

ETHIOS

WOODFIRES

OWNERS MANUAL

Freestanding model: Aquos



Operational and Maintenance Instructions

Please retain this manual for future reference

Contents

Information Section	Page
Please Read This Manual	3
About Firewood	3
Different Wood, Different Burning	4
Wet Wood	4
What You Must Not Burn	5
Firewood Size	5
Refuelling	5
Firebox Overloading	6
Setting The Air Control	6
Ash Removal	6
Creosote Formation & Flue Blockage	7
EconAir Flue System	8
MultiBurn Firebox	9
Getting Started	10
How The Fire Should Look	11
Maintenance And Cleaning	12
Troubleshooting Guide	14
Replacement Parts	17
Testing, Compliance & Authorisations	18
Manufacturers Warranty	19
Owners Warranty Details	20
Warnings And Cautions	20
Contact	20



Please Read This Manual

Thank you for choosing an Ethos low emission woodfire.

You can now enjoy a very warm and healthy home environment while making a considerable contribution to reducing chimney smoke pollution in your area.

Before you first light your fire, please take a few minutes to read this manual. It contains important warranty details and information about your heater, as well as operating tips and advice on how to get the very best performance from your new Ethos fire and value for money from your firewood. Following these instructions will assure you year after year of trouble free operation.

Please keep this manual in a safe place for future reference.

About Firewood

A piece of wood contains two totally different fuels which burn in quite different ways.

The first parts to burn are the “volatiles”. These are the resins and creosotes etc. which are converted to flammable gases and smoke by the heat of the fire. Volatiles contain almost all of the pollution content of the wood.

The second part of the wood is the ember residue left after the volatiles have been burnt. This is charcoal, and it contains the major part of the heat content of the firewood. Charcoal burns easily and produces little if any pollution emissions.

If your woodfire is operating correctly most of the volatiles will burn properly, however if the fire and the ember bed is not hot enough they will not burn completely and exit the heater via the flue as unpleasant chimney smoke pollution. Take care to operate your fire so that it does not smoke and you will actually gain more heat from your firewood.

Different Wood, Different Burning

Use only dry, seasoned wood.

Our recommendation when choosing firewood is to select a combination of wood. A soft wood (pine is a great choice) is always good to start the fire and get a good hot base, then mix with a hardwood (eg. bluegum) to continue an efficient burn and achieve maximum heat output.

If you are only burning hardwood, we recommend increasing the amount of kindling used at start-up to assist building the hot base for efficient burning.

Order your firewood from a reputable dealer and specify a moisture content of not more than 20% by weight, or cut and stack your own firewood at least nine to twelve months in advance of use.

To be certain of wood moisture content we recommend splitting a log and using a moisture tester in the centre to confirm the inner moisture content. Moisture testers can be purchased affordably from most woodfire resellers.

Stack wood loosely in a well ventilated covered location so that air can circulate through the pile.

Wet Wood

Do not burn wet wood.

Wet wood uses most of the heat it produces to dry itself before it can burn and this reduces the firebox temperature to below its efficient operating state.

Burning wet wood also causes excessive fouling inside the flue, requiring more frequent cleaning and dramatically reduces the amount of heat into the room.

Ensure your wood is dry for the best possible experience, with the highest heat output, the cleanest burning fire, and a reduced amount of cleaning and maintenance.

What You Must Not Burn

In addition to wet wood, never burn coal, old man pine (old man pine comes from 25+ year old pine trees & contains high levels of resins and tars), plastics, sea driftwood, treated, painted or oily wood, particle board, laminates, household refuse, or any fuel other than ordinary approved firewood.

Burning these materials can emit poisonous, corrosive and hazardous fumes and can cause a build-up of toxic acids, creosote and dioxins which will seriously damage and reduce the life of the fire, congest the flue system and will invalidate your warranty.

Firewood Size

The ideal size of firewood for your Ethos fire is approx 30 cm long and should be roughly 10-12 cm in diameter.

Two or three smaller split logs will burn as long, yet hotter and cleaner, than one large piece.

Avoid using pieces of wood larger than 12cm in diameter. When split in two larger logs will burn much cleaner and produce far more heat.

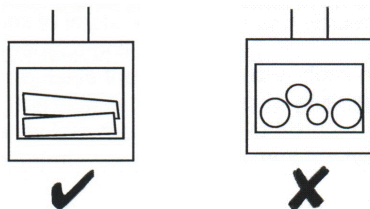
Refuelling

Refuel your fire when the fuel load has burned down to a red hot ember bed of about 7-8cm deep.

