

OPERATION AND INSTALLATION MANUAL

OPUS ARIA

OPUS

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1. Delivery

As soon as it is delivered, the stove must be carefully inspected and any damage must be noted on the delivery note. Afterwards the damage must be reported immediately to the retailer.

When transporting the stove you must ensure that only safe, strong and approved carrying methods are used. The stove may only be moved in a stable, standing position or slightly inclined on a sack truck. A sack truck should only be used against the back of the stove. All parts of the stove must be protected against damage, moisture and rain, or other types of contamination during transport and installation.

2. Disposal of packaging

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

3. Assembly instructions

Your stove should be installed by a qualified, knowledgeable and experienced installer who is registered under one of the Competent Persons schemes such as HETAS.

The installer must do a thorough check of the appliance to ensure that it is in full working order before it is installed.

4. The Clean Air Act 1993 and Smoke Control Areas

Under the Clean Air Act local authorities may declare the whole or part of the district of the authority to be a smoke control area. It is an offence to emit smoke from a chimney of a building, from a furnace or from any fixed boiler if located in a designated smoke control area. It is also an offence to acquire an "unauthorised fuel" for use within a smoke control area unless it is used in an "exempt" appliance ("exempted" from the controls which generally apply in the smoke control area).

In England appliances are exempted by publication on a list by the Secretary of State in accordance with changes made to sections 20 and 21 of the Clean Air Act 1993 by section 15 of the Deregulation Act 2015. Similarly in Scotland appliances are exempted by publication on a list by Scottish Ministers under section 50 of the Regulatory Reform (Scotland) Act 2014.

In Wales and Northern Ireland these are authorised by regulations made by Welsh Ministers and by the Department of the Environment respectively.

Further information on the requirements of the Clean Air Act can be found here:
<https://www.gov.uk/smoke-control-area-rules>

Your local authority is responsible for implementing the Clean Air Act 1993 including the designation and supervision of smoke control areas and you can contact them for details of Clean Air Act requirements

5. Introduction

Congratulations on your purchase of this Opus 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.

6. Description

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

Beneath the cast iron grate is an ashpan and under that is wood storage. This stove works on the principle of convection, in which cool air is drawn up from the floor and warmed between the two outer walls of the stove. This warm air then spreads around the room.

7. Installation

i. Basic installation regulations and requirements

Ventilation systems, such as extractor fans, in the same room as the stove should be avoided where possible, and can adversely affect the function of the stove.

The stove may only be installed in rooms suitable for such an appliance and where it can be operated safely and maintained appropriately and may not be installed in areas in which flammable or explosive substances and mixtures are processed, which could lead to an ignition or explosion.



Throughout the installation the installer must refer to Document J of the Building Regulations for detailed guidance on recommended ways of meeting the building regulation requirements.

ii. The hearth and floor

Before installing the stove, make sure that the floor on which the appliance is standing has sufficient load capacity. Pay attention to the information on the weight and, if necessary, ensure a sufficient weight distribution by utilising an appropriate hearth.

Floors made of combustible material must be protected by a layer of non-flammable material. This can be done, for example, by tiles or a plate made of glass or sheet metal at least 12mm thick. The floor and hearth must also be strong enough to take the weight of the stove, and be completely level and stable.

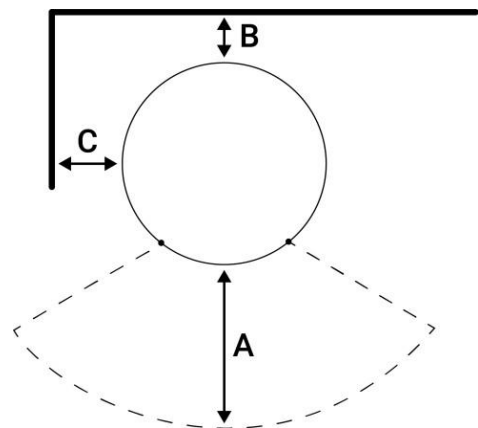
Please also observe the necessary measures for the fire protection of the floor. Further details can be found in Building Regulations Document J.



