borosilicate glass - clear)	Recycle with glass
Windows (Polycrystaline ceramic - with orange/brown tint)	Not recyclable at this time - but inert in landfill
Rope seals (Silica fibre)	Recycle with glass
Ash (From mineral fuels - coke, anthracite etc)	Not recyclable in domestic facilities at this time
Ash (From wood or peat)	Recycle in garden compost

Cub Stoves are a truly international product - designed and developed in England, tested in The Netherlands. They are cast using Australian iron and assembled in China and the UK from components manufactured in Japan, China, the USA and the UK

This document printed 04/10/2019. We are always striving to improve these products and may change their specification without notice.