Open the air control fully before adding the required amount of fuel to the ember bed. Wait a few minutes for the fire to become well established before setting the control lower.

If the fire has burned down too low, use more kindling to build up the ember bed before loading logs.

Logs should be loaded across the firebox in an east/west orientation.



Firebox Overloading

Do not overfill the firebox.

Six pieces of wood will not burn for six times longer than one piece, loading more wood simply produces more heat and most of this is wasted.

Avoid loading fuel higher than the top of the side firebricks; apart from causing unnecessary smoke and pollution, overfilling your firebox wastes your firewood.

Setting The Air Control

The air control operates similar to a light switch; down is high and up is low.

The air control should be used only to regulate the time it takes for a fuel load to burn, not as a method of controlling the heat output of the fire. If you want less heat just add less fuel.

Always set the air control to high prior to opening the door and wait a few minutes for newly added wood to ignite before setting to low.

Ash Removal

A small amount of ash should be allowed to build up on the base of the fire. It will only be necessary to remove some ash as it begins to exceed 2cm in depth. The amount of ash build up will depend upon the quality and quantity of your fuel.

Do not allow ash to accumulate in the rear combustion chambers, use the ash rake (supplied) to keep these areas clear and avoid blockage.

Care should be taken to ensure that ash is cool before removal. Always use a metal shovel and bucket, never place ashes in a plastic container as they can store heat for some days. Do not place hot ashes in rubbish bags or bins.

Creosote Formation And Flue Blockage

Creosote originates as condensed wood, resins and tar, often initially as a liquid, which dries to solid form and accumulates on the inside of the flue and at the base of the cowl.

Your Ethos Woodfire has been designed to burn cleaner and hotter at high and low settings and when operated correctly will burn these tars and resins producing hardly any creosote residue in the flue system.

If a creosote build up has occurred in the flue, it should be removed to reduce the risk of a chimney fire.

Flue blockage from the formation of soot and creosote can be avoided:

- Light a fast hot fire to warm up your chimney so that any moisture in the smoke does not condense on the surface of the flue. Use plenty of small, dry kindling stacked to the level of the top of the firebricks, so that the fire warms the chimney as quickly as possible.
- Burn only dry wood, it will burn hot and fast without the problem of creosote build up.
- Keep your ash level under control. A nice bed of ash is good to insulate the coals, but too much will hinder the air flow for the firebox. Air flow is critical for providing oxygen for the burning process.
- Avoid burning wood with high resin content, such as old man pine.



Light a fast, hot fire



Burn only dry wood

EconAir Flue System

The Ethos woodfire works unlike any other log burner.

Understanding what makes the fire different and how it works will help you operate it correctly and ensure you achieve the best possible performance from your fire.

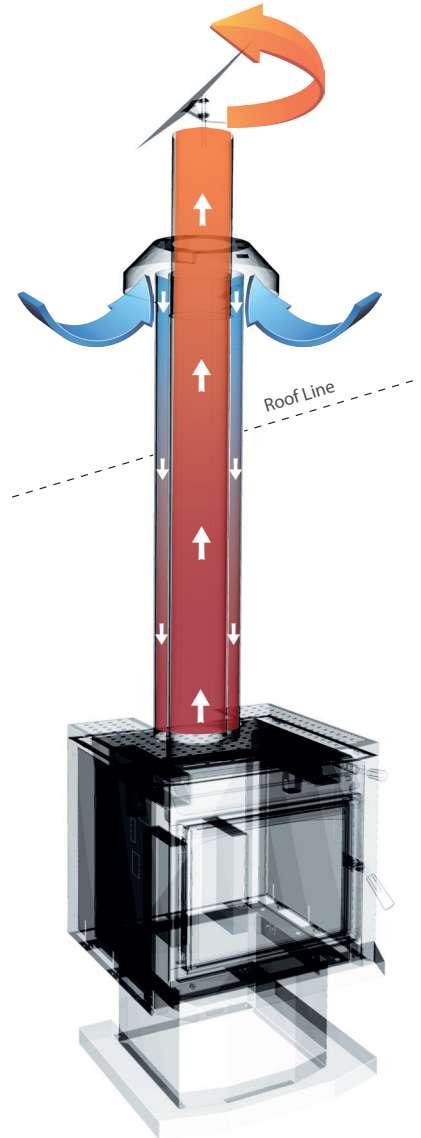
Ethos woodfires feature a patented advanced combustion design with unique design and performance features not found in conventional log burners:

- The unique EconAir flue system sources combustion air from outside the home.
- Super hot exhaust gases rise, drawing combustion air in from outside the dwelling through the outer flue layer.
- As combustion air travels down the outer flue it is preheated to over 300°C by the centre flue exhaust gases.
- The dwelling and the fire air systems are separated and do not interact.

