



# Trinity

Multifuel Stove • Model Trinity 1 / Trinity 3

To be retained by the user for future reference

Thank you for purchasing an ACR Heat Products stove

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



Serial Number:

Document TRINITY • Version 1 Date 15/09/16



## 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.**

## Trinity 1 and 3 Specifications

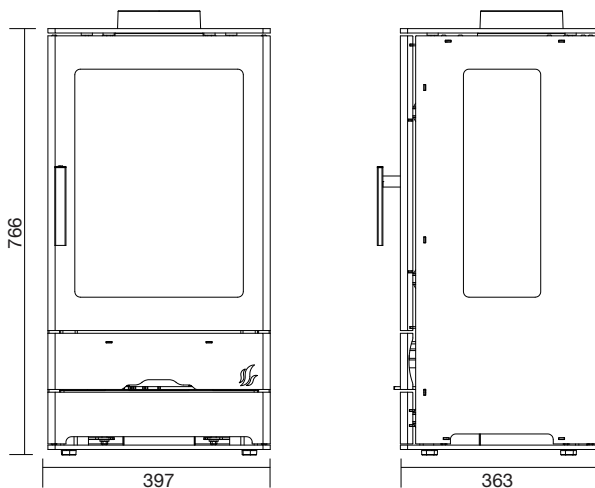
Nominal heat output	5 kW - Wood	5 kW - Ancit
Chimney draft required	12Pa	
Height	766 mm	
Width	397 mm	
Depth	363 mm	
Weight	90 kg	
Air Requirement	N/A ***	
Flue Mass Gas Flow	5.1 g/s - Wood	6 g/s - Ancit
CO @ 13% O <sup>2</sup>	0.58 Wood vol %	0.38 Ancit vol%
Mean Flue Gas Temperature	166°C - Wood	207°C - Ancit
Efficiency	81.8% - Wood	74.4% - Ancit
Log Length	Up To 400 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  $550\text{mm}^2/\text{kW}$  of appliance rated output above 5kW
- Or
- If design air permeability  $\leq 5.0\text{m}^3/(\text{h}\cdot\text{m}^2)$  then  $550\text{mm}^2/\text{kW}$  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.



All external dimensions are the same for Trinity 1 and 3.

## 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 Trinity Range (Trinity 1 and Trinity 3) has been recommended as suitable for use in smoke control areas when burning wood, as such, when the air control wheel is in the closed position it remains open by 27mm 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

##### • Trinity 1 and 3

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

##### • Trinity 1 and 3

There must be a minimum clearance of 300mm at each side of the Trinity 1 and there must be a minimum clearance of 750mm at each side of the Trinity 3, all models require a 250mm clearance 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 12 Pa)
- ✓ 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)

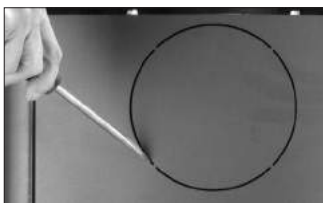
## Assembly of the unit

**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 air control wheel to allow full movement.

**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 outer blanking plate in the rear panel



- Remove the inner blanking plate by removing the two bolts

- 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.
- Insert cosmetic steel blanking plate into top casting recess



## 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. Await better weather conditions before attempting to use the appliance.

In the rare event of a malfunction due to overheating or a chimney fire, the air control should be shut down completely and the fuel allowed to burn out. In the event of a chimney fire, once the air control has 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 400mm, maximum width 125mm.
- ✓ **Smokeless Fuels:** below 20% Petroleum coke content such as Anthracite, Phurnacite, Ancit suitable for use with a closed heating appliance.

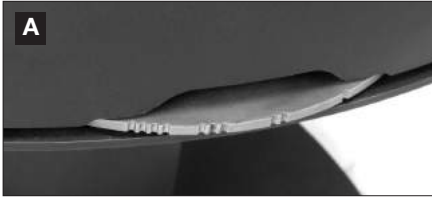
### Prohibited Fuels

- ✗ **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.**
- ✗ **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 will invalidate your guarantee and damage your appliance.**

## Operating your stove

### Instructions for use with wood



- A** Rotate the air control wheel fully to the right until the wheel stops, you should now have the four grooves central to the appliance door.
- 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 to but do not engage the locking mechanism fully.
  - When the fire is burning fiercely, after a couple of minutes add more logs and close the door.
- B** When the fire has become established, rotate the air control to the left until the three grooves are central to the door.



