

ACR   
STOVES

# Trinity-Eco

Wood Burning Stove • Model Trinity 1/3 - Eco

To be retained by the user for future reference

Thank you for purchasing an ACR Heat Products stove



WOOD  
BURNER

DEFRA  
EXEMPT

AIRWASH  
SYSTEM

10  
YEAR  
WARRANTY

Serial Number:

Document Trinity-Eco 0101 • Version 1 Date 05/10/20

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# 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.

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.

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.
- 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.

# Technical Data & Declaration of Performance



ACR HEAT PRODUCTS Ltd.

Unit 1 Weston Works, Weston Lane, Tyseley, Birmingham, B11 3RP +44 121 7068266

Models: Trinity 1 Eco / Trinity 3 Eco 5kW

Intended Use: Intermittent domestic heating appliance

Independently Performance & Safety tested by: Kiwa Gastec, Notified Body No: 0558

| Model   | Trinity1-Eco                    | Trinity3-Eco                    |
|---|---------------------------------|---------------------------------|
| Performance Characteristics using                               | Wood Fuel<br>≤20% Moisture      | Wood Fuel<br>≤20% Moisture      |
| Appliance weight (packed/unpacked): (Kg)                        | 105/90                          | 105/90                          |
| Additional Characteristics Test Standard                        | DIN+                            | DIN+                            |
| Declared Nominal Output: (kW)                                   | 5                               | 5                               |
| Approximate Output: (kW)  | 2.5 – 7.0                       | 2.5 – 7.0                       |
| Harmonised EN European Standard (hEN)                           | BS EN13240: 2001<br>Amd 2: 2004 | BS EN13240: 2001<br>Amd 2: 2004 |
| Test Report Issue Date  | 05/10/2020                      | 05/10/2020                      |
| Total Efficiency (net): (%)                                     | 79.4                            | 79.4                            |
| Gross Efficiency: (%)   | 72.3                            | 72.3                            |
| Tested Nominal Output: (kW)                                     | 5.0                             | 5.0                             |
| Tested wood re-fuelling interval: (min)                         | 50                              | 50                              |
| Flue gas mass flow: (g/s)                                       | 4.5                             | 4.5                             |
| Mean CO emission (@13%O <sub>2</sub> ): (%)                     | 0.10                            | 0.10                            |
| Mean NOX emission (@13%O <sub>2</sub> ): (Nmg/m <sup>3</sup> )  | 91                              | 91                              |
| Mean CnHm emission (@13%O <sub>2</sub> ): (Nmg/m <sup>3</sup> ) | 85                              | 85                              |
| DIN + particulates (@13%O <sub>2</sub> ): (Nmg/m <sup>3</sup> ) | 19                              | 19                              |
| Mean Flue Temperature: (°C)                                     | 268                             | 268                             |
| Approximate max log length: (mm)                                | 400                             | 400                             |
| <b>Max Temperatures</b>   |                                 |                                 |
| Directly under Stove: (°C)                                      | ≤100                            | ≤100                            |

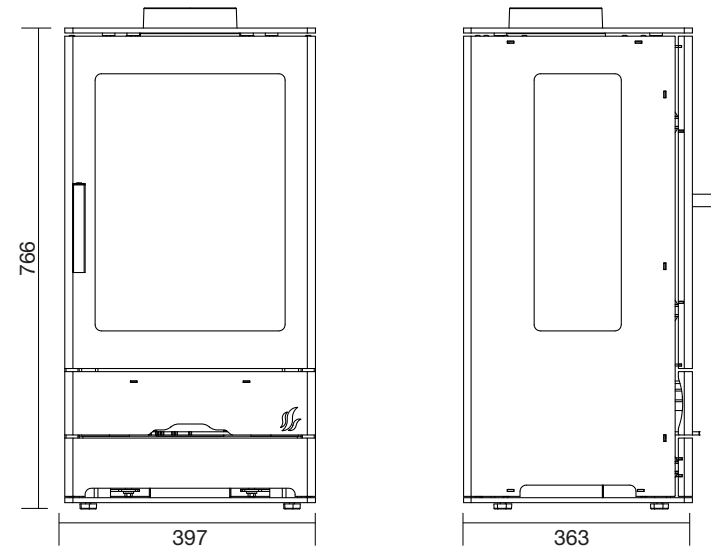
| Safety Distances From Combustibles         | Trinity1-Eco<br>Side Wall(mm) | Trinity3-Eco<br>Side Wall(mm) | Trinity1-Eco<br>Rear Wall(mm) | Trinity3-Eco<br>Rear Wall(mm) |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Insulated flue system with heat shield     | 350                           | 800                           | 50(from Shield)               | 50(from Shield)               |
| Single walled flue system with heat shield | 350                           | 800                           | 250(from Shield)              | 250(from Shield)              |
| Insulated flue system no heat shield       | 350                           | 800                           | 100                           | 100                           |
| Single walled flue system no heat shield   | 350                           | 800                           | 350                           | 350                           |

Signed for and on behalf of the manufacturer by:

Jason Searle, Technical and Development Manager ACR Heat Products Ltd. 12/06/20



## Trinity 1/3-Eco Range Specifications



|   |                     |
|---|---------------------|
| Fuel                                    | Wood logs           |
| Nominal Output                          | 5 kw                |
| Net Efficiency                          | 79.4%               |
| Max Hearth Temp                         | Less than 100°C     |
| Weight                                  | 90 kg               |
| Max Log Size                            | 40 cm               |
| Flue Diameter                           | 125 mm (inside dia) |
| Flue Location                           | Top or Rear         |
| Floor to centre of rear flue outlet     | 635 mm              |
| Rear of stove to centre top flue outlet | 150 mm              |
| Construction                            | Steel               |

\*\*\* 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 additional air would be a benefit.

