



Passiv Operation & Installation Manual

Applies to the: Woodfire Passiv Boiler Stove



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Attention

Check the stove before installation to ensure that there has been no damage to the functional parts (air regulators, seals, door, chimney connector, etc.) during transportation.

If you have noticed damage, please contact our customer service. The stove must not be modified in any way.

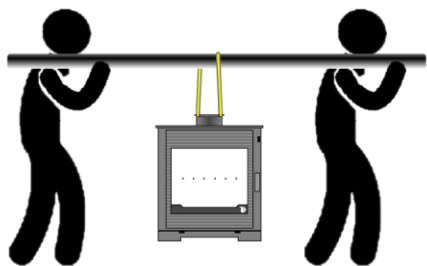
Handling

The Woodfire Passiv is an insulated boiler stove and so has a thin outer skin to retain the insulation.

The stove should never be moved by pushing or lifting by that outer skin.

Before removing the stove from the pallet and commencing installation, it is recommended that the fire bricks and the front plinth are removed from the stove. The front plinth can be removed by opening the combustion chamber door, and removing the two screws holding it in place.

The stove is supplied with a spigot lift kit. Place the lower metal bar down through the flue spigot so that the two ends bear on either side below the spigot. The upper metal bar rests on the top of the spigot. Make sure that the adjustable flue damper is not fouled by the lifting rope. Feed a suitable lifting pole through the strap, looping the rope around the pole until the correct length is achieved. The rope is at the correct length when, with the pole on their shoulders and the rope taut, the knees of the people lifting it are slightly bent. The stove can now be raised off the pallet by straightening their legs and then moved to position.



The spigot lift can also be used, with the rope shorter to do a hand lift but the shoulder lift is both easier and safer.

Once on suitable terrain, the stove can be moved by carefully placing a sack truck at the rear of the stove, and tilting onto the loading bed (ensuring that the loading bed is no greater than 380mm wide, and at least 400mm deep).

Disposal of packaging

The packaging protects the stove from damage during transportation. The packaging materials can be recycled. The wooden parts of the packaging can be used as firewood.

Introduction

Congratulations on your purchase of this Woodfire stove.

This manual will introduce you to the functions and correct operation of the stove. It is important that your installer takes you through the operation of this stove during their handover.

Our guarantee is valid only if the guidelines in this manual are carefully followed.

Please keep this manual, in order to remind yourself how to operate the stove before the winter months.

1. Description

The stove is constructed of welded steel. In the centre is the firebox which is lined with firebricks.

Beneath the cast iron grate is an ashpan.

2. General

National and European standards, local construction regulations, fire protection law and regulations must be observed.

It must be ensured that the installation room is adequately supplied with fresh air.

If extractor fans are present in the same, or connecting rooms as the stove, additional ventilation should be given to allow for this.

3. Installation of the Stove

Your stove can be equipped with a connection for the external air supply. The required direct air kit is available. In a room with controlled ventilation, the stove can be connected to an air supply from the outside. In that case additional pressure monitoring in the room is required.

Direct air connection (Ø100mm
OD)



If the combustion air is being supplied from the outside, the duct size will need to be increased for any duct over two metres long or any run containing 90 degree bends. The duct length should not be longer than 6 metres with no more than three 90 degree bends.

The chimney must be able to overcome the additional resistance of the air intake ducting.

3.1. Flue pipe connection

It is essential that the chimney draw must be a minimum of 12 Pascal's.

Condensation and cold plugs caused by cold external air in the flue can be minimised by insulating the flue pipe.

Your chimney significantly contributes to the proper working of your stove.

Recommendations:

- Working level of chimney: min. 5 meters
- Maximum diameter of flue 160 mm
- Any existing chimney should be examined by an expert

All flue pipe that is used to connect the stove to the chimney must comply with national regulations. All connections from the stove into the chimney must be firm and tightly connected.

Be careful that flue pipe does not enter into the free section of the chimney.

