

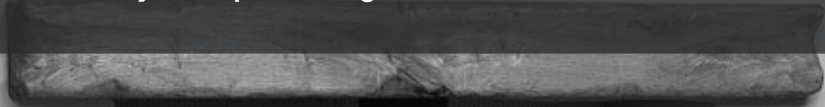


# Malvern II

Multifuel Stove Model • MAL2MF

To be retained by the user for future reference

Thank you for purchasing an ACR Heat Products stove



- MULTI FUEL
- SMOKE EXEMPT
- AIRWASH SYSTEM
- 10 YEAR WARRANTY

Serial Number:

MAL2MF 0101 • Version 1 Date 18/07/16

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

# IMPORTANT INFORMATION

**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

- Before installation and/or use of this appliance please read these instructions carefully to ensure that all requirements are fully understood.
- This appliance must be installed by a registered engineer, or approved by building control, failure to do so may endanger life and property.
- All the instructions in this manual should work in conjunction with building regulations document J, if there is a variation the most stringent requirement should be adhered to.
- 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 has been designed for intermittent operation.
- This appliance must not be used as an incinerator.
- Each installation is unique to the property, the information contained in this manual may not give exact installation requirements for your installation.
- The installation must comply with Building Regulations, European Standards and Local authority bylaws.

## **Asbestos**

This appliance contains no asbestos, if there is the possibility of disturbing any asbestos in the installation of this appliance then specialist advise must be sought and appropriate precautions taken.

## **Metal Parts**

This appliance may contain sharp metal edges, take care when installing or servicing this appliance to avoid personal injury. Please use appropriate personal protective equipment at all times.

**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.**

# Malvern II Specifications

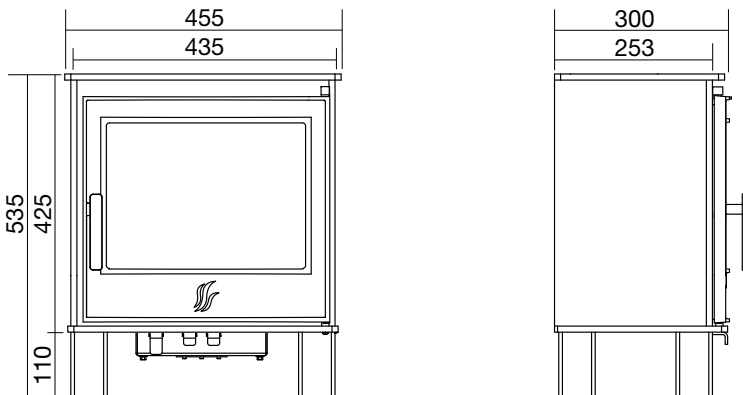
Nominal heat output	5 kW - Wood	5 kW - Ancit
Chimney draft required	12Pa	
Height	535 mm	
Width	455 mm	
Depth	300 mm	
Weight	82 kg	
Air Requirement	N/A ***	
Flue Mass Gas Flow	3.8 g/s - Wood	3.3 g/s - Ancit
CO @ 13% O <sup>2</sup>	0.09 Wood vol %	0.11 Ancit vol%
Mean Flue Gas Temperature	228°C - Wood	270°C - Ancit
Efficiency	84.3% - Wood	82.3% - Ancit
Mean CnHm @13%O <sub>2</sub>	Wood - 102Nmg/M3	Ancit - 26Nmg/M3
Mean NOx @13%O <sub>2</sub>	Wood -113Nmg/M3	Ancit - 136Nmg/M3
DIN Plus Dust @13%O <sub>2</sub>	Wood -19Nmg/M3	Ancit -18 Nmg/M3
Log Length	Up To 350 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.

If installing into a room containing an extractor fan, please ensure that the relevant tests are carried out according to Document J of the building regulations.



Removable 80mm direct air collar at 120mm from hearth level.

# 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.

- **Malvern II (MAL2MF) 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 3mm 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 recommended clearance of 300mm is required above the appliance for servicing purposes.

