

ACR   
STOVES

# Birchdale

Multifuel Cast Iron Stove • Model FB4MF

To be retained by the user for future reference

Thank you for purchasing an ACR Heat Products stove



Serial Number:

Document FB4MF 0101 • Version 1 Date 06/07/15

T E C H N I C A L M A N U A L

# Important!

To ensure that you gain the most from your purchase, please take a few minutes to read through this manual before lighting the appliance for the first time.

Since April 2002 only registered competent installers can install solid fuel appliances. Installations carried out by non-registered installers must be inspected by local authority building control.

For more information please contact hetas at: [www.hetas.co.uk](http://www.hetas.co.uk) or telephone: 0845 6345626

- The installation of this appliance must comply with current Building Regulations and local regulations, including those referring to national and European standards need to be complied with when installing the appliance.
- Do not operate this appliance if it becomes damaged.
- Improper use, maintenance or fitting parts other than those approved by the manufacturer could lead to the appliance becoming damaged or unsafe which in turn could lead to personal injury or damage to the property and will void the warranty.
- The appliance must not be modified in anyway unless authorised by ACR Heat Products Ltd.
- The appliance should be inspected regularly to ensure the airways are clean and free from obstruction and the chimney swept at least once a year.
- The external surfaces of this appliance will be very hot to the touch when in operation and due care will need to be taken when operating the appliance to ensure safety. A fire guard should be fitted if it is likely that the elderly, infirm or children may come into contact with the appliance.
- This appliance must not be used as an incinerator.
- This appliance has been designed for intermittent operation.

Before installation, please ensure that the correct model has been supplied.

Please make a note of the serial number of your appliance in the space provided on the front cover of this manual as this will be requested if you require technical assistance in the future.

Please also ensure that the commissioning checklist at the rear of the manual is completed in full.

## Birchdale Specifications

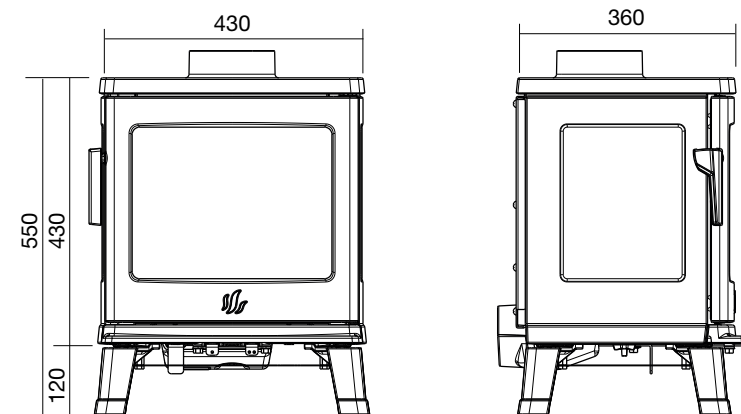
Nominal heat output	5 kW - Wood	5 kW - Smokeless Fuel
Chimney draft required	12Pa	
Height	550 mm	
Width	430 mm	
Depth	360 mm	
Weight	90 kg	
Air Requirement	N/A ***	
Flue Mass Gas Flow	3.4g/s - Wood	4.7g/s - Smokeless Fuel
CO @ 13% O <sup>2</sup>	0.08 vol %	
Mean Flue Gas Temperature	274°C - Wood	273°C - Smokeless Fuel
Efficiency	78.3% - Wood	81.5% - Smokeless Fuel
Log Length	Up To 300 mm	

\*\*\* Please note that Building Regulations Document J advises that additional permanent air supply is required for appliances with an output of above 5Kw.

With modern properties additional air may be required as Document J suggests that adequate air would be a benefit.

- If design air permeability  $\geq 5.0\text{m}^3/(\text{h}\cdot\text{m}^2)$  then 550mm<sup>2</sup>/kW of appliance rated output above 5kW
- Or
- If design air permeability  $\leq 5.0\text{m}^3/(\text{h}\cdot\text{m}^2)$  then 550mm<sup>2</sup>/kW of appliance rated output
- If in doubt, please consult your registered installer for advice.