Maintain the correct distances specified by building regulations between the flue pipe and combustible material.

This appliance must never be connected to a shared flue system.

Attention: if the chimney pressure is too low or too high this may cause problems with the working of the stove.

Outdoor air supply: if the deviation from the required pressure (section 4) is over 25%, suitable changes to the chimney will need to be made before you can use an outdoor air supply.

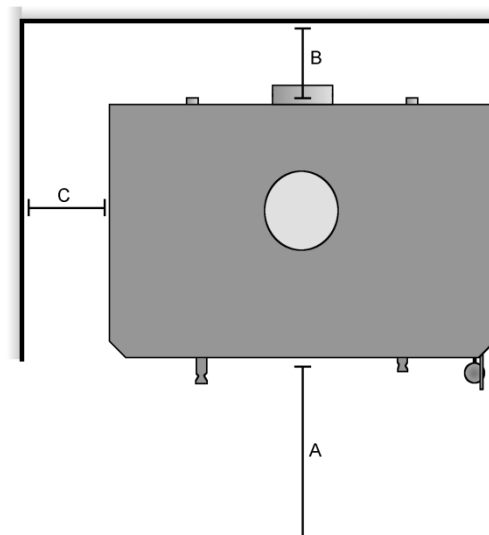
3.2. Safety rules

The appliance shall be installed on floors with an adequate load-bearing capacity. If an existing construction doesn't meet these prerequisites, suitable measures (e.g. load distribution plate) should be taken to achieve it.

The Woodfire Passiv requires a constructional hearth.

3.3 Minimum distances to combustibles

- A 1000mm To the front of the stove
- B 300mm Back space between the wall and stove
- C 300mm Side space between wall and stove



4. Technical specifications

Stove Model	Passiv
Nominal Output	10 kW
Output to water	7 kW
Output to room	3 kW
Efficiency	85.8% (net)
Weight	195kg
Mean flue gas temperature	270°C
Flue gas mass flow	15 g/s
Minimum flue pressure	0,12 - 0,19 mbar
Diameter of flue pipe	150 mm
Diameter of the connection to the outdoor air supply	100mm
Fuel	Wood
Average refuelling interval at nominal output	40 minutes

5. Plumbing

The Woodfire Passiv has been designed and built for both open vent and pressurised heating and hot water systems and incorporates an over-heat quench coil connected to a quench valve to prevent the boiler from over heating.

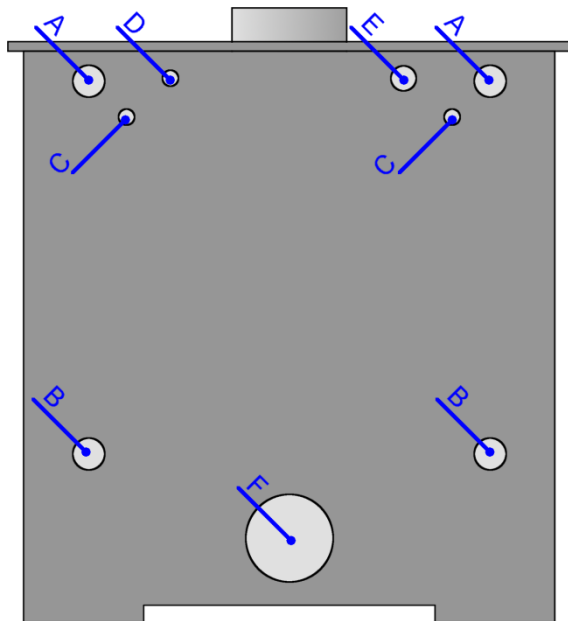
If the installation is pressurised then the Passiv must be pumped.

If the installation is open vented then the Passiv can be pumped or work on a thermo-syphon circuit.

The use of an LK810 Thermomat load unit (or similar) is strongly recommended.