Please also refer to “Firepower Hearth Guidance” which can be found on the www.firepower.co.uk website. This gives recommendations for instances where we recommend that the size of the hearth is increased over and above the minimum sizes given in the building regulations, and also contains some suggestions for how you can make a feature of the hearth.

iii. Minimum distances to combustibles

- A 850mm In the area of thermal radiation
- B 250mm Back space between the wall and stove
- C 350mm Side space between wall and stove



iv. Technical Specifications

Stove Model

Aria

Nominal Output

5 kW

Efficiency	81% (net)
Weight	78 kg
Mean flue gas temperature	232 °C
Flue gas mass flow	4.3 g/s
Minimum flue pressure	0,12 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	45 minutes

v. Heat shielding

It is also possible to heat shield combustible materials if the stove must be installed at a closer distance than specified here. For heat shielding refer to the guidance detailed below.



For further information on heat-shielding please refer to the “Firepower Heat Shielding Guide” which can be found on the downloads section of the www.firepower.co.uk website. This gives in depth guidance on heat-shielding combustible materials using metal or Thermalux sheets.

vi. Removing the self-closing door mechanism

The stove has been built with a self closing door mechanism. This can be disabled by removing the spring.



the door is opened the controller opens a sealed vent to the room to supply extra fresh air. If there is a powercut then the vent is also opened as an additional safety feature. The AirSmart controller can be a stand-alone unit, or combined with a full automated stove controller (as pictured) which also automatically regulates the burning rate of the stove, and adds in additional safety features.

If the intention is to not install a permanently open vent to the room, or to install an AirSmart system in its place, then the installer must follow the procedure in Hetas Technical Note TN_0020 to confirm that the supply of air will be sufficient.



ix. The Chimney

All flue components used must be suitable for solid fuel fires, rated to T400°C, and comply with the relevant regulations regarding their construction and installation and all manufacturers' instructions must be followed. Calculation of the chimney design can be done according to EN 13384-1 and EN 13384-2 and/or with reference to Document J of the Building Regulations.

Particular attention must be made in regard to the distance to combustible materials.

If there is a chamber then it should be closed off above the stove with a concrete slab, lintels or fireproof stud work.

The following chimney designs are possible:

Brick or block wall chimney: This should be lined with pumice liners (not clay liners) of the correct diameter and the starter block should be set on the slab. The stove is then connected to the starter block with an adjustable length of single skin flue.

Twin wall stainless steel insulated chimney: The hole in the top of the chamber should be a good fit around the pipe using a fire stop plate.

Stainless steel flexible liner (Class 1 - suitable for solid fuel, either 316 or 904 grade). This is used to re-line an existing Class 1 masonry chimney: The liner should connect to the appliance via a length of rigid flue at least 500mm long. The liner should be firmly fixed to the chimney wall with a bottom support bracket or, if that isn't possible, then every pipe connection, including the connection to the stove, should be secured with at least two stainless steel self-tapping screws. The flexible liner should be insulated. The chimney should be fitted with a cowl or appropriate chimney pot to prevent rain entry.

Offsets used in the flue run can adversely affect the chimney's performance. Any bends used should be the minimum offset possible from the vertical (maximum permissible is 45) and no more than four offsets should be used in any one system. If bends are used then it may be necessary to increase the height of the chimney to counteract any detrimental effect they may have on the chimney draught.

The chimney must be able to maintain a draught of 12 Pascal's.

Flue termination heights must comply with the requirements of Document J of the Building Regulations.

Adequate provision must be made so that all internal parts of the chimney can be cleaned.

This stove is not suitable for use on a shared chimney.

Recommendations:

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

8. Advice on fitting suitable alarms

At least one suitable and effective smoke alarm should be fitted in a suitable location. Alarms should be mounted on the ceiling at least 300mm from any walls and within 5 meters of the protected area. This may mean installing more than one alarm, and it is recommended to choose units that can be linked together. The smoke alarm should be capable of waking any occupants sleeping. The alarm should be tested with this in mind before the final fixing is made. The smoke alarm should be of the optical or photo electrical type since this is particularly sensitive to dense smoke such as produced from a smouldering fire. The smoke alarm should be fitted with an extra-long life battery and have a hush button to allow for temporary deactivation. This should be tested routinely.