**NOTE: DO NOT INSTALL IN A ROOM CONTAINING AN EXTRACTOR FAN**



## 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).

The Secretary of State for Environment, Food and Rural Affairs has powers under the Act to authorise smokeless fuels or exempt appliances for use in smoke control areas in England. In Scotland and Wales this power rests with Ministers in the devolved administrations for those countries. Separate legislation, the Clean Air (Northern Ireland) Order 1981, applies in Northern Ireland. Therefore it is a requirement that fuels burnt or obtained for use in smoke control areas have been "authorised" in Regulations and

that appliances used to burn solid fuel in those areas (other than "authorised" fuels) have been exempted by an Order made and signed by the Secretary of State or Minister in the devolved administrations.

- **The Birchdale (FB4MF) has been recommended as suitable for use in smoke control areas when burning wood, as such, when the secondary air slider is in the closed position it remains open by 25mm and the tertiary air control should be fully open and is prevented from closing by a screw.**



Further information on the requirements of the Clean Air Act can be found here: <http://smokecontrol.defra.gov.uk>

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

## CO Alarms

It is required by Building Regulations that whenever a new or replacement wood/solid fuel or biomass appliance is installed in a dwelling a carbon monoxide alarm to BS EN 50292:2002 must be fitted in the same room as the appliance.

The alarm should be installed according to the alarms manufacturers instructions and should not be considered a substitute for the appliance being installed correctly and regular maintenance of the appliance and flue system by a competent person.

## Installation Instructions

### Location of the unit

#### Clearances to non-combustible materials

There is a recommended minimum clearance of 150mm at each side of the appliance. A clearance of 150mm is required at the back of stove (if the rear wall has a thickness of 200mm or more this measurement can be reduced to 50mm) a minimum clearance of 300mm is required above the appliance.

#### Clearances to combustible materials

There must be a minimum clearance of 400mm at each side and 300mm at the rear of the appliance from any combustible materials. If using single wall flue pipe, there must be a clearance of at least 3 times the diameter of the flue pipe (e.g. 125mm diameter pipe = 375mm minimum clearance) from any combustible materials e.g. wooden beam.

Curtains and soft furnishings should be a minimum of 1m away from the appliance.

Adequate space should be provided for servicing the appliance.

We do not recommend that plasma televisions and expensive artwork are hung over the fireplace.

Please remember that this appliance has been designed to provide heat and if installed into a recess enough space should be left around the appliance to enable the heat produced to rise and escape from the recess back into the room.

### Hearth Requirements

The appliance must stand on a level fireproof hearth with a minimum thickness of 12mm. The hearth temperature created by this stove is below 100°C. The hearth must protrude at least 300mm in front of the appliance and 150mm either side of the appliance.

The appliance shall be installed on a floor with an adequate load bearing capacity. If an existing construction doesn't meet with prerequisite, suitable measures (e.g. load distributing plate) shall be taken to achieve it.

### Flue Requirements

The chimney must comply with current Building Regulations. Provision must be made to provide access for cleaning the appliance, the flue gas connector and the chimney flue.

#### The flue must be:

- ✓ In sound condition and provide sufficient draft (minimum 12pa)
- ✓ Suitable for use with solid fuel burning appliances
- ✓ Be able to clean the entire length of the flue system without removal of the appliance
- ✓ Free from deposits
- ✓ Well insulated
- ✓ At least 4.5m in height

#### The flue must not be:

- ✗ Shared with other appliances
- ✗ Weight bearing on the appliance
- ✗ A smaller diameter than the appliance flue collar size (125mm)

## Assembly of the unit

This appliance is equipped with a pre-fitted manufacturer's smoke exempt stop. Under no circumstances should it be tampered with or removed unless expressly authorised by a competent person and the appliance is not installed in a smoke exempt area.



If the appliance is to be installed in a non smoke exempt area you can remove the restricting screw on the secondary air control (indicated by the two holes) to allow full movement of the secondary air slider.

The appliance is supplied pre-assembled with the flue spigot in the top exit position.

If you intend to install the appliance using a rear flue connection, the blanking plate should be swapped over as follows:

- Remove the internal baffle plate



- Remove the rear metal plate from the back of the stove



- Remove the rear blanking plate
- Remove the flue spigot from the top exit by removing the securing bolts and rope seal



- Refit the rope seal and flue spigot to the rear exit and secure with the bolts
- Refit the blanking plate to the top exit using the rope seal and retaining bar

## Operating your stove

Please note that during the first firing, we recommend a small fire is lit and that you slowly increase the temperature to enable the various parts to expand normally.