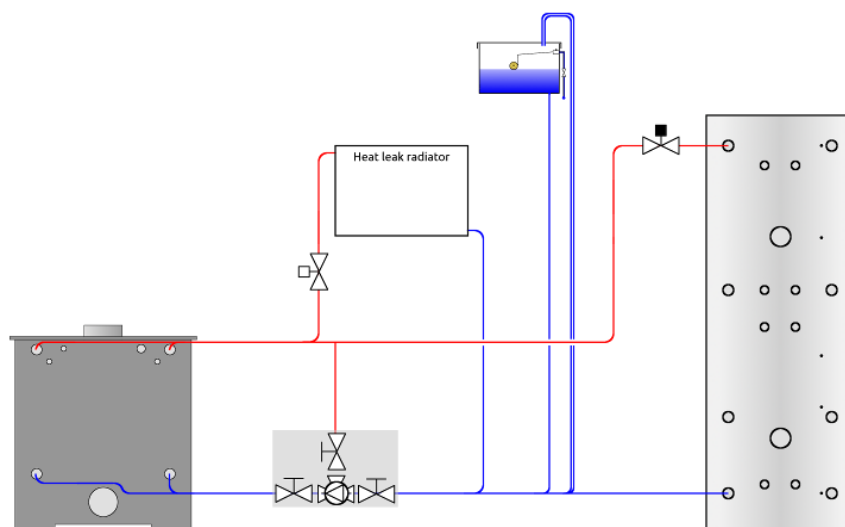
For optimum performance, it is recommended that the Passiv is piped to a thermal store.

5.1 Connections

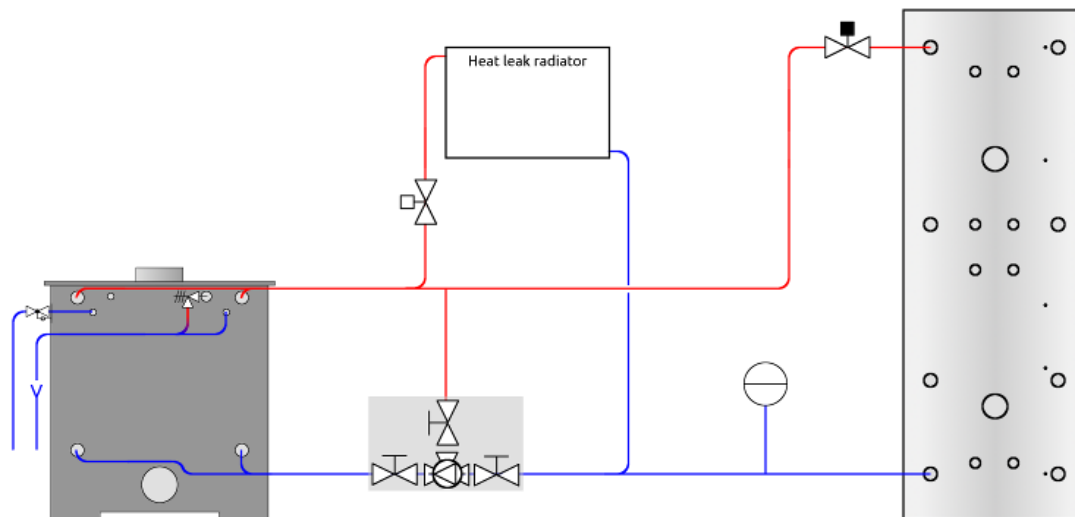


A	1" BSPF	Primary flow
B	1" BSPF	Primary return
C	15mm BSPF	Quench coil connections
D		Thermistor dry pocket
E	3/4" BSPM	Port for overheat valve
F	100mm	Direct air connection

5.2 Typical system schematics



Open vented circuit on thermal store.



Unvented circuit on thermal store – PRV can be installed on pipe work behind stove, there must be no restrictions between PRV and stove.

6. General information about the working of the stove

When the stove is not in use for any period (i.e. during the summer months) the primary air control should be left partially open to keep an airflow through the stove and chimney to prevent any build up of damp.