Using combustion air from outside keeps your warm air inside the home and eliminates the uncomfortable draughts often caused by a conventional logburner.

This sealed air system will not interfere with other ventilation devices in your home; extractor fans, range hoods, home ventilation systems etc.

- The door must be closed at all times during the operation of the fire, except when refuelling, to ensure that the EconAir flue system can operate correctly.
- Leaving the door ajar is dangerous, do operate your fire with the door open, including when lighting your fire.



MultiBurn Firebox

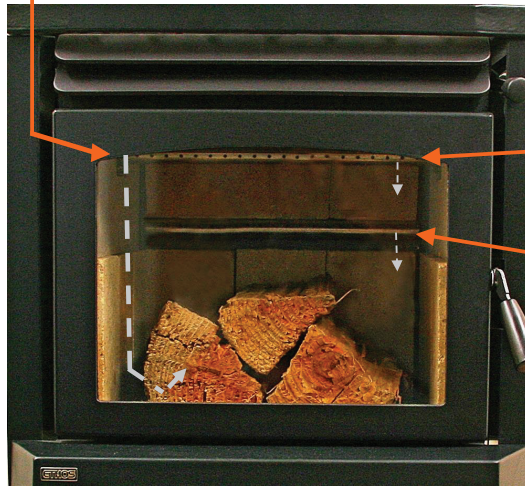
The Ethos Aquos MultiBurn firebox uses three separate paths for the preheated combustion air. This system ensures that all wood and gases are completely burned.

Primary Airflow

The main flow of combustion air flows in to the firebox top front, washing down the inside of the door glass (keeping the glass clean) and is directed back at in at the bottom ember bed.

Top Secondary Air Tube

The flow of preheated combustion air from this tube performs a further mix and burn process as well as deflecting some of the gases downward and back into the primary air flow to complete the full burn cycle.



Rear Secondary Air Tube

The flow of pre-heated combustion air from this tube located across the rear of the firebox mixes with gases and creates a third burn cycle.

Bottom Air Deflector

The removable stainless steel deflector directs the primary air flow coming down the glass door, directing it back into to the ember bed at the bottom of the firebox.

The unique combustion system of superheated air creates the conditions necessary to efficiently burn all fuel and combustible gases. The firewood is burned thoroughly, meaning you will use less firewood, receive more heat, and produce less ash and emissions.

Getting Started

The secret to achieving the best heat and efficiency out of your Ethos Woodfire is to get the firebox up to operating temperature as quickly as possible.

Never ever operate the Ethos Woodfire with the door open – even at start up, this is not necessary as it often is with conventional logburners.

Follow these steps to ensure quick and hassle free lighting.

You will need:

- Reusable firelighter (included with your Ethos fire). Prepare by pouring methylated spirits into the provided dipping container.
- About 12-15 sticks of dry kindling approx 2-3cm diameter.
- Four or more pieces of medium size dry firewood approx 5-7cm diameter.

Steps:

1. Ensure the air control on the right hand side is in its fully open position (down).
2. Dip the reusable firelighter into the methylated spirits dipping container, and then position the firelighter in the centre of the firebox just behind the door.
3. Place two pieces of kindling from front to back alongside the firebricks at the sides.
4. Build the kindling pile alternating crosswise and lengthwise with the firelighter at the front (for lighting access).
5. Place four or more pieces of medium sized (approx 5-7cm diameter) dry wood across the kindling stack to a height about level with the top of the firebricks.
6. Light the firelighter and close the door immediately.
7. Do not open the door for at least 25-30 mins after lighting to give the fire time to catch fully.
8. As the fire builds progressively add larger pieces of fuel to ensure a continued hot fire.

How The Fire Should Look



1. Recommended preparation of kindling and medium sized wood



5. In 15 minutes the fire will be well ablaze



2. Light reusable firelighter and close the door immediately



6. At 20 mins the firebox internal temperature is rising



3. In 5 minutes the kindling has ignited



7. At 25-30 minutes add fuel for the first time to the fire. After adding fuel, close door immediately



4. In 10 minutes the medium sized pieces will be alight



8. In 50-60 minutes the optimum operating temperature is reached

Maintenance & Cleaning

We recommend a safety check of flues, fire bricks, baffle, door seals, door catch and air control before the start of every winter season. With careful operation and common sense, your Ethos