- C** The burning rate can be altered by rotating the air control wheel between the three groove and the one groove setting - rotate the air control towards the left to decrease the burn rate and heat output

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

### Instructions for use with smokeless fuel

- A** Rotate the air control wheel fully to the right until the wheel stops, you should now have the four grooves central to the appliance door.
- 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 to but do not engage the locking mechanism fully
  - When the fire is burning fiercely, after a couple of minutes add more smokeless fuel and close the door.
- B** When the fire has become established, rotate the air control to the left until the three grooves are central to the door.
- C** The burning rate can be altered by rotating the air control wheel between the four groove and the two groove setting - rotate the air towards the left to decrease the burn rate and heat output.



- Care should be taken to ensure that the firebox is not overfilled with smokeless fuel - it should be no higher than the log guard.



## Operating your stove

### Re-fueling

When refueling the stove **always refuel onto a bed of hot embers**, fully open the air control wheel to the right, indicated by the four grooves 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. Refueling 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.

### Ashpan removal

The Trinity range is equipped with a slide out ash draw

To remove the ash pan, firstly pull out the ash pan draw. **Be careful this part of the appliance will be hot!**

**We recommended that you use the glove provided.**

Using the ashpan cover and glove, lock the cover into place and lift the complete ashpan out and dispose of safely



### 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.

## Parts Information

**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.

The ash draw runners can be periodically lubricated with a high temperature lubricant such as graphite powder, to ensure their smooth running operation.

**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)

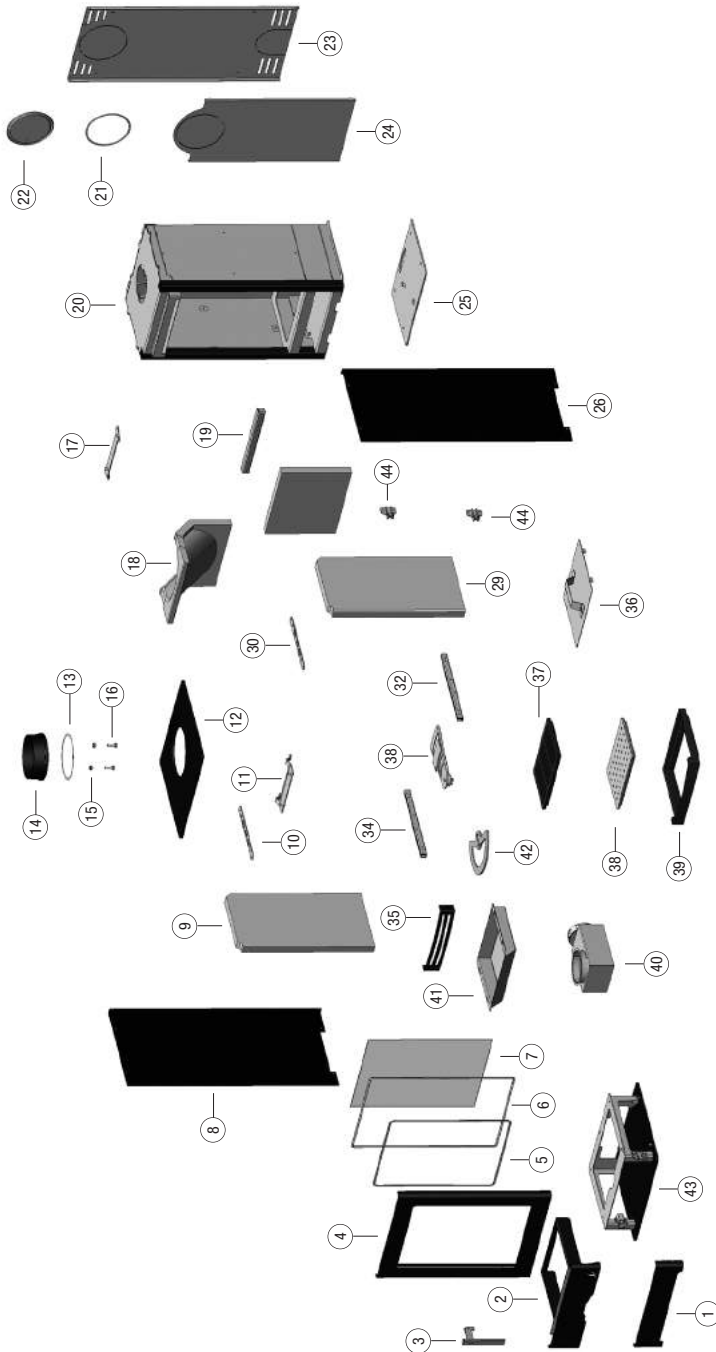
**Use only replacement parts recommended by the manufacturer.**