However, it can be advantageous to open the air controls, stove door and flue damper for a while before lighting the stove to allow warmer air to begin going up the chimney.

Do not use any flammable liquid fluids for lighting the fire. The door of the firebox should be opened only when adding fuel, apart from leaving the door slightly ajar during the lighting phase.

Use only suitable fuels (see section 5.2.).

Check that there is enough fresh air coming into the room.

Stoves should only be used by adults. All parts of the appliance, especially the external surfaces, will be hot to touch when in operation and due care will need to be taken. Always use the heat resistant glove provided when the stove is in operation.

Make sure that children are never alone near the stove. Never leave the stove for a long period of time without surveillance.

The stove should be used only according to the instructions in this manual.

6.1. Starting the stove

Please pay attention to the minimum space between the stove and flammable objects when lighting a fire.

1. Primary, secondary/tertiary air controls and the flue damper should be fully open.
2. Remove enough ash from the grate to let air through but leave some of the ash there. Put 2 - 3 medium sized logs in the centre of the firebox, put some smaller logs on top of them and then kindling on top. Finally put 2-3 firelighters on top of the kindling.
3. Light the firelighters and leave the door slightly open as it prevents condensation on the cold glass. Do not leave the stove unattended when the door is ajar.
4. When all the fuel is properly burning, and the working temperature of the stove is achieved (after approximately 20-30 minutes), gradually move the primary air regulator backwards, but ensure that there is still a visible flame.
5. When the stove and flue are up to temperature, and the fire burning well, then the primary regulator can be completely closed.
6. The door should only be opened again when the fuel has burned down and you want to put new fuel in. When opening the door, ensure that the flue damper is fully open. Re-fuelling must be carried out onto a sufficient quantity of glowing embers so that the new fuel will ignite in a reasonable period. If there are too few embers in the fire bed, add suitable kindling to prevent excessive smoke.

It is good practice to put in a couple of smaller bits first as the larger logs then light faster, so producing less smoke. When adding wood, the primary air control and flue damper must always be open, and left open until the new logs have caught fire. At that point close the primary control and leave the secondary air and flue damper to facilitate the combustion.

7. It is recommended that the secondary air regulator is kept fully open in order for the "glass cleaning" to be most efficient, and to avoid the glass "fogging".

Use the amount of fuel you place in the stove to regulate the temperature.

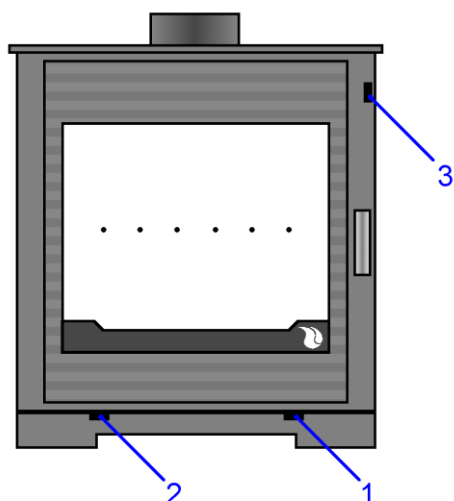
To burn at the nominal output, the stove requires refuelling every 45-50mins with approximately 2.5kg of wood logs.

8. When adding larger wood it is good practice to put in a couple of smaller bits first as the larger logs then light faster, so producing less smoke. When adding wood, the primary air control and flue damper must always be open, and left open until the new logs have caught fire. At that point close the primary control and leave the secondary air and flue damper to facilitate the combustion.

THE STOVE SHOULD NEVER BE FILLED EXCESSIVELY. EXCESSIVE AMOUNTS OF WOOD OR AIR FOR COMBUSTION CAN CAUSE OVERHEATING AND DAMAGE THE STOVE.

During the first few times the stove is used, it is possible that it can produce a slight smell while the paint is curing. This will disappear after a short while. If the smell appears, open the windows of the room for ventilation.