You may also experience fumes and a haze being given off by the stove during the first firing and possibly for the next couple of firings as the paint cures. This is normal but please ensure that the room is well ventilated during this period.

The appliance should not be operated in mild weather with smokeless fuel. Under certain weather circumstances e.g. fog the chimney will not draw sufficiently and could cause asphyxiation. Either await better weather conditions or burn wood only.

In the rare event of a malfunction due to overheating or a chimney fire, the air slides should be shut down completely and the fuel allowed to burn out. In the event of a chimney fire, once the air slides have been closed completely, dial 999 for assistance. If the appliance has overheated, the appliance and flue will need to be inspected for any damage before it can be operated again.

### Recommended Fuels

- ✓ **Wood:** hardwood such as ash, oak and beech which have been cut for at least 2 years and stored under shelter. The logs should have a maximum moisture content of 20%. Maximum log length 300mm, maximum width 125mm.
- ✓ **Smokeless Fuels:** below 20% Petroleum coke content such as Anthracite, Phurnacite, Ancit suitable for use with a closed heating appliance.

### Prohibited Fuels

- ✗ **Green wood:** i.e wood which is less than 2 years old with a moisture content of above 20%
- ✗ **Recovered wood:** i.e pallets, railway sleepers etc. These will have been chemically treated and will pollute the atmosphere and possibly overheat the appliance.
- ✗ **Housecoal or Bituminous coal:** these fuels will soot up the airways of the stove and possibly overheat the appliance.
- ✗ **Petroleum Based Coke:** over 20% - this will overheat the appliance and possibly damage the unit.
- ✗ **Liquid fuels.**

Always check with your dealer or directly with the manufacturer as using the incorrect fuel may invalidate your guarantee and damage your appliance.



## Operating your stove

### Instructions for use with wood



- A** Pull the secondary air slider (marked with a double hole) fully forward and open the primary air slider (marked with a single hole) fully by pulling the lever forward.
- B** Pull the tertiary air slider (Marked with no holes located under the body of the appliance) out by approximately 50%



- Lay firelighters or rolled up newspapers on the grate and add a small amount of kindling wood to the top. Place 1 or 2 small logs on the top.
- Light the newspaper or firelighters using a long taper and push the door closed but do not engage the locking handle fully.
- When the fire is burning fiercely, after a couple of minutes add more logs and close the door.
- When the fire has become established, close the primary air (marked with a single hole) down by pushing the lever inwards.

- The burning rate can be altered by moving the secondary air slider (marked with a double hole) - push the lever inwards to close down and pull outwards to increase the burn rate.

- C** Care should be taken to ensure that the logs are not placed higher than the log guard allows. This stove features a split log guard to allow differing loads to be managed, only alter the log guard when the appliance is fully cold.



### Instructions for use with smokeless fuel

- A** Pull the secondary air slider (marked with a double hole) under the ashlip and open the primary air slider (marked with a single hole) fully by pulling the lever forward.
- B** Make sure that the tertiary slider (Marked with no holes located under the body of the appliance) is fully pushed in.

- Lay firelighters or rolled up newspapers on the grate and add a small amount of kindling wood to the top. Place a small quantity of smokeless fuel on top.
- Light the newspaper or firelighters using a long taper and push the door closed but do not engage the locking handle fully.

## Operating your stove

- When the fire is burning fiercely, after a couple of minutes add more smokeless fuel and close the door.
  - When the fire has become established, close the secondary air (marked with a double hole) down by pushing the lever inwards.
  - The burning rate can be altered by moving the primary air slide (marked with a single hole) - pull forward to fully open and push inward to close down.
- C** Care should be taken to ensure that the firebox is not overfilled with smokeless fuel - it should be no higher than the log guard. This stove features a split log guard to allow differing loads to be managed.

### Re-fueling

When refueling the stove **always refuel onto a bed of hot embers**, fully open the secondary and primary air controls until the new fuel is well alight, before adjusting the air controls for the desired setting.

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.

### Fuel overloading

**Never overload the stove** - it will work very well with two medium sized logs. The amount of fuel specified in this manual should not be exceeded, overloading can cause excess smoke.

### Operation with door left open

Operation with the door open can cause excess smoke. The appliance must not be operated with the appliance door left open except as directed in the instructions.