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

**DO NOT INSTALL IN A ROOM CONTAINING AN EXTRACTOR FAN UNLESS THE APPLIANCE HAS BEEN CORRECTLY TESTED IN ACCORDANCE WITH BUILDING REGS DOC J**

## 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 "unauthorized 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 Northern Ireland appliances are exempted by publication on a list by

the Department of Agriculture, Environment and Rural Affairs under Section 16 of the Environmental Better regulation Act (Northern Ireland) 2016.

In Wales appliances are exempted by regulations made by Welsh Ministers.

• **The Trinity-Eco range (Trinity-Eco 1/3) has been recommended as suitable for use in smoke control areas when burning wood. As such, when the secondary/tertiary slider is in the closed position it remains open by 24mm and is prevented from closing by a screw.**



Further information on the requirements of the Clean Air Act can be found here: [www.gov.uk/smoke-control-area-rules](http://www.gov.uk/smoke-control-area-rules)

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 alarm manufacturers instructions and should not be considered a substitute for the appliance being installed incorrectly or regular maintenance of the appliance or flue system by a competent person.

## Installation Instructions

### Important information

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 below instructions should work in conjunction with building regulations document J, if there is a variation the most stringent requirement should be adhered to. 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.

### Location of the unit

The appliance must stand on a level, non-combustible hearth with a minimum thickness of 12mm.

The Trinity-Eco range of stoves has been tested and approved for use with a superficial hearth, therefore the hearth temperatures are below 100°C and the use of a constructional hearth is not necessary.

The superficial hearth must extend fully beneath the appliance and extend 150mm to either side and 225mm in front of the appliance.

The hearth should also incorporate a

### 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.

### Fire Cement

Some types of fire cement are caustic and should not be allowed to come into contact with the skin. In case of contact wash immediately with plenty of water.

### Asbestos

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

clearly defined edge (change of level/clear demarcation line) to discourage the placement of combustible materials within the hearth area.

The hearth and building construction must be of a suitable material to comply with current building and local authority regulations.

The fabrication of the construction must have a suitable load bearing capacity for the appliance and hearth.

If in any doubt, please consult a competent person for advice before proceeding.



## Ventilation Requirements

Building Regulations document J states that purpose provided permanent ventilation is not required in England and Wales unless the appliance nominal rated output is greater than 5kW.

The Trinity-Eco range of stoves have a nominal output of 5Kw and therefore do not require additional ventilation, unless:

- The air permeability of the building is less than 5.0m<sup>3</sup>/ (h.m<sup>2</sup>), then 550mm of permanent ventilation/Kw of the nominal output is required as per Building Regulations document J.
- If the appliance is installed into or adjacent to, a room containing an extractor fan then additional testing and ventilation is required in line with Approved Document (A.D.) 1.21

If difficulty in starting the fire or any excessive fuming is experienced, ventilation may be used in place as required to eliminate these flue problems.

If a flue draught stabiliser is fitted then extra ventilation is required. See Document J of the Building Regulations for detailed guidance especially in new build properties which often require purpose provided ventilation be added.

### Outside direct combustible air connection

The Trinity-Eco range of stoves are supplied with the ability of using a dedicated 100mm diameter direct connection duct through a suitable route to the outside air. It can be connected to the underside of the stove and should be fitted at the time of stove installation.

Only the approved kit for ACR stoves should be used (DA100)

This is designed to supply all the necessary air(Primary, Secondary and Tertiary) for safe combustion and

operation of the stove.

Providing there is no depressurisation of the property by mechanical or other types of ventilation, the flue, chimney and ventilation duct are working correctly, and properly maintained clear of obstructions or leaks etc.

The kit supplies all the primary, secondary and tertiary air to the stove and may be used where mechanical ventilation and heat recovery (MVHR) units are used.

Some additional instructions for installation are provided with the dedicated kit supplied.

**NOTE: in order to register the installation with HETAS/Building Control as of 2016 certain extra testing and certification is required if using an outside air connection.**

### Flue Draft

A flue draught at the flue collar of the appliance with a minimum reading of 2.2mm to a maximum 3.5mm water gauge (22 to 35 Pascals) is required for satisfactory appliance performance. This relates to 12-25 Pascals at the tapping on EN13240/13229 test rigs which is often quoted.

The Trinity-Eco range requires a minimum of 12Pa within 3 minutes of ignition (with the stove door closed) for correct combustion.

The flue draught should be checked under fire at start up and high output, if the values fall outside of the stated parameters then remedial works should be carried out.

If it greatly exceeds the recommended maximum, a draught stabiliser must be fitted in line with building control document J so that the rate of burning can be controlled to prevent overfiring.

## Flue Requirements

The flue must comply with current Building Regulations Document J.

The Trinity-Eco range of stoves have an internally removable baffle, and therefore are able to be swept through the appliance.

The construction of masonry, flue block, insulated flue systems and flexible flue liners must comply with the manufacturers instructions at all times.

### The flue must be:

- ✓ A 150mm flue diameter is recommended, 125mm may be used if the appliance still has its smoke exempt stop in place
- ✓ In sound condition and provide sufficient draft (minimum 12Pa within 3 minutes of ignition) and a minimum of 22Pa at high output level

- ✓ 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 3.5m in height from flue collar to termination, with no more than 4 x 45° bends in any one flue system and have a maximum horizontal length of no more than 20% of the overall vertical height
- ✓ The termination should be sited as to avoid a negative pressure zone

### The flue must not be:

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

## Rear flue installations

The Trinity-Eco range of stoves is capable of a rear flue option.

If this is a preferred flueing option, then careful consideration should be given to minimising the horizontal length of flue from the appliance collar to where the flue-way transitions to vertical.

Building regulation document J states that a maximum horizontal length of 150mm is permissible, however up to 450mm is acceptable providing that a flue draft calculation is completed and approved, by both the manufacture of the flue components and the appliance manufacturer in writing.

This documentation must accompany a

successful flue draft test as stated above and inline with Building regulations document J.



