



Portway 16 fire, installed. Other trim styles are available

portway

HIGH EFFICIENCY SOLID FUEL CONVECTOR FIRE 16 inch / 400mm size

INSTALLATION AND OPERATING INSTRUCTIONS

LEAVE THIS DOCUMENT WITH THE HOUSEHOLDER!

**All Portway Fires exceed the safety and performance requirements of European Standards
Intermittent burning solid fuel fire for installation with a single dedicated chimney.**

Portway 16 Convector Fire		
Fuel	Wood (Beech)	Mineral Fuel Briquettes
Test Standard	EN 13229	
Test Cycle	1.0kg over 0.75hrs	0.76kg over 1.1hrs
Settings	Ashpit closed	Ashpit open
Flue Draught Pa (ins WG)	6Pa (0.024ins)	6Pa (0.024ins)
Efficiency %	58%	52%
Recommended Rating kW	3.5 kW	4 kW
Mean Flue Gas Temp Rise °C	226	216
Minimum air entry requirement	2700 mm ²	
Minimum Clearance to combustibles (allow min 50mm clearance to non-combustibles)	300mm above, 200mm at sides, 400mm in front	
Emissions as if 02=13%	NOx mg/m ³	
	CO %	0.29%
	CxHy mg/m ³	
	Gas flow g/sec	
	Smoke Emission mg/m ³	76 mg / m ³

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:

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

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

PRODUCTION NUMBER

BFM Europe

BRITISH FIRE MANUFACTURERS
Trentham Lakes, Stoke on Trent, Staffordshire, England ST4 4TJ
www.bfm-europe.com Tel 01782 339000 Fax 01782 339009



IN 1830 Charles Portway built a stove to heat his ironmongery shop at Halstead in Essex. It was so good that his neighbours started asking for them. Mr Portway had done something completely new - designed his stoves right from the start to give out the maximum heat from the minimum fuel, so that he is known as **"The Founding Father of Energy Efficiency"**. The stoves that bear his name are still made in Britain by the direct successors of the company he established.

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

INSTALLING a fire 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 fire does not contain asbestos, but take care to avoid disturbing asbestos in an old installation.

WEIGHT: Your fire is heavy - 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 fire to make it work. It must:

- Generate a draught in use of at least 6Pa (0.024ins)
 - 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 not less than

150mm 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 adequately insulated.
- Conforming to local building regulations.

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

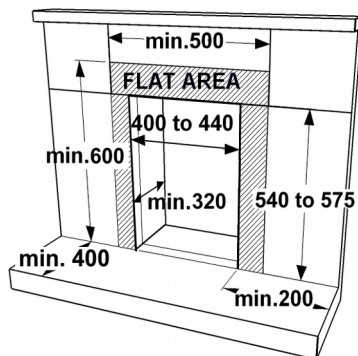
Although it is possible to access the chimney through the fire with the throat plate removed, fit hatches to provide access if needed.

AIR SUPPLY: Open fires needs air to breathe. Without sufficient fresh air coming into the room to replace the air the fire sucks in, it won't work well and may leak poisonous fumes into the room. As a rough guide, an open fire needs an air supply equal to about ½ the area of its flue outlet. The Portway 16 requires far less air than conventional fires, it has a flue outlet area of 13000mm², so needs an air inlet of about 6500mm² (65mm²), equal to a single hole about 80mm (8cm) square, or 90mm (9cm) diameter. This degree of air can often be provided by leakage around door frames etc, especially in older buildings. It must be a matter for the judgement of the installer as to whether an extra permanent air vent is required. Where it 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

Fires 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.

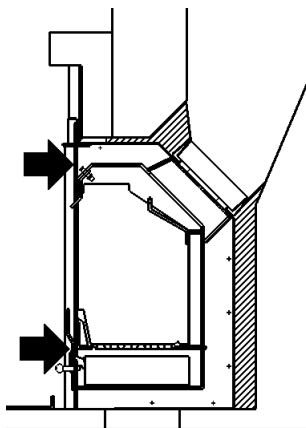
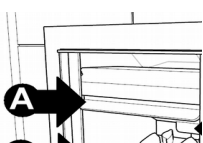
Fix the soft seal to the back seating surface of the fire. Push fire into opening. Screw to the masonry of the fireplace at the four points arrowed and proceed with the fix as shown below.