### Air controls left open

Operation with the air controls or appliance dampers open fully can cause damage to the appliance. The appliance must not be operated with air controls, appliance dampers or door left open except as directed in the instructions.

- **Never leave the stove unattended until the new fuel is well alight.**

**Persistent fume emission is dangerous and must be investigated.**

If fume emission persists, open doors and windows to ventilate the room and let the fire die. Have the chimney inspected for blockages and clean if required. Do not relight the fire until the cause has been found. We recommend that you seek professional advice.

**This appliance has been designed to be burned with the door closed at all times other than when refueling.**

**It should not be operated as an open fire.**

**Typical refueling intervals for wood is 1 hour and smokeless fuel is 2 hours.**

### Daily Maintenance

The ashpan should be checked and emptied regularly.

- **You should never allow the ashes in the pan to build up to the level of the grate.**

If they are allowed to build up, the grate will become sandwiched between the ash below it and above it. This will overheat the grate and cause distortion and premature wear.

## Troubleshooting

Problem	Probable Cause	Action Recommend
<b>Fire difficult to start / goes out</b>	• Green wood / wet wood	Use hardwood logs with a maximum moisture content of 20%
	• Logs are too large	Use kindling and small logs to start the fire and once established use split logs
	• Not enough primary air	Open air control
	• Insufficient draft	Check the flue is not obstructed
<b>Fire burns too quickly</b>	• Too much draft	Reduce the air control
	• Excessive draft	Install a draft stabiliser
<b>Smokes on initial lighting</b>	• Flue is cold	Burn paper and kindling to increase heat in flue
<b>Smokes while burning</b>	• Insufficient draught	Check the flue is not obstructed
<b>Low heat output</b>	• Poor quality wood	Use seasoned Hardwood (this has a Higher calorific value)

## Maintenance

**We recommend that the appliance is serviced annually by a competent engineer to ensure it's continued safe operation.**

The chimney should be swept at least once a year together with the flue pipe connection. Care should be taken to ensure that there is not a build up of soot on the baffle and in the airways of the appliance.

If the appliance has not been operated for long periods, the flue should be inspected and swept before use to ensure there are no blockages within the flue.

The grate should be cleaned regularly and the ashpan emptied daily.

**Never allow the ash in the ashpan to overflow allowing ash to be in contact with the underside of the grate.**

This will overheat the grate and cause premature wear and distortion.

- The internal vermiculite panels of the appliance should be checked regularly for soundness. If any wear and tear is found, we recommend these parts are replaced immediately.
- Check the rope door seals are intact and are not worn. These should be replaced on an annual basis to ensure the correct operation of this appliance.
- The glass can be cleaned using a soft damp cloth or a ceramic glass cleaner (available from your local stockist)

**Use only replacement parts recommended by the manufacturer.**



**To remove the internal vermiculite baffle:**

Firstly remove the front fuel retaining bars.

Then slightly lift the baffle and ease one of the side bricks forward by pulling the front edge of the side brick into the

combustion chamber. Remove the second side brick in the same manner, the flue baffle can now be removed by lowering the front edge and rotating the baffle and removing through the front door.

## Commissioning Check List

**Please tick boxes when each procedure is completed**

- Ensure the serial number has been recorded on the front of this manual for any future use
- Ensure the door seals are in good condition and that the glass is secured correctly in the door (do not over tighten the glass as this will prohibit its expansion and could cause the glass to crack)
- Ensure that all internal components are fitted correctly (these may have shifted in transit)
- Ensure that the appliance operates correctly during the first firing
- Ensure the customer is aware that fumes may be given off during the first firings as the paint cures
- Advise the customer on the safe operation of the appliance
- Leave the instruction manuals, operating tool and glove for the customer's use.
- Record the flue draught reading of the appliance