## Clearances to non-combustible materials

The Trinity-Eco range of stoves can be recessed into a suitably sized, non-combustible fireplace or stood close to non-combustible materials.

However a permanent free air gap of at least 50mm for the Trinity-Eco 1 and 100mm for the Trinity-Eco 3 is recommended to be left at each side, 150mm above and at least 50mm at the back of the stove to obtain reasonable heat output and for access to the stove for removal, maintenance and servicing. A clearance of 150mm to each side will give a better heat output and facilitate any remedial works to be undertaken.

For a corner installation the same guidelines apply but consideration should be taken to allow the door to fully open.

To calculate the distance from the glass to any combustible materials please see the below combustible material chart.

In accordance with Building Regulations document J all non-combustible walls closer than 400mm to the stove should be at least 75mm thick. Please refer to Building Regulations document J for all other stipulations regarding building structure.

## Clearances to combustible materials

### Safety Distances From Combustibles

|  | Trinity1-Eco Side Wall(mm) | Trinity3-Eco Side Wall(mm) | Trinity1-Eco Rear Wall(mm) | Trinity3-Eco Rear Wall(mm) |
|--|----------------------------|----------------------------|----------------------------|----------------------------|
| Insulated flue system with heat shield     | 350                        | 800                        | 50(from Shield)            | 50(from Shield)            |
| Single walled flue system with heat shield | 350                        | 800                        | 250(from Shield)           | 250(from Shield)           |
| Insulated flue system no heat shield       | 350                        | 800                        | 100                        | 100                        |
| Single walled flue system no heat shield   | 350                        | 800                        | 350                        | 350                        |

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, this can be measured using a "line of sight" This distance may be reduced by using an appropriate heat shield in line with Building regulations document J and maintaining a 12mm air gap between the shield and the combustible material.

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

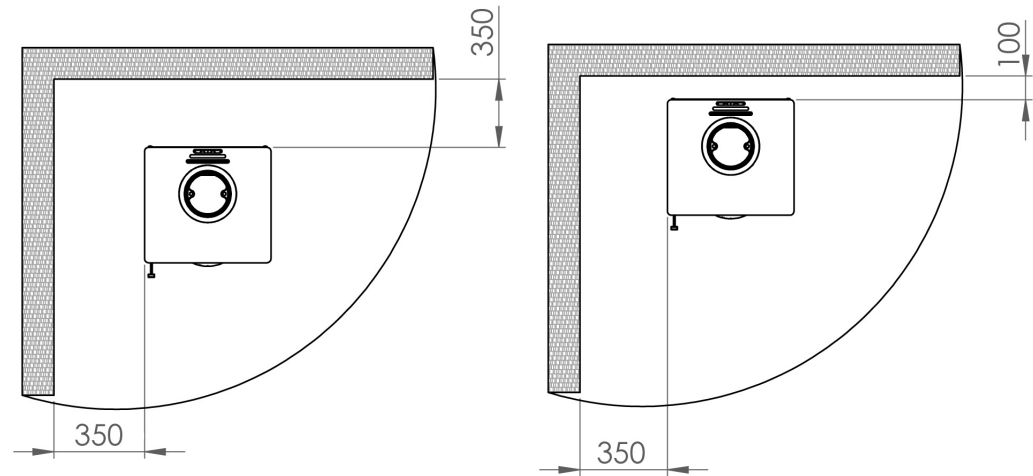
Adequate space should be provided for servicing the appliance.

Please be mindful of heat transfer to electronic devices and artwork 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.

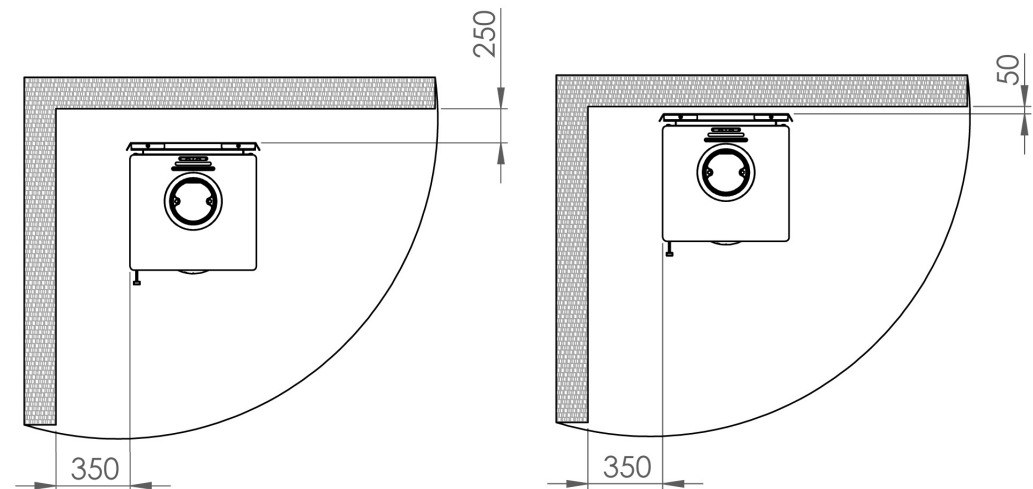
## Trinity 1-Eco clearances to combustible materials

All dimensions shown are in mm.



Trinity 1-Eco single skin flue, no heat shield.

Trinity 1-Eco insulated flue, no heat shield.