### Clearances to combustible materials

There must be a minimum clearance of 550mm at each side and 450mm 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 televisions or artwork are positioned above the appliance.

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 225mm 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 4m 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 manufacturers 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 (on right hand side under the ash lip) 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 vermiculite baffle (for further instruction please see under maintenance heading).



- Remove the rear metal cut out 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 bolts

# 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.

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

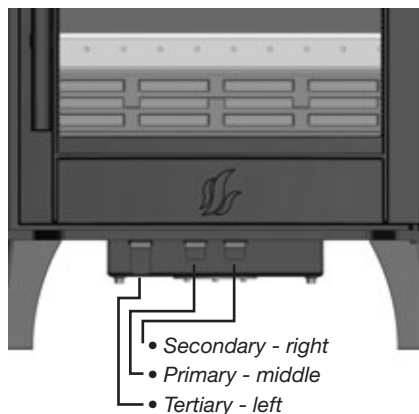
- ✓ **Wood:** hardwood such as ash, oak and beech which have been cut for at least 2 years and stored under shelter. The logs should have a maximum moisture content of 20%. Maximum log length 350mm, maximum width 150mm.
- ✓ **Smokeless Fuels:** below 20% Petroleum coke content such as Anthracite, Phurnacite, 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.**
- ✗ **Paraffin fire lighter blocks:** these can cause damage to the glass of your appliance.

**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

- Pull the secondary air slider (on the right) fully forward and open the primary air slider (in the middle) fully by pulling the lever forward.
- The tertiary air slider should be pulled fully forward (Under the ashtray) at all times when burning wood.
- 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 (in the middle) down by pushing the lever inwards.
- The burning rate can be altered by moving the secondary air slider (on the right) - push the lever inwards to close

down and pull outwards to increase the burn rate.

- **Care should be taken to ensure that the logs are not placed higher than the log guard allows.**

## Instructions for use with smokeless fuel

- Pull the secondary air slider under the ashtray and open the primary air slider fully by pulling the lever forward.
- Make sure that the tertiary slider 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.

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 down by pushing the lever inwards.
- The burning rate can be altered by moving the primary air slide - pull forward to fully open and push inward to close down.
- **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.



# Operating your stove

## 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.

## 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.

## 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.**

## 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.

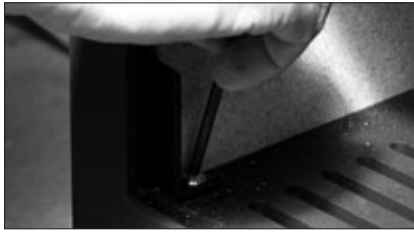
The grate should be cleaned regularly and the ashpan emptied daily.

**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. Remove the fuel retaining bar bracket bolts and brackets. Remove the grate.

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 vermiculite lower baffle can now be removed by lowering the front edge and rotating the baffle and removing through the front door.

Lift the front edge of the upper steel baffle and drop the back edge of the steel baffle into the combustion chamber, remove through 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