## Troubleshooting

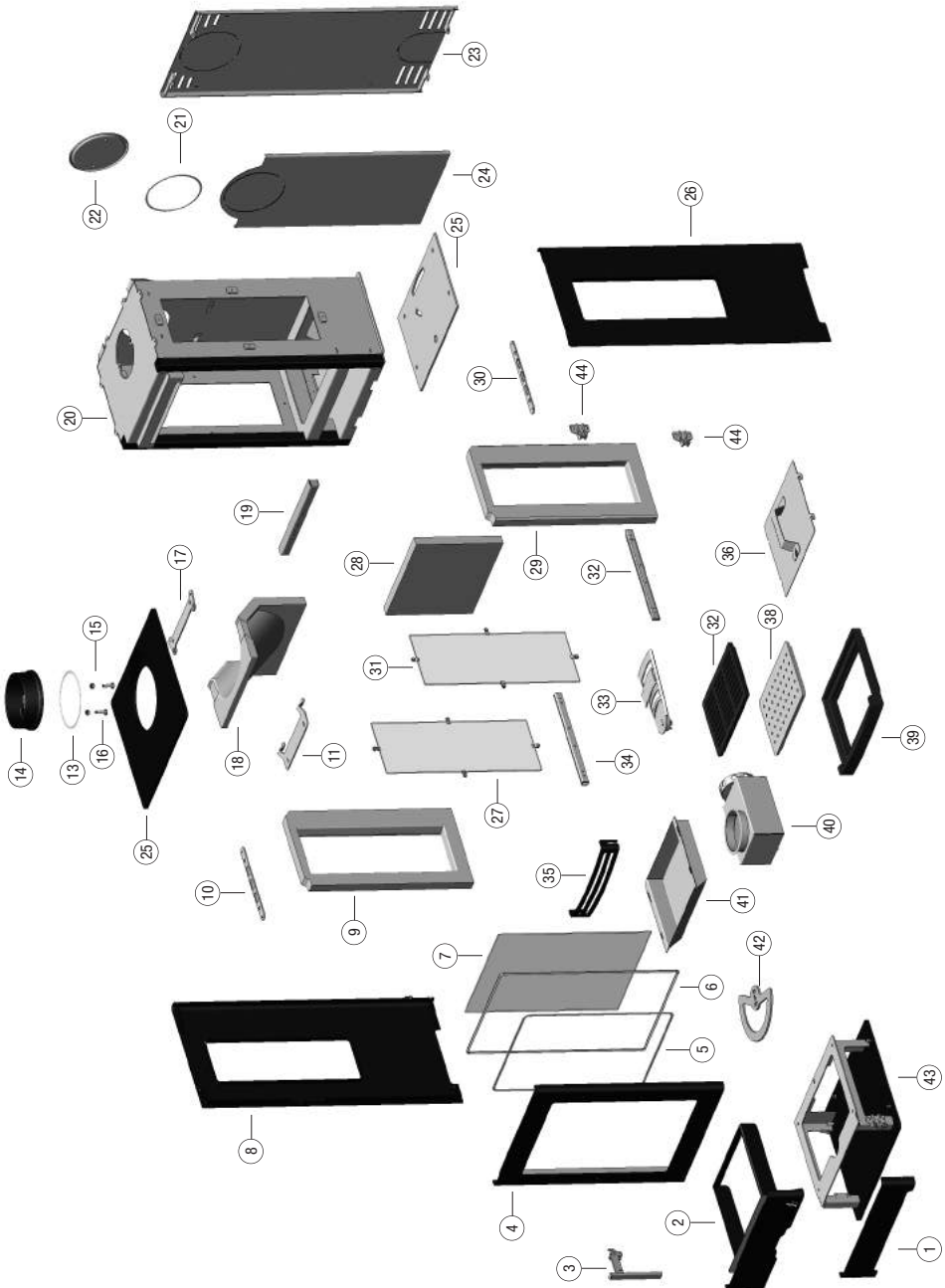
Problem	Probable Cause	Action Recommend
<b>Fire difficult to start / goes out</b>	• Green wood / wet wood	Use hardwood logs with a maximum moisture content of 20%
	• Logs are too large	Use kindling and small logs to start the fire and once established use split logs
	• Not enough primary air	Open air 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)