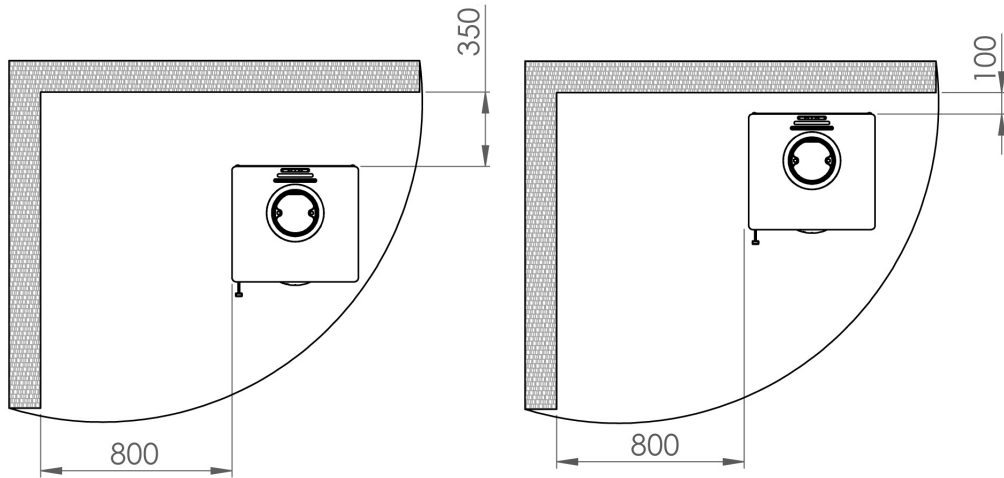


Trinity 1-Eco single skin flue, with optional heat shield.

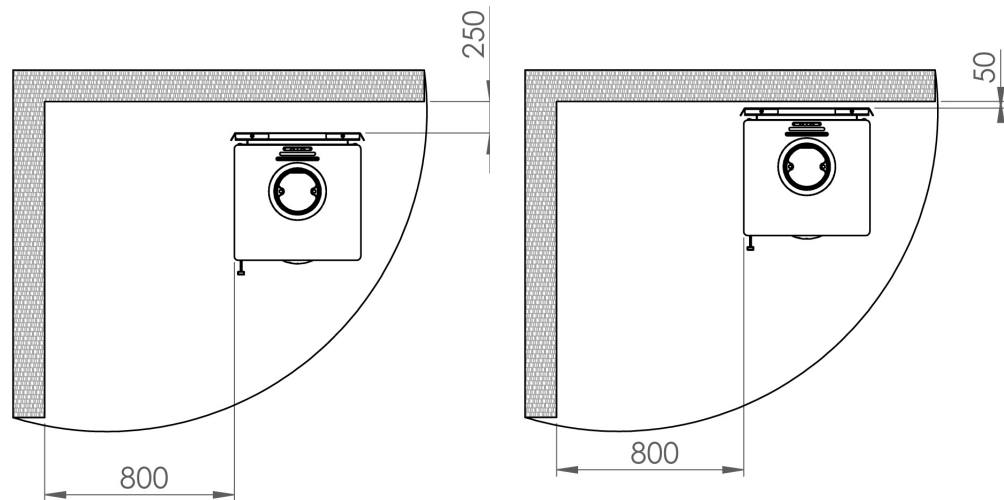
Trinity 1-Eco insulated flue, with optional heat shield.

## Trinity 3-Eco clearances to combustible materials

All dimensions shown are in mm.



Trinity 3-Eco single skin flue, no heat shield. Trinity 3-Eco insulated flue, no heat shield.



Trinity 3-Eco single skin flue, with optional heat shield.

Trinity 3-Eco insulated flue, with optional heat shield.

## Optional Rear Heat shield for Trinity-Eco range

The Trinity-Eco range of stoves has the option of being fitted with a rear heat shield to greatly reduce the distance to combustible materials behind the stove.

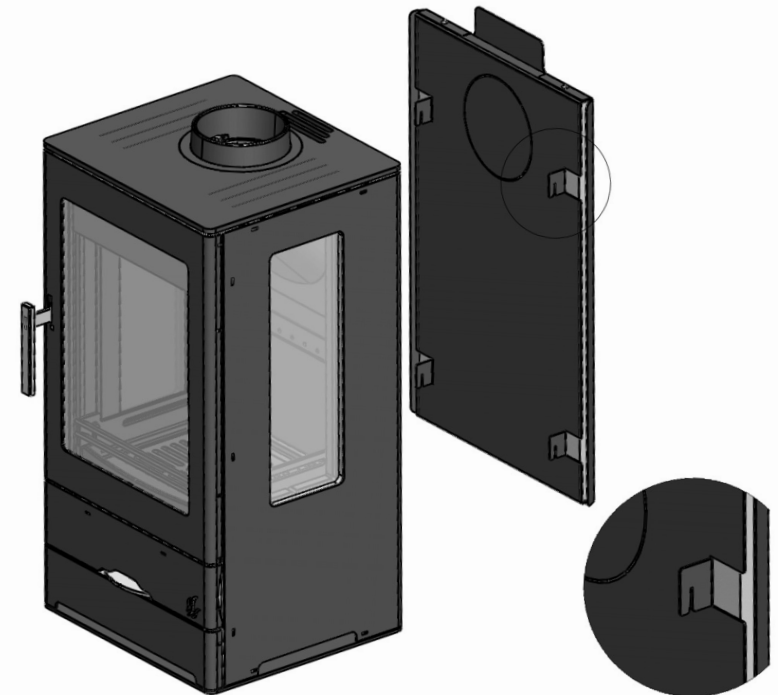
If using an insulated flue system to achieve minimum clearances, an integrated, insulated appliance connector, such as the Midtherm HT-S Starter length must be used. When installing such an adaptor please ensure that a minimum of 10mm gap is left between the top casting and the adaptor for expansion and maintenance purposes.

### Installing the rear heat shield

Please ensure that the heat shield is fitted prior to the appliance being placed in its final installation position.

The heat shield is installed onto the existing rear panel of the stove.

- Align the 4 x locating hooks to the 4 cut outs located top left/right and mid left/right of the rear panel.
- Fully locate the hooks onto the rear panel and make sure that heat shield is secure.
- The stove is now ready for its final placement.



Heat shield locating hooks

## Installation of the unit

The appliance is supplied pre-assembled with the flue spigot in the top exit position and the Smoke Exempt stop in place.