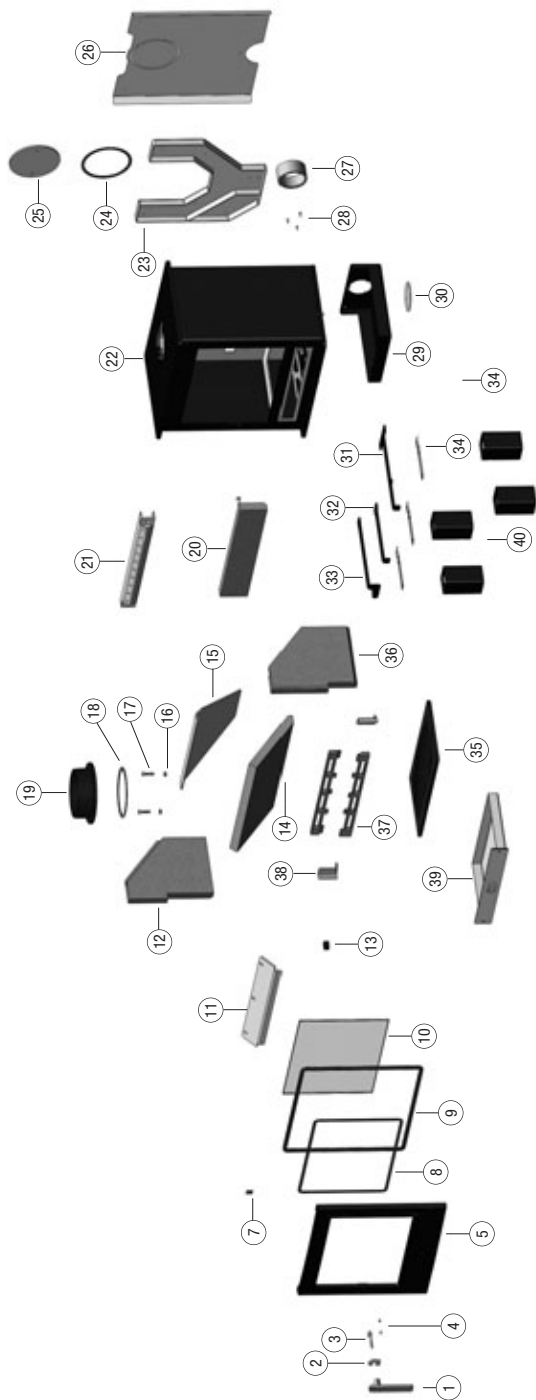


Diagram No.	Description	Part No.	Quantity Required
1	Door Handle	5612-239	1
2	Door Retaining Bracket	5411-128	1
3	Door Handle Locking Rod	5035-405A	1
4	Locking Rod Grub Screw	GRUBSCREW	2
5	Cast Iron Door	4490-1385A	1
6	Door Locking Plate (Not Shown)	5011-406A	1
7	Glass Clip	6612-219	4
8	Glass Gasket	8400-276B	1
9	Door Gasket	8400-276B	2
10	Glass	5540-312	1
11	Airwash Deflector	3811-847	1
12	Left Hand Vermiculite Side Brick	6081-1003A	1
13	Top Hinge Pin Assembly	5135-401	1
14	Lower Vermiculite Baffle	6081-1006	1
15	Upper Steel Baffle	3711-216 3711-216	1
16	Flue Collar Retaining Nut	M8 Tensile Steel Nut	2
17	Flue Collar Retaining Bolt	M8 30mm Tensile Steel	2
18	Flue Collar Gasket	8400-276B	1
19	Flue Collar	3490-047	1
20	Rear Vermiculite Brick	6081-1005	1
21	Rear Tertiary Air Chamber	3811-864	1
22	Steel Body Complete	3511-271	1
23	Rear Air Separation Chamber	3811-844A	1
24	Blanking Plate Gasket	8400-276B	1
25	Blanking Plate	4111-136	1
26	Rear Heat Shield	4811-360A	1
27	Air Intake Collar	3822-576	1
28	Air Intake Collar Retaining Screw	M3 10mm Allen Bolt M3	3
29	Bottom Air Chamber	3811-928	1
30	Air Intake Blanking Plate	3811-551A	1
31	Secondary Air Control Lever	5311-791	1
32	Primary Air Control Lever	5311-790	1
33	Tertiary Air Control Lever	5311-795	1
34	Air Control Lever Linear Spring	6536-018	3
35	Multifuel Grate	5411-127	1
36	Right Vermiculite Side Brick	6081-1004A	1
37	Fuel Retaining Bar	4290-1216A	2
38	Fuel Retaining Bar Bracket	7911-1212	2
39	Ashpan	4911-204	1
40	Leg	4311-985A	4

## Warranty Information



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:

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**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 Heat Products Limited, Unit 1, Weston Works,  
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