7. The door should only be opened again when the fuel has burned right down and you want to put new fuel in. If there is insufficient burning material in the firebed to light a new fuel charge, excessive smoke emission can occur. Refuelling must be carried out onto a sufficient quantity of glowing embers and ash that the new fuel charge 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 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".
8. Use the amount of fuel you place in the stove to regulate the room temperature. To burn at the nominal output, the stove requires refueling every 45-50mins with approximately 1.1kg of wood logs.
9. To achieve slow combustion, it is necessary to lay logs with one crossed over the other at 45°, the primary air control must be fully closed and the secondary air control lever must be half open.

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 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 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.

ATTENTION

THE ASHPAN MUST BE TIGHTLY CLOSED FOR PROPER REGULATION OF THE PRIMARY AND SECONDARY AIR. If ash is allowed to build up behind the ashpan then it can prevent the ashpan sealing properly.

ii. 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.

Cleaning the glass should be done when the stove is cold using a damp cloth or, for heavier deposits, a pad designed specifically for cleaning stove glass.

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.

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

iii. Instructions on how to access the flue through the stove



Ensure clean fire box.



Lift the throat plate from the retaining brackets and carefully remove.



Lift and remove the deflector plate. You can now sweep through the stove.

To replace the fire bricks, please repeat steps 1 – 3

in reverse.

iv. In the case of chimney fire

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.

v. Layout and usage of air regulators

Secondary air
To Open: slide left

To Close: slide right



vi. Suitable materials for lighting

The stove should be used for the combustion of natural wood and wood briquettes.

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. According to the manual, any wood used should have a maximum humidity of 20%.

vii. Wood seasoning and storage

In order to dry or “season” freshly cut firewood should be stored in a well-ventilated area protected from moisture for approximately 2-3 years. Store your wood split so that the release of moisture is quicker. Do not stack the logs too tight to ensure the best possible air circulation. Firewood should not be stored directly on the ground. Do not store your firewood under tarpaulins, plastic sheeting or in poorly ventilated locations.

Firewood that is already seasoned or dry should be stored in a suitable dry location.

viii. Reducing particulate emissions

Sustainably managed and sourced wood has significantly lower carbon emissions than oil or gas. On the other hand particulate emissions have a harmful effect on health, and there many ways in which you can reduce them:

- Only burn dry, well seasoned wood (with a moisture content of 20% or less measured on a ‘wet basis’, or 25% or less measured on a ‘dry basis’). Look out for the WoodSure “Ready to Burn” logo.
- Light your stove using the “upside down method” described in this manual where you start with a couple of bigger logs, then the kindling, then the firelighters. This gets the firebox up to temperature faster and has been shown to result in lower particulate emissions in lab tests.
- Adjust the amount of wood you put into the fire based on how much heat you actually need. Do not fill the fire chamber up and then try to control the heat output by turning down the air controls.
- Make sure that the fire is burning well. Some signs of this are that the ash should be white. Black charcoal in the ash indicates an incomplete burn. The combustion chamber lining of the stove should be bright after firing and not sooty black. You should see good flames in the firebox at all times, without wisps of smoke. Incomplete combustion is generally always to do with an improper mix of three things: temperature, air, and fuel.
- Never “turn it down for the night”.

Your stove must not be used to burn waste.

ix. 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.

10. 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.

11. Troubleshooting

Symptom	Cause and Solution
<p>The stove glass is black and sooty.</p> <p>The glass should be wiped clean every few days but if it is getting excessively black then there are a number of probably causes.</p>	<ul style="list-style-type: none"> The firewood is too wet. Only use wood with a moisture content of 20% or less. The firebox is being overloaded with too much wood. This will cause an excess of moisture in the firebox leading to blacking of the glass. Too little wood is being used from the start or the air lever has been closed down too quickly after the fire has been lit. This prevents the stove and chimney coming up to the proper working temperature and causes an incomplete combustion. The chimney has insufficient draw due to it being too short or terminating in the wrong place. The fire is receiving insufficient combustion air caused by a blockage or an undersized combustion air duct.
<p>Fire is difficult to start</p>	<ul style="list-style-type: none"> The moisture content of the wood is too high. Only use wood with a moisture content of 20% or less. The logs are too thick. Kindling and thinner split logs should be used to start the fire. Bigger logs should only be used once the stove is hot. The fire is receiving insufficient air. Is the supply air control set correctly and are the combustion air ducts free of obstructions? Are the chimney and connectors free of obstructions?
<p>When adding wood, smoke is spilled from the door opening.</p>	<ul style="list-style-type: none"> Is the wood dry enough? Has sufficient wood burnt to bring the stove and chimney to operating temperature? Is the chimney correctly sized? Is the chimney suffering from downdraft (ie puffing smoke during certain weather conditions). Check that the chimney terminates sufficiently far away from trees or nearby buildings. Fit an anti-downdraft cowl. Has the stove door been opened too fast?
<p>Too fast burning / wood consumption too high</p>	<ul style="list-style-type: none"> Were adequately sized logs used? Has too much wood been loaded into the firebox Was the air supply control set correctly and the supply of combustion air reduced?
<p>The combustion chamber lining is black</p>	<ul style="list-style-type: none"> Check the combustion chamber, the baffle deflectors and the chimney for blockages. The moisture content of the wood is too high. Only use wood with a moisture content of 20% or less. Check that the stove is receiving sufficient combustion air.

12. Commissioning checklist

General Information

Stove purchased from.

Tel: _____

Email: _____

Installed by.

Tel: _____

Email: _____

Installation date.

0

Notice plate and accompanying checklist completed.

Notice plate location.

0

Confirm that relevant local and national regulations have been followed, including, in the UK, Document J of the Building regulations.

Water safety

Pressure release valve fitted and tested

If the system is pressurised then please confirm that an expansion vessel of the right volume has been fitted, and precharged to the correct pressure.

Load unit fitted and verified to be working

If a direct air duct has been used then the guidelines in the Firepower Direct Air Duct Guidance has been followed.

The system has been commissioned including running the boiler through a complete burn cycle.

Handover

Handover: user shown how to use the appliance and has the necessary documentation.

Handover: the importance of using only well seasoned wood has been explained.

Handover: safety issues and required maintenance explained to the user.

Signed

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.*

13. Warranty

The warranty cover is effective from when the unit is handed over to the buyer.

In case the commissioning does not take place within 3 months from the date of purchase then the warranty period starts on the day of purchase of the product, which must be demonstrated by proof of purchase such as a sales receipt or paid invoice from the seller.

All liability for any accidents due to failure to observe the specifications contained in the use and maintenance manual accompanying the device is declined. Furthermore all liability deriving from improper use of the product by the user (including heat-shock, overload or misuse of the firebox), unauthorised modifications and/or repairs, and the use of non-original spare parts or spare parts not designed for use on this product model are also declined.

Duration of warranty is three years on the firebox house, grate, flame baffle, moving parts (hinges, handle, and fittings).

Where the appliance is a boiler model then the warranty period reduces to 1 year if a load unit or load valve are not fitted.

Please note that the warranty does not cover glues, seals, ceramic glass, and firebricks. The warranty period and the scope of the warranty are granted under these terms and conditions beyond the statutory warranty, which remains unaffected.

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 discolouration 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.

Opus 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 Opus may be used.

14. Fiche



Product Fiche

Commission Delegated Regulation (EU) 2015/1187
Energy Labelling of Local Space Heaters

Supplier's Name or Trademark:	Opus				
Model	Aria	Melody	Harmony	Trio	Calypso
Energy Efficiency Class of Model	A	A	A	A	A+
Nominal Heat Output to Room (kW)	5	5	7.1	5	3.4
Nominal Heat Output to Water (kW)	n/a	n/a	n/a	n/a	4.9
Net Efficiency (%)	81	77.4	80	77.2	83.9
Energy Efficiency Index	107	105	105	102	110

15. Dataplate

UK
CA₂₁


CE 13

Make and Model	Opus Aria
Fuel Type	Wood logs
Nominal Heat Output	5.0kW
Notified Body Identification	1625
EN standard Number	EN13240:2001
Efficiency	81%
CO Emission at 13% O ₂	0.06%
Min Distance from Combustible Materials	
Rear	250mm
Sides	350mm
Mean Flue Temperature	232°C
DoP Reference	FPOS_O1O


Manufactured in the EU.
Capable of intermittent operation. Only use recommended fuels.
Do not use a shared flue. Follow the user instructions.


Firepower Heating, Flightway, Dunkswell Business Park EX14 4RD
sales@firepowerheating.co.uk



16. Energy Label


 **ENERGY**


Opus Aria


A⁺⁺ 


A⁺ 


A  


B 





C 

D 

E 

F 

G 

    **5**
kW

2015/1186



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