**The Smoke Exempt stop must not be removed unless the appliance is installed in a non-smoke exempt area and this action should only be undertaken by a competent person.**

To remove the smoke exempt stop, remove the M8 smoke exempt bolt from the underside of the combustion chamber, this will allow the air control wheel to fully close.

### Pre-installation assembly

- 1 Carefully remove the wooden packing crate and plastic weather shield from the stove, open the appliance and check the contents.
- 2 Make sure that none of the internal components have moved in transit.
- 3 If you intend to use the appliance as a rear flue stove please follow the below instructions.
- 4 Remove the vermiculite baffle by lifting and easing the rear edge forward through the combustion chamber.
- 5 Remove the upper steel baffle.
- 6 Remove the partially cut rear blanking plate from the outer rear panel and discard. Remove the 2 x 10mm bolts located on the inner rear blanking plate and remove.
- 7 Remove the free floating top plate and remove the 2 x 10mm bolts securing the flue collar in place.
- 8 Reattach the flue collar to the rear exit aperture and attach the inner blanking plate to the top flue aperture.
- 9 Replace the free floating top plate and insert the cosmetic flat steel plate into the recess on the top plate.
- 10 The flue system can now be installed from the rear flue collar inline with Building Regulations document J.

### Stove installation

Prior to installation please confirm that the correct model ACR stove has been supplied.

## Packing list

Your Trinity-Eco stove will contain:

- 1 x Technical manual
- 1 x Pair of ACR heat resistant gloves
- 1 x Ashpan lid
- 1 x Energy label
- 1 x Cosmetic blanking plate

If in the unusual instance that any of these component are missing please contact either your supplier dealer or ACR direct to inform as failure to do this may result in these items incurring a charge.

### Installation requirements

The installation must comply with Building Regulations document J, European Standards and Local authority bylaws.

### Commissioning and handover

After the installation is complete test as per Building Regulations document J and complete the commissioning document located in this manual.

Failure to complete the commissioning document contained within this manual may invalidate the warranty

Advise the customer to "burn in" the stove and not to fire the appliance at full output for at 3 - 4 days.

Explain that the stove can provide a much higher or lower output than the rated heat outputs depending upon fuel loads used and how they are operated.

Warn the customer that using excessive air (having the air controls fully open for too long) can over-fire and irreparably damage the stove.

Damage caused by over firing is NOT covered by any warranty.

On completion of the installation and commissioning, check all parts of the appliance are correctly fitted and ensure that the operating instructions and operating tools (including gloves and any multi-functional tool if supplied) for the stove are left with the customer.

You must be sure to advise the customer on the correct use of the appliance with the fuels likely to be used on the stove and warn them to use only the recommended fuels for the stove.

## Operating Your Stove

**Always ensure that the ash drawer is fully closed before operation of the appliance**

### 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.

### 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.
- ✗ **Smokeless fuels**

- ✗ **Housecoal or Bituminous coal:** these fuels will soot up the airways of the stove and possibly overheat the appliance.
- ✗ **Petroleum Based Coke:** over 20% content - 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.**

### Important note

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 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.

### Using your appliance for the first time

- To allow the appliance to bed in, and fixing glues and paint to fully cure, only fire the appliance using kindling and just get hot for at least three fires.
- Before lighting the next small fire please allow the appliance to return back to room temperature.
- During these first small fires you may experience a haze and unpleasant smell as the paint cures, do not touch the paint and keep the room well ventilated.

**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.**



# User Instructions

## Please read carefully to get the best from your ACR stove

- 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
- Place two small wood logs onto the grate leaving a small 20mm gap between the logs
- Place 10-12 pieces of kindling on top of the logs in a cross hatch method
- Place a non-paraffin based firelighter on the top of the kindling
- Light the firelighter and push the door to but do not engage the handle lock fully
- Wait for the fuel load to fully ignite (approximately 3 minutes) before fully closing the door and engaging the handle
- Once the fuel load has fully establish (approximately 5 minutes) the air control wheel can be regulated down to the desired comfort setting
- The burning rate can be altered by moving the air control wheel to the left to regulate the amount of air entering the combustion chamber and therefore the heat output of the stove:
  - **4 grooves** - max air - max output (start-up/refuelling only)
  - **3 grooves** - full secondary/tertiary air - high output
  - **2 grooves** - medium secondary/tertiary air - medium output
  - **1 groove** - low secondary/tertiary air - low output
- Note - the stove is pre-fitted with a smoke exempt stop which will prevent the air control wheel from fully closing therefore the wheel will stop between 1 - 2 grooves
- Care should be taken to ensure that the logs are not placed where there is a danger that they may fall onto the glass or out of the chamber when the door is opened.
- Never load logs into the appliance that are oversized or too long for the combustion chamber, they could press against the glass and cause damage when alight. The maximum log length is 400mm
- Never operate the stove with the sliding ash drawer open, always fully close the drawer before firing and make sure that it clips into place. If the ash drawer is open then this WILL cause the stove to overfire and this WILL damage the appliance
- Never empty the ashes when the stove is in operation, always wait until the stove had burned out and cold.
- **NEVER leave the ashes inside the building, this can cause dangerous levels of harmful Carbon Monoxide to form in your home**
- A helpful video on lighting your ACR Trinity-Eco stove can be found on our website "A guide to lighting your ACR Stove": <https://acrheatproducts.com/video>
- For more helpful information please visit the frequently asked questions section on our website: <https://acrheatproducts.com/faqs>

## Re-fueling

When re-fuelling the stove **always refuel onto a bed of hot embers**, fully open the air control wheel until the new fuel is well alight, before adjusting the air control 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 and may cause products of combustion to spill into the room.

## Stove slumbering

The Trinity-Eco range of stoves has been designed and tested as an intermittent wood burning appliance.

Under no circumstances should this appliance be operated as a slumber style of stove or for continuous overnight burning.