Diagram No.	Description	Part No.		Quantity Required
		Trinity 1	Trinity 3	
1	Access Door	4511-323	4511-323	1
2	Ashpan Draw Assembly	4911-218	4911-218	1
3	Door Handle	5724-229	5724-229	1
4	Door	4414-1751	4414-1751	1
5	Glass Gasket	1982-004	1982-004	2M
6	Door Gasket	1982-011	1982-011	2M
7	Door Glass	5540-377	5540-377	1
8	Left Outer Panel	6111-2690A	6111-2690	1
9	Left Vermiculite Brick	4144-0002	4104-0002	1
10	Panel Retaining Bracket	6111-2696	6111-2696	1
11	Baffle Bracket	4104-1011	4104-1011	1
12	Top Plate	3311-1031	3311-1031	1
13	Flue Collar Gasket	1982-004	1982-004	1M
14	Flue Collar	3490-002A	3490-002A	1
15	Flue Collar Nut	M8 Tensile Steel Nut	M8 Tensile Steel Nut	2
16	Flue Collar Bolt	M8 30mm Tensile steel	M8 30mm Tensile steel	2
17	Rear Outer Panel Retaining Bracket	6111-2679	6111-2679	1
18	Vermiculite Baffle	4104-0003	4104-0003	1
19	Tertiary Air Chamber	3812-893	3812-893	1
20	Combustion Chamber	3511-276A	3511-276	1
21	Blanking Plate Gasket	1982-004	1982-004	1M
22	Blanking Plate	4111-001	4111-001	1
23	Rear Outer Panel	6111-2688	6111-2688	1
24	Rear Heat Shield	4811-365	4811-365	1
25	Bottom Plate	6080-1042	6080-1042	1
26	Right Outer Panel	6111-2691A	6111-2691	1
27	Left Side Glass	N/A	4104-5002	1
28	Rear Vermiculite Panel	4104-0004	4104-0004	1
29	Right Vermiculite Panel	4144-0001	4144-0001	1
30	Right Outer Panel Retaining Bracket	6111-2696	6111-2696	1
31	Right Side Glass	N/A	4104-5002	1
32	Ashpan Runner	4102-43130	4102-43130	1
33	Air Control Arm	5311-774	5311-774	1
34	Ashpan Runner	4102-43130	4102-43130	1
35	Fuel Retainer	4104-1015	4104-1020	1
36	Ashpan Lid	4103-8000	4103-8000	1
37	Multifuel Grate	4107-0002	4107-0002	1
38	Wood Grate (Optional Extra)	4107-0003	4107-0003	1
39	Grate Retainer	4107-0001	4107-0001	1
40	Air Intake Channel	3811-913	3811-913	1
41	Ashpan	4104-1002	4104-1002	1
42	Air Control Wheel	4104-1009	4104-1009	1
43	Bottom Stand	4311-1200	4311-1200	1
44	Door Hinges	5111-559	5111-559	3

# Parts Information Trinity 1



# Parts Information Trinity 3



## 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

## 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 (HETAS) or inspected by local authority Building Control.

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

Subject to the appliance being serviced annually and evidence of this being

provided with the claim.

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
- Ashpan runners
- Internal vermiculite panels
- Glass
- Baffle plates
- Paint

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)