6.2 Layout and usage of air regulators

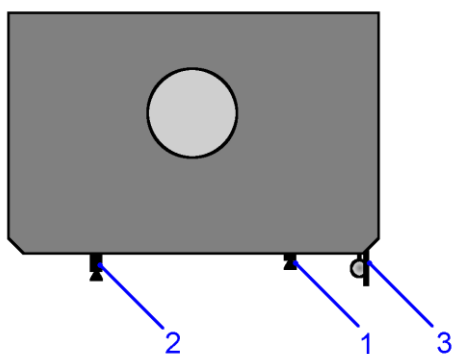


- 1 Primary air control
- 2 Secondary & tertiary air control
- 3 Flue damper

All controls:

Pull out to close

Push in to open



6.3 Suitable materials for lighting

The stove should be used for the combustion of natural wood logs only.

Some of the best wood for the stove is beech and birch. These types of wood have the highest burn temperature, and they burn the cleanest, as long as they have been stored in a dry place for a sufficient length of time.

If the glass window blackens excessively during burning it is usually an indication that the moisture content of the firewood is too high.

Do not use any of the following:

- Damp wood or treated wood
- Cardboard
- Bark or plywood
- Plastic or other waste

Fresh wood should be cut up and stored 12 to 18 months in open storage, but protected from rain. Any wood used should have a maximum humidity of 20%.

6.4 Emptying the ashpan

It is recommended to clean out the ash every day.

Be careful that too much ash is not accumulated otherwise there is the danger that, if the ash reaches up to the grate, it will not cool sufficiently and may get damaged.

Before emptying the ashpan, check if there are any embers left in the ashtray.

Even though the ash is cold from the outside, it is possible that there are embers within the ash which can lead to a fire in the waste bin.

6.5 Cleaning and maintenance

The stove can be cleaned only when it is cold. Pay attention while cleaning your stove not to damage, scratch or break essential parts.

For cleaning steel parts use non-abrasive detergents and a soft rag and, after cleaning, clean it damp rag to avoid the deposit of detergent which can damage material. Dry off the stove afterwards

After washing, wipe over with clean water and if there are condensates, do not wait until they are dried, rather wipe them immediately.

Attention, the stove paint only achieves its ultimate strength after reaching its rated temperature a few times. To avoid damaging the paint, it is recommended to clean the stove surface only when the paint achieves its ultimate hardness.

Cleaning the glass should be done when the stove is cold, using normal detergent for washing the glass. In the case of solid deposits that should be removed, we recommend using a stove glass cleaner.

It is important to have the chimney regularly checked and cleaned by a qualified chimney sweep.

Chimney fires

If the wrong or unseasoned wood is used, it is possible that a chimney fire can occur due to the accumulation of deposits inside the chimney.

Immediately close all air regulators on the stove and call the fire brigade.

If a chimney fire was to occur, an experienced professional should be employed to check the entire flue system.

6.6 Instructions on how to access the flue through the stove

The throat plate can simply be pushed left or right along the heat exchangers at the top of the combustion chamber, then using a soft headed 7" brush, the flue can be swept through.



Once the flue has been swept, please remember to slide the throat plate back into the center of the heat exchangers.

7. Malfunction and service

In the event of a product malfunction please contact your supplier. If the stove is under warranty your supplier will take care of the warranty claim.

Regular maintenance of the stove and flue should be carried out by a competent engineer.

Use only replacement parts as recommended by the manufacturer.

8. Common fault finding

Please be aware that in the event of your stove not performing properly, you should always consult your installer first or a qualified professional. Below is a list of potential problems and possible causes:

Problem	Possible cause
<i>Kindling problems</i>	
Burning does not start	Bad quality or wet wood Too thick wood log Insufficient primary air Cold flue pipe
Fire gets choked	Insufficient draft Obstructed chimney or pipes Flue damper is closed
<i>Burning problems</i>	
Too slow fire progression	Bad quality or wet wood Insufficient primary air Insufficient draft, low pressure
No ember layer produced	Too thick wood or log Improper placement of the wood
Fire extinguishes	Too strong or too weak draught
Too brisk flame – not possible to regulate	Too much combustion air Too small wood pieces Ash pan not properly closed Ash build up behind the ash pan
Sooting	Bad quality or wet wood Cold flue pipe Slow burning for longer period Too long chimney section in cold zone
Chimney fire	Extensive sooting of flue pipe
Insufficient heating	Fresh or too wet wood Too strong air flow Improper firebox installation
Stove smoking	Wet wood Flue pipe obstructed Flue damper is closed Operating of closed firebox with door in open position Chimney not according to requirement Effect of the wind to the top opening

	Insufficient air exchange in the room or interference from mechanical ventilation interferes (such as kitchen extractor)
Extensively contaminated glass window	Bad quality or wet wood Not suitable or prohibited fuel Excessive slow burning Insufficient flue draw

Weather conditions may affect your stove causing smoke spillage into the room when the appliance door is opened. On windy days this may be a result of downdraught, or on calm days, this could be lack of natural flue draught. We recommend contacting your installer for advice.

Always ensure use of good quality wood at 10-20% moisture content during light up, and to maintain the fire.

9. General warranty conditions

All Woodfire Passiv models are covered by a 12 month warranty from the date of delivery. If the stove is installed by a qualified installer and the installation incorporates a draught stabiliser, which prevents overdrawing, and a load valve, which gives back end protection, then the warranty is automatically extended to three years from the date of delivery.

The warranty period and the scope of the warranty are granted under these terms and conditions beyond the statutory warranty, which remains unaffected.

The warranty does not cover combustion chamber linings, fire ropes, grates or viewing windows unless, in the first six months, it can be shown that there has been a manufacturing fault that caused the defect.

The warranty period begins on the date of delivery to the customer. This must be proven by a receipt or an invoice.

The guarantee is not valid if there has been:

- Non-compliance with the assembly and operating instructions or there have been technical modifications to the stove by non-company personnel
- Improper handling, improper use, incorrect installation or incorrect connection of the stove to the heating system
- The stove has been lit when not connected to a heating system
- Missing or faulty maintenance to the stove or chimney
- Improper transport or improper storage
- Overheating, thermal overload and resulting deformation or discoloration of the stove or the viewing window
- Normal wear and tear of the stove.

Regardless of the statutory warranty, which has priority over the warranty within the statutory warranty periods, any defective parts that are demonstrably based on a material defect or manufacturer's defect are replaced free of charge within the scope of the stated warranty conditions.

Woodfire reserves the right to either eliminate the defect or replace the appliance. The warranty covers supplying a replacement part but does not cover any labour associated with fitting the part or any further damages or costs related to the defect nor costs arising from de-installation or re-installation of the appliance.

If parts are replaced then the warranty period will be extended for the replaced part. Only spare parts approved by Woodfire may be used.

Firepower, Flightway, Dunkeswell, Honiton, Devon EX14 4RD

sales@firepowerheating.co.uk

<http://www.woodfirestoves.co.uk>

Woodfire commissioning checklist

General information

Stove purchased from

Telephone number

Stove installed by

Telephone number

CPS registration with (e.g.
HETAS)

CPS registration number

Installation date

Stove model

Physical checks

Installation is in accordance with the design, including material specification, flue length and diameter

The installation instructions have been followed

There is no damage to any components

Joints between the appliance and chimney and within the chimney system are secure and in good condition

The separation of components from combustible materials conforms to this code of practice

The appliance and chimney can be fully cleaned, once the installation is complete

Components for weatherproofing are installed correctly

Smoke spillage test has been carried out

CO Alarm fitted and tested

Handover

At handover all user instructions should be given to the user and an explanation of the appliance operation and safety issues should be given.

Commissioning engineer's signature*

*By signing this you confirm that all commissioning checks above have passed, and that operation and maintenance of the appliance have been explained to the customer in full in line with this user manual.



www.woodfirestoves.co.uk