This may cause damage to the appliance and cause excess smoke and pollutants to enter the atmosphere.

## Glass

Never operate the appliance if the glass panel is broken or cracked. This can cause the appliance to overfire, which may damage the appliance and flue system and may cause a danger to persons and property. Only use once the glass is replaced and the sealing gaskets checked for integrity. Only replace with a manufacturers approved glass.

## Operation with door left open

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

## Dampers left open

Operation with the air controls or appliance dampers open can cause excess heat within 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 out. 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 refuelling.

It should not be operated as an open fire.

Typical refuelling intervals for wood is 1 hour.

## Maintenance

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

### Daily Maintenance

- The grate should be cleaned regularly and the ash pan 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 glass can be cleaned using a soft damp cloth or a stove glass cleaner (ACR Glassbright cleaner is available from your local ACR stockist).
- Do not clean the glass of your stove with abrasive cleaners or scratch pads as this may damage the surface of the glass causing it to weaken.
- Never allow the door gasket to become wet when cleaning the glass, this will deteriorate the gasket prematurely.

### Periodic Maintenance

- 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 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.
- Is advisable as part on the periodic maintenance of your appliance to lubricate the moving parts of your stove i.e. handle, air control, door hinges, ash pan runners, with a suitable high temperature dry lubricant (i.e. micro-fine graphite powder) this will ensure the correct operation of your appliance.
- It may be necessary to adjust to tension of the door closing mechanism during the lifetime of the appliance as the sealing rope will compress over time, this is achieved by the adjusting the bracket on the body of the stove to the required tension.

### Summer

- When the stove is not going to be used for long periods e.g. the summer months, we recommend that you keep the air slides fully open and the door slightly ajar if possible. This will help to prevent condensation which may in turn lead to internal corrosion of component parts.

## Refractory internal panels

During the normal operation of your ACR stove, the refractory panels will experience heating and cooling. Sometimes minor hairline cracks can occur. All ACR stoves have a steel or cast iron structure behind the panels and therefore even if the cracks get larger, the stove will still operate safely.

It is advisable to replace the internal panels when:

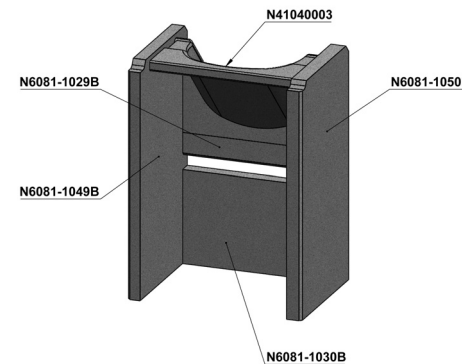
- The cracks are greater than 3mm.
- The surface of the refractory panel has eroded more than 25% of it's original thickness, or
- When the panel starts to crumble and fall apart in chunks.

To prevent the issue from happening and prolong the life of your internal panels, the homeowner should "burn in" the refractory panels in the new appliance by building small kindling fires to begin with and then gradually working up to a larger fire. When adding more fuel to the fire, caution should be used to prevent excessive mechanical damage to the panels.

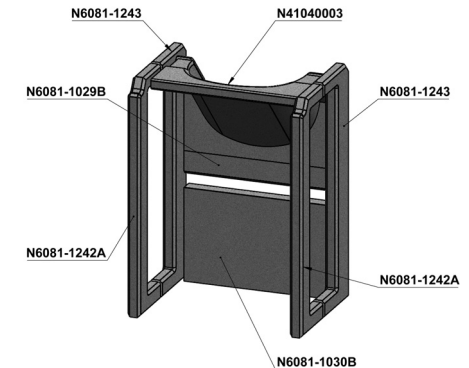
ACR Heat Products bears no responsibility for the loss or damage of any kind to the internal panels during or after installation or during the normal operation of the appliance.

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

*Trinity 1-Eco glass refractory panels parts diagram:*



*Trinity 3-Eco glass refractory panels parts diagram:*



## Commissioning Check List

Please tick boxes when each procedure is completed

|  |       |
|--|-------|
| Ensure that the serial number has been recorded on the front of the manual for future use  |       |
| Visual inspection of appliance and flue ensure that all internal components are fitted correctly (these may have shifted in transit)   |       |
| 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) |       |
| Test on flue including satisfactory smoke test: Record flue draught reading  | Pa/Wg |
| Spillage test preformed in accordance with available guidance  |       |
| Check socket joints and seals on the flue and appliance  |       |
| Instruct user on correct fuels and fuel storage  |       |
| Ensure the customer is aware that fumes may be given off during the first firings as the paint cures   |       |
| Instruct user on essential maintenance in particular annual maintenance of appliance and flue  |       |
| Hand over user instructions & demonstrate operation and all controls to the user   |       |
| Ensure that a Notice Plate has been completed and fixed in position  |       |
| Ensure that an approved Carbon Monoxide alarm has been fitted in correct location as per Building Regs Doc J   |       |

Installation Company:

Installation Engineers Name:

## Annual Service Record

**1st Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**2nd Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**3rd Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**4th Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**5th Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**6th Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**7th Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**8th Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**9th Annual Service**

Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

**10th Annual Service**

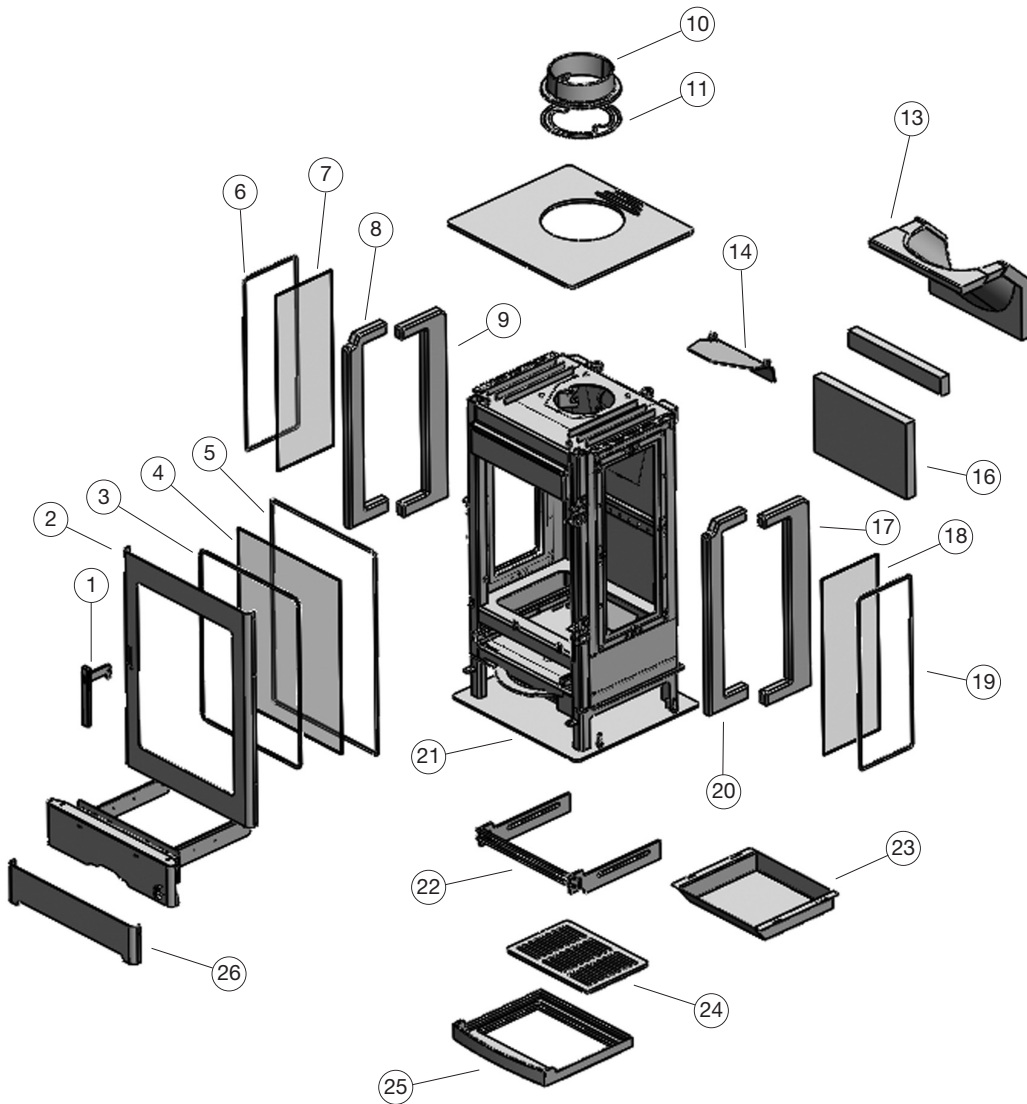
Company Name:

Engineer Name:

Date Completed:

Safety Tests:  
**Passed:**  **Failed:**

# Parts Information



| Diagram No. | Part No.    | Description                                       |
|-------------|-------------|---|
| 1           | T9900-1931A | Handle  |
| 2           | T8300-323B  | Steel door  |
| 3           | ACRGG1-6X2  | Glass gasket 2M                                   |
| 4           | T5540-377   | Front door glass                                  |
| 5           | ACRDG1-10   | Door gasket 2M                                    |
| 6           | ACRGG1-6X2  | Side glass gasket (Trinity3 only)2M               |
| 7           | N41045002   | Side glass (Trinity3 only)                        |
| 8           | N6081-1242A | Front side panel vermiculite (Trinity3 only)      |
| 9           | N6081-1243  | Back side panel vermiculite (Trinity3 only)       |
| 10          | N3490-047A  | Flue collar (125mm internal diameter)             |
| 11          | ACRGG1-6X2  | Flue collar gasket 1M                             |
| 12          | T8700-238C  | Steel top plate                                   |
| 13          | N41040003   | Flue baffle vermiculite                           |
| 14          | N3711-264   | Upper steel baffle                                |
| 15          | N6081-1292B | Rear upper panel vermiculite                      |
| 16          | N6081-1030B | Rear lower panel vermiculite                      |
| 17          | N6081-1243  | Back side panel vermiculite (Trinity3 only)       |
| 18          | N41045002   | Side glass (Trinity3 only)                        |
| 19          | ACRGG1-6X2  | Side glass gasket (Trinity3 only)2M               |
| 20          | N6081-1242A | Front side panel vermiculite (Trinity3 only)      |
| 21          | N8000-244E  | Complete combustion chamber only                  |
| 22          | N9500-007   | Log guard   |
| 23          | N4911-214A  | Ashpan  |
| 24          | N5490-134   | Cast iron grate                                   |
| 25          | N5490-131   | Cast iron grate support                           |
| 26          | T8600-116B  | Bottom front facia                                |
| 27          | T9900-1934E | Ash drawer and subframe                           |
| Not shown   | N4102-43130 | Ashpan runners (2 required per stove)             |
| Not shown   | N9900-1936  | Ashpan cover                                      |
| Not Shown   | N6081-1049B | Left hand side panel vermiculite (Trinity1 only)  |
| Not shown   | N6081-1050B | Right hand side panel vermiculite (Trinity1 only) |
| Not shown   | N6612-213   | Glass clips                                       |
| Not shown   | GS1-M5X6    | Glass screws                                      |