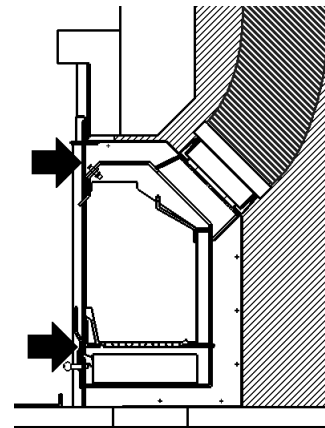
Suitable masonry fireplace, dimensions in millimetres.

The solid hearth must completely protect the building against all risk of fire. It should preferably extend at least 400mm in front of the fire. Where this is not possible, an up-stand at least 30mm high should be formed at the front of the hearth.

The Smoke Deflector ('A' on the diagram on page 3) is not normally required, but may be usefully fitted where very occasional smoke leakage is encountered.



'FIREPLACE SEAL' METHOD: Fix the unit 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.



'CHIMNEY SEAL' METHOD: Remove the round flue connector. Fit the flue pipe, or flexible liner with a 150mm adaptor, into the chimney and seal its loose end to the round connector with fire cement. Fix the fire. Bolt the connector and pipe back in place from inside. Check that the pipe forms a clear route from fire to chimney terminal with no leaks into the masonry space.

Whichever 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) It is wise to fit a CO alarm.

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 fire 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 6Pa (0.024ins)

LIVING WITH YOUR FIRE

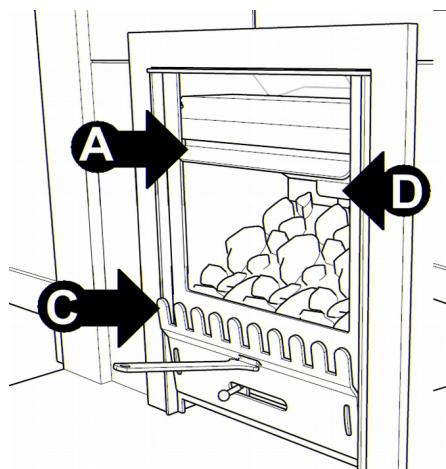
Every fuel, chimney and condition of use is different. Only experience will show which are the best settings for you.

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, set the air slide to the 'high' (open) position. When the fire is burning well, move the controls to the lowest practical setting.

FILLING: Don't fill the fire with fuel so high that it might touch the 'throat plate' (D). Take great care to prevent placing fuel elements where they may fall out.

CONTROL How fast the fire burns when using mineral fuels like coke or coal depends on how much air reaches the fuel from underneath. The air slide on the front of the ashpit cover (C) provides fine control, while the whole ashpit cover can be lifted as shown with the tool ad latched in an open position for rapid start-up.

EMPTYING ASHES Stir the fire with a poker. Use the angled tool to lift off the ashpit cover and 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.



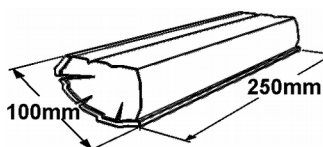
EXTENDED BURNING Allow the fire to burn down to a low, hot firebed. Empty the ash and fully fill with a mineral fuel such as manufactured smokeless briquettes. Shut the air slide and your fire can burn for up to eight hours without attention.

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.

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.

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 fire and chimney. Split logs will typically take a year 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, with wood, don't poke and don't de-ash the fire until absolutely necessary.

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

- Split logs lengthways for drying
- Use hardwood logs
- Use logs no bigger than about 70mm x 250mm
- Ensure logs are absolutely dry (less than 20% moisture)
- Fill the fire 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.

PEAT: Sod turf must be thoroughly dry.

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

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.

BITUMINOUS HOUSECOAL (not smokeless) is raw, natural, soft coal, it is the traditional fuel for open fires. It burns with a lively flame and great heat, but produces huge volumes of dark smoke. Some varieties soften when hot and form a mass - use a poker to break it up.

DO NOT BURN...