## Parts Information

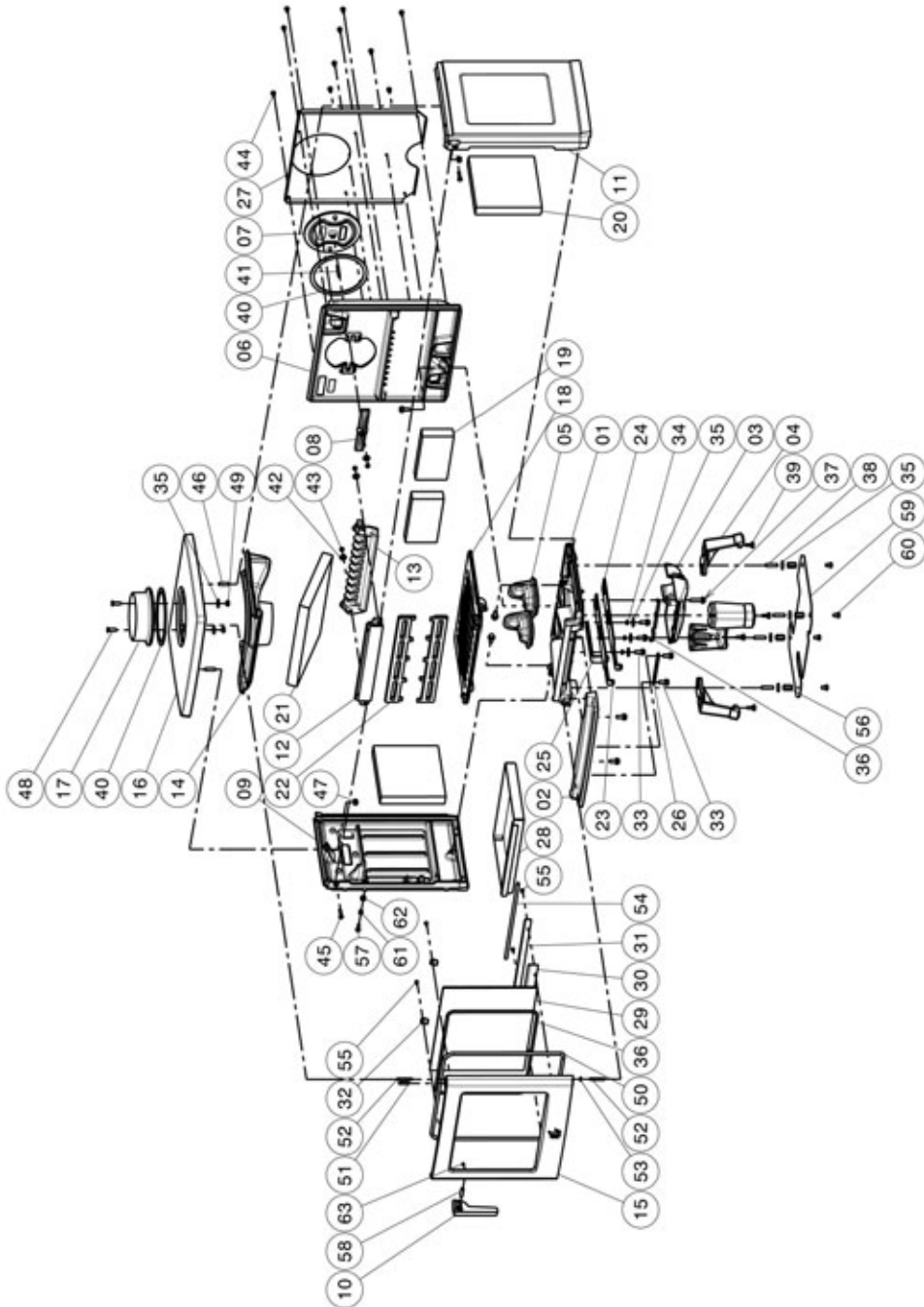


Diagram No.	Part No.	Description
1	03.09244.005	BOTTOM PLATE
2	03.05638.005	ASH LIP
3	03.00395.002	FLUE COLLAR
4	03.52282.005	LEG
5	03.37696.002	AIR TUNNEL
6	03.02476.005	BACK PLATE
7	03.15381.021	COVER ROUND 168MM
8	03.07216.002	LOCKING PLATE
9	03.79346.005	SIDE LEFT
10	03.27419.005	HANDLE
11	03.79347.005	SIDE RIGHT
12	03.24473.005	FRONT
13	03.37105.002	AIR DEFLECTOR
14	03.37693.002	AIR TUNNEL
15	03.15510.005	DOOR
16	03.69242.005	TOP PLATE
17	03.00314.102	FLUE COLLAR Ø125 INSIDE
18	03.66545.002	FIRE GRATE
19	03.77527.000	BACK PLATE
20	03.77526.000	SIDE PLATE
21	03.77543.100	VERMICULITE BAFFLE PLATE
22	03.77430.002	LOG RETAINER
23	03.38036.000	DRAFT CONTROL
24	03.38037.000	DRAFT CONTROL
25	03.38018.100	DRAFT CONTROL
26	03.31452.000	CLAMPING PLATE
27	03.37697.100	AIR TUNNEL
28	03.05241.000	ASH BOX
29	03.26386.000	GLASS
30	03.26163.000	GLASS RETAINER
31	03.29042.000	SUPPORT ROPE
32	03.26101.041	GLASS RETAINER
33	03.22201.041	HEXAGON FLANGE BOLT M8X20 BLACK
34	03.13612.000	BUSH Ø12XØ8X3.5
35	03.18710.000	WASHER 8X25
36	04.26419.000	GLASS FIBER ROPE Ø6MM SELF ADHESIVE
37	03.22204.041	HEXAGON FLANGE BOLT M8X35 BLACK
38	03.19508.000	STUD M8X25
39	03.76320.000	ADJUSTBLE LEG
40	04.26422.000	GLASS FIBER BAND 10X3MM SELF ADHESIVE
41	03.19505.000	STUD M6X35
42	03.18701.000	WASHER 6X18
43	03.19410.000	HEXAGON NUT M6
44	03.19303.041	HEXAGON HEXAGON HEAD SCREW M6X12
45	03.18605.041	SCREW M6X30 BLACK
46	03.19507.000	STUD M8X20
47	03.22203.041	HEXAGON BLIND RIVET NUT M8
48	03.19733.000	SCREW M8X30
49	03.19401.000	HEXAGON NUT M8
50	04.26408.000	GLASS FIBER ROPE Ø8MM
51	03.17806.000	COILED SPRING PIN 6X30
52	03.58610.100	HINGE PIN
55	03.19801.041	SCREW M5X10 BLACK
56	03.16110.000	CONNECTION NUT HEXAGON M8X24
59	03.28157.100	HEAT SHIELD
60	03.19310.000	HEXAGON HEXAGON HEAD SCREW M8X12
61	03.13619.100	BUSH LATCH 10X8.5X6
62	03.13623.041	BUSH Ø13XØ10X7.5