# Troubleshooting

## Your Stove

| Problem   | Reason  | Action  |
|---|---|---|
| Rapid creosote build-up in the chimney or flue system | Wet wood ( $\geq 20\%$ moisture)                  | Use dry seasoned wood ( $\leq 20\%$ moisture content). Operate at a high temperature for short periods each time the appliance is used to avoid large build-ups of tars and creosotes |
| Tar coming from flue joints                           | Appliance operated at continuous low temperature  | Operate at a high temperature for short periods each time the appliance is used to avoid large build ups of tar and creosotes. See user instructions for correct use of air control   |
|   | Using poor quality wood                           | Use dry seasoned wood ( $\leq 20\%$ moisture content)   |
| Strong acrid smell after the appliance is lit         | Appliance operated at continuous low output       | Operate at high output for short periods. See user instructions for correct use of air control  |
|   | Using poor quality wood                           | Use dry seasoned wood ( $\leq 20\%$ moisture content)   |
| Wind noise from the air control                       | High flue draught                                 | Consult your installer for advice on suitable flue system   |
| Dirty firebricks                                      | Wet wood ( $\geq 20\%$ moisture)                  | Use dry seasoned wood ( $\leq 20\%$ moisture content)   |
| Dirty glass   | Wet wood ( $\geq 20\%$ moisture)                  | Use dry seasoned wood ( $\leq 20\%$ moisture content)   |
|   | Using poor quality wood                           | Use dry seasoned wood ( $\leq 20\%$ moisture content)   |
| Glass blackening                                      | Low flue draught                                  | Consult your installer for advice on suitable flue system   |
|   | Incorrect use of air control                      | See user instructions for correct use of air control  |
|   | Appliance operated at continuous low temperatures | Operate at high output for short periods. See user instructions for correct use of air control  |
|   |   |   |

## Weather Effects

| Problem   | Reason  | Action  |
|---|---|---|
| Windy days, intermittent smoke spillage into room when appliance door is opened | Down draught in flue caused by air turbulence caused by nearby buildings or trees | Weather conditions combined with the flue terminal position can have an effect on the appliance performance. Consult your installer |
| Calm days, intermittent smoke spillage into room when appliance door is opened  | Over size flue giving poor flue draught   | Weather conditions combined with the flue terminal position can have an effect on the appliance performance. Consult your installer |
| Damp/rainy days lighting and burning problems                                   | Flue temperature low/rain water inside flue                                       | Use good quality wood to start and maintain the fire, consult your installer to fit a rain cowl                                     |
| Wind noise from the air control   | High flue draught   | Consult your installer for advice on suitable flue system   |

Key to Symbols:  $\leq$  - Less Than  $\geq$  - More Than

## Issues Using Your Stove

| Problem   | Reason   | Action   |
|---|--|--|
| Difficulty starting the fire and keeping it burning well            | Low flue draught                                       | Consult your installer   |
|   | Wet wood ( $\geq 20\%$ moisture)                       | Use dry seasoned wood ( $\leq 20\%$ moisture content)  |
| Poor burning control  | High flue draught                                      | Consult your installer   |
| Short burn times  | Wet wood ( $\geq 20\%$ moisture)                       | Use dry seasoned wood ( $\leq 20\%$ moisture content)  |
|   | Insufficient amount of fuel or excessive softwood fuel |  |
| Excessive heat output (over firing)                                 | Using poor quality wood                                | Use dry seasoned wood ( $\leq 20\%$ moisture content)  |
|   | Air control left fully open                            | Close air control to reduce output   |
| Low heat output   | Wet wood ( $\geq 20\%$ moisture)                       | Use dry seasoned wood ( $\leq 20\%$ moisture content)  |
|   | Low flue draught                                       | Consult your installer for advice on suitable flue system  |
| Excessive fuel consumption  | Wet wood ( $\geq 20\%$ moisture)                       | Use dry seasoned wood ( $\leq 20\%$ moisture content)  |
|   | High flue draught                                      | Consult your installer for advice on suitable flue system  |
| Smoke and small flames  | Excessive use of softwood                              | Do not use building off cut timber or pallet wood  |
|   | Wet wood ( $\geq 20\%$ moisture)                       | Use dry seasoned wood ( $\leq 20\%$ moisture content)  |
| Intermittent smoke spillage into room when appliance door is opened | Low flue draught                                       | Consult your installer for advice on suitable flue system  |
|   | Incorrect additional ventilation air into building     | Consult your installer   |
| Continuous smoke spillage into room when appliance in use           | Blocked flue   | Open all doors and windows to ventilate the room. Allow the fire to burn out. Check flue for blockage. Do not re-use until cause of spillage is identified. Consult your installer for advice. |
| Excessive smoke from chimney  | Wet wood ( $\geq 20\%$ moisture)                       | Use dry seasoned wood ( $\leq 20\%$ moisture content)  |

Key to Symbols:  $\leq$  - Less Than  $\geq$  - More Than

## Smoke Emission Guidance

The flue system has two main functions:

- To safely remove the smoke, fumes and combustion gases from the appliance.
- To provide a sufficient amount of flue draught in the appliance to ensure the correct amount of combustible air is introduced to keep the fire burning.
- The flue draught is caused by rising hot gases when the appliance is lit.
- Tar and creosote are a major cause of chimney fires. If the appliance experiences problems with tar build up, consult a chimney sweep before continued use of the appliance.

**For advice on the correction of persistent flue problems consult a qualified competent engineer before continuing to use the appliance.**

## Warranty Claim Form

In the unlikely event of a warranty claim, please complete the below claim form and return it to your supplying dealer:

Customer Name:

Customer Address:

Postcode:

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:

## 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.

All Stoves are covered by a 10 year warranty which covers all stove body castings / stove body steel panels. It does not include consumable items such as glass,

door seals, vermiculite panels, baffle plates and ashpan runners. This 10 year warranty is only applicable when the stove is purchased from one of our recommended retailers.

If a stove from any of our brands is purchased from a non-recommended retailer then only a 12 month warranty will be applicable as outlined below.

All stoves are covered by a 1 year warranty when purchased through a non-recommended retailer. The warranty covers the stove body castings only and does not include consumable items such as grates, firebricks, vermiculite panels, baffles, log guards, door rope and glass.

Your statutory rights are not affected by this warranty.





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