DUSTY MATERIALS like sawdust, or coal 'fines' can burn far too violently, even explode. **PETROLEUM COKE** sold as 'Petcoke', 'Longbeach' and other names, is an industrial reagent sometimes simply sold as 'smokeless fuel' without any brand designation and identifiable by a structure of tiny cohered beads, is made from oil, is very high in acid will rapidly degrade interior parts. Never use petroleum coke. **HOUSEHOLD WASTES** Some plastics give off toxic fumes when burned and remember that batteries and aerosols explode! This fire is not an incinerator. **NEVER** use liquid fuels in any form.

Very hard fuels such as **ANTHRACITE, HARD COKE** and some brands of closed stove fuel will not burn effectively, or at all, on an open fire.

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 A little smoke will be emitted from the chimney when the fire is cold. Use only VERY dry wood or smokeless fuels.

DAMAGED LINERS The Portway Fire 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 fire 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.

DIFFICULTY BURNING FOR EXTENDED PERIODS If the fire goes out with fuel still in the firebox, try leaving the air slide open a little more. For longest burning, we recommend hard fuels such as manufactured smokeless fuels.

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.

SMOKE COMING INTO ROOM Fumes are poisonous- smoke emission must NEVER be tolerated. Smoke emission into the room is never caused by the appliance, it is due to some problem with the chimney, fireplace or air supply. Do check back through this leaflet carefully. Causes might include:

NEW FIRE: 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 the unit fully seal against the fireplace?

BLOCKED THROAT PLATE: Has soot and ash collected on the 'throat plate' or 'baffle plate' above the inner back part of the firebox? (D) in the diagram.

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.

COLD CHIMNEY: Many older properties have chimneys with a very large internal flue space, necessary to accommodate the vast volumes of warm air pulled up the chimney by older open fires. Chimneys built on outside walls or exposed to the elements may not become warm. Unless the inside flue of a chimney is kept very hot the gases inside will not rise. The Portway is extremely efficient - it puts most of its heat into the room - leaving little heat to warm an over-large or cold flue space. Consider fitting a (minimum 150mm diameter) flue liner with insulation around.

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- Draught in use MUST be at least 6Pa (0.024ins)

The Smoke Deflector ('A' on the diagram on page 3) is not normally required, but may be usefully fitted where very occasional smoke leakage is encountered, for instance on first lighting. If the fire is supplied with the deflector fitted, and no smoke problems are encountered, it may be removed.

CHIMNEY FIRE: In the rare event of deposits inside the chimney igniting (roaring sound + dense smoke and sparks from the chimney) immediately shut all air controls and call the fire brigade. Put out the fire by throwing earth on to it - don't use water. 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.

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

NEW PARTS Your fire has been extensively tested for safety - please don't try to modify it and always obtain genuine spare parts.

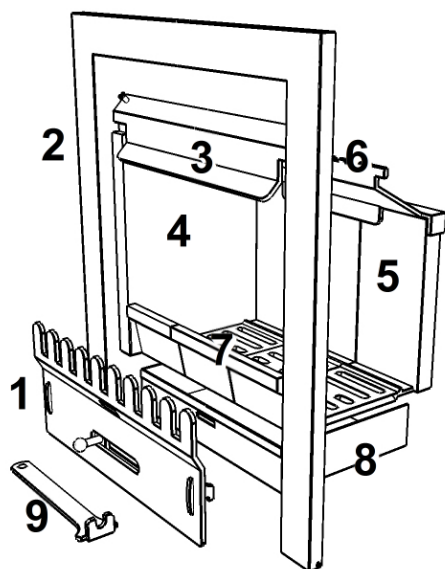
SURFACE FINISH Wipe the body with a slightly damp cloth when cool. Don't use aerosol spray or wax near the hot fire - they can ignite. Painted steel parts can be refurbished using special spray paint.

Your fire 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

Portway spares Tel. 01782 339034 Fax 01782 339028



1	Ashpit cover - Castle Style
2	Trim frame (different styles are available)
3	Deflector
4	Liner, side (2)
5	Brick Liners, back (3)
6	Baffle
7	Grate segments (3)
8	Ashpan
9	Tool

Accessories: Touch-up paint black or charcoal

Also Available from Portway: Freestanding and inset stoves from 5 to 15kW output. Marine stoves to Boat Safety Standards. Central Heating stoves with automatic control. Gas stoves.

MADE IN ENGLAND BY
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BRITISH FIRE MANUFACTURERS

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