## Warranty Information

The specifications within this document are provided for information purposes only and are under no circumstances binding.

With the aim of constantly improving our products, all modifications considered necessary may be made without notice.

This manual is correct at time of printing.

**Our appliances are guaranteed against faults and hidden defects subject to the following conditions:**

The appliance must have been installed by a registered competent installer (e.g. HETAS) or inspected by local authority Building Control.

The appliance must be installed and operated in accordance with our instruction manual.

The guarantee is for a period of 10 years on the appliance body from the date of purchase.

The following components are considered as consumables and are excluded from the guarantee:

- Grates
- Rope seals
- Ashpan
- Internal vermiculite panels
- Glass
- Baffle plates

Your statutory rights are not affected by this warranty.



## Warranty Claim Form

Customer Name:

Customer Address:

Daytime Tel:  Mobile Tel:

Model Name:  Model Number:

Serial Number:  Date of purchase:

Date of installation:

Installer's Name and address:

Installer's Registration Number:

Building Control Certificate Number:   
(if not installed by a registered competent installer)

Dealer Name and address:

**In the unlikely event of a warranty claim, please return the above claim form to:**

ACR Heat Products Limited, Unit 1, Weston Works,  
Weston Lane, Tyseley, Birmingham, B11 3RP, England.

• Tel: 0121 706 8266

• Fax: 0121 706 9182

• E-mail: [enquiries@acrheatproducts.co.uk](mailto:enquiries@acrheatproducts.co.uk)

• [www.acrheatproducts.co.uk](http://www.acrheatproducts.co.uk)





**ACR**   
**STOVES**

ACR Heat Products Limited, Unit 1, Weston Works,  
Weston Lane, Tyseley Birmingham B11 3RP, England.

- Tel: 0121 706 8266
- E-mail: [enquiries@acrheatproducts.co.uk](mailto:enquiries@acrheatproducts.co.uk)
- Fax: 0121 706 9182
- [www.acrheatproducts.co.uk](http://www.acrheatproducts.co.uk)