

**SOLID FUEL HEATING STOVES
INSET MULTI-FUEL MODELS**
Incorporating GH-T Firebox

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.

		Tiger Inset Stove	
Fuel		Wood (Beech)	Mineral Fuel (Anthracite)
Test Standard		EN 13229	
Test Cycle		1.1 kg per 45 mins	0.77 kg per 1.01 hrs
Settings		Primary=0, 2nd=25%	Primary 100%, 2nd 0.5 cm
Flue Draught Pa (ins WG)		12 Pa	12 Pa
Efficiency %		82.2%	77%
Recommended Output Rating kW		5.2kW	5.3kW
Mean Flue Gas Temp Rise °C		218 °C	279 °C
Minimum air entry requirement		2750 mm ²	
Minimum Clearance to combustibles (allow min 50 mm clearance to non-combustibles)		When fitted in masonry fireplace, 15cm at sides, 30cm above	
Emissions as if O ₂ =13%	NO _x mg/m ³	77 mg/m ³	NPD
	CO %	0.3%	0.06%
	CxHy mg/m ³	NPD	NPD
	Gas flow g/sec	3.9 g/sec	5.2 g/sec
	Smoke Emission mg/m ³	142 mg/m ³	NPD

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 definitively 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

The Tiger Inset Stove incorporating the GH-T firebox may be used in smoke control areas when operated strictly in accordance with these instructions and with the attached Soliftec Smoke Advice Sheet No1

(www.soliftec.com/smokeadvice.htm), when burning:

UK: Untreated wood logs or authorised smokeless fuels (Exempted from s20 of the Clean Air Act 1993)

RoI: Wood logs, smokeless fuels or peat briquettes, but not petroleum coke (Control of Atmospheric Pollution Regulations, 1970)

THIS APPLIANCE BECOMES EXTREMELY HOT AND CAN PRODUCE POISONOUS GASES.

A fire-guard should be used if children or the infirm are present. The installer is required to EXACTLY follow these instructions and to completely comply with all local, national and international standards.

Building regulations are available at www.soliftec.com

ABOUT YOUR TIGER INSET STOVE

The Tiger Inset is a solid multi-fuel heating stove designed to fit into masonry fireplaces. It has convection chambers behind, above, at the sides and even underneath the firebox to collect hot air and distribute it into the room so that it is every bit as efficient, or more so, than a free-standing 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 (94kg) 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.
 - Having an internal cross-section equivalent to never less than 125mm diameter, and never more than 0.14m² (eg 375 x 375mm)
 - Being free from even the slightest crack or source of leakage.
 - Having no bends sharper than 45°.
 - 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.

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 fire with the throat plate removed, fit hatches to provide access if needed.

YOUR FIREPLACE: Stoves become VERY hot, the setting must be made entirely of durable fireproof materials. Thin (<50mm) stone slabs risk cracking unless cut into sections to allow for expansion and backed with a heat resistant concrete. Even beyond the safety clearance items can still become very hot - take great care in siting wax, paper etc.

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 is needed, it is wise to fit an outside vent as close to the fire as possible, to prevent unpleasant draughts. An extractor fan, or another fuel-using appliance in the same building, can remove this air.

FITTING

This Tiger model can fit straight into a standard British or Irish fireplace conforming to BS1251 & BS8303. The fireplace can be of any shape, but will always have:

- Have an opening width (A) of between 400 and 420mm,
- An opening height (B) of between 540 and 560mm,
- A flat area (C) extending 70mm around the opening
- Have a hearth extending at least 300mm (D), without obstructions to prevent the door opening.

(The fireplace will become VERY hot - Where thin slabs of mineral material (marble, limestone etc) are used to face a fireplace, we recommend using 5 separate panels, as shown, to allow for differential expansion.)

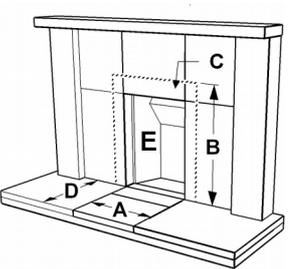
The Tiger Inset will fit directly into any correctly constructed fireplace with the fireback (E) broken up and removed, so that a clear, level depth of at least 260mm is available.

The stove **must** be firmly fixed in place through the fixing hole(s) (G) BOTH in the base AND against the face of the fireplace. Screws are provided for use in sound masonry, but, depending on the substrate, other fixings may need to be substituted.

This Tiger stove is double-cased - it is not necessary to fill any *small* gap behind the appliance - larger gaps should be filled with rubble, vermiculite granules or mineral fibre wool.

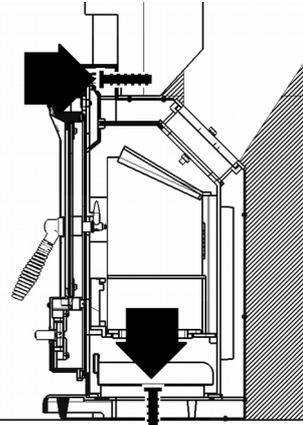
It is highly advisable, where fitted into a masonry flue to form a smooth mortar flaunching between the flue outlet and the flue. With care, this can be done through the flue outlet.

A soft seal is fixed to the back seating surface of the stove. A thicker seal for rough materials such as stone is available from your dealer. Pull off top and push stove into the opening. Screw to the masonry of the fireplace at the **FOUR** points arrowed (two through the base, two above the fire opening) and proceed with the fix as shown below.



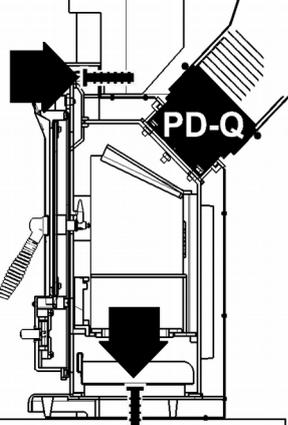
Suitable masonry fireplace.

'FIREPLACE SEAL' METHOD:



Fix the four bolts to hold the stove in place and, through the flue outlet, fill any gap behind with vermiculite granules topped with mortar. Carefully check that the fire has an absolutely airtight seal against the fireplace.

FAST-FIX 'CHIMNEY SEAL' METHOD:



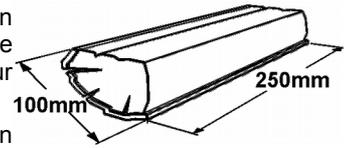
Obtain a PD-Q flue connector. Fit the flue pipe, or 150mm flexible liner, into the chimney and fasten its loose end to the PD-Q connector, sealing well with fire cement. Fix the four bolts to hold the stove. Smear a little fire cement around the flue outlet and bolt the connector and pipe back in place from inside. Check that the pipe forms a clear route from stove to chimney terminal with no leaks into the masonry space.

Whichever method is used it is **imperative** that: (1) The route for gases from the stove to the chimney terminal is **completely** air-tight; even the tiniest gap or crack can spoil the updraught. Seal all joints 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) It is wise to fit a CO alarm.

FUELS

There is no 'perfect' fuel, so we strongly recommend that you try a selection of fuels (or mixtures) to find which suits you best. Do avoid dusty materials like sawdust, they can 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 250mm
- Ensure logs are absolutely dry (less than 20% moisture)
- Fill the stove criss-cross, so air can circulate between logs.
- Fill 'little and often'
- Always have the airwash control (2) at least a little open.
- 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.

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.

COKE (Smokeless) is coal from which the smoke has been removed. Sometimes difficult to light, it burns very cleanly.

BRIQUETTES Are compressed blocks of fuel, generally able to burn for long periods and remarkable for their consistency. 'Homefire' and 'Phurnacite' are smokeless types while other brands are made from lignite, peat or housecoal.

PETROLEUM COKE sold as 'Petcoke', 'Longbeach' and other names, is made from oil, should not 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.

DAMAGED LINERS The Tiger 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.

CHECK THE INSTALLATION !

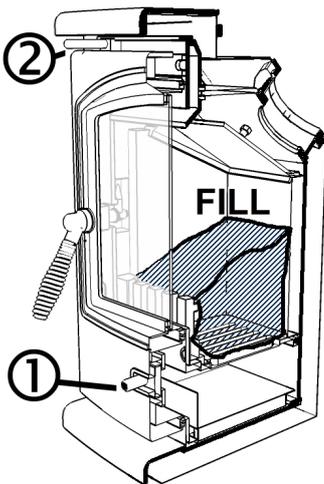
Once installed, light the fire, demonstrate it to the householder and check that:

- 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) The flue presents a draught in use of at least 12Pa

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. Empty the ashes.



Place two or three firelighters close together, or screwed-up paper covered with dry sticks, at the back of the grate and light them. When they are burning well gently fill the fire with dry fuel, close the door and set the air control slides to the 'high' (right) position. When the fire is burning well, move the controls to the lowest practical setting.

FILLING: Don't fill above the level shown in the diagram.

CONTROL How fast the fire burns depends on how much air reaches the fuel. The stove has two air controls, one below the window ('primary')(1) and one

above ('airwash control')(2)). Move the slides to the right for highest output, to the left for 'low'. They can get very hot, so move them only with the handle supplied.

Our tests indicate highest efficiency on wood with the primary (1) about ¼ open and the airwash (2) barely open. Anthracite works best with the airwash closed and the primary 1/3 open. But the best settings for you will depend on your fuel, air supply and flue draught and can only be found from experience.

EMPTYING ASHES use the door handle tool to open the door. 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 and keeping the airwash control *slightly* open.

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. Pull the door handle off when not being used to prevent it overheating.

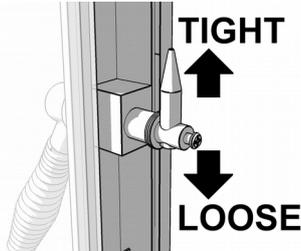
SUMMER SHUT DOWN: Before a long period of non-use, empty fuel and ash, remove the throat plate and leave all the air controls open to allow ventilation to reduce condensation.

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 controls 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.

THE DOOR CATCH may need adjusting as the rope seal 'beds down'. Simply loosen the screw at the end of the shaft and move the tapered pin as shown. Re-tighten the screw.



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 controls 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 controls 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 is a common cause of smoking and poor performance. Air supply problems may be worse in certain wind conditions (often incorrectly ascribed to 'downdraught', which is in fact very rare), where air can be sucked out of the room. The answer is to fit an air vent, as near to the fire as possible, facing into the usual wind direction.

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 12Pa.

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 controls 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, clean and refit the throat (or 'baffle') plate below the flue outlet. Check that the flue 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 extensively tested for safety - please don't try to modify it and always obtain 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. Painted steel parts can be refurbished using special spray paint.

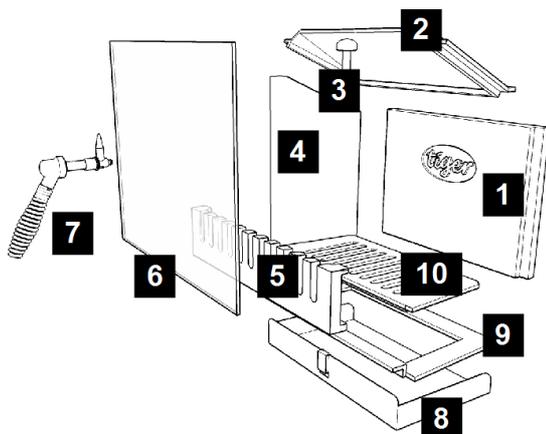
Your stove generates **VERY** high temperatures. Eventually the internal parts will require replacement . Help parts to last by:

- 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.
- Cleaning the throat plate regularly.
- Avoiding 'over-firing'

PARTS AND ACCESSORIES

When ordering parts, you have the Tiger Inset

Tiger spares Tel: 01204-868-550



Wearable parts

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



Tiger Stoves are designed and developed in England, tested in The Netherlands and assembled in China from components manufactured in Japan, China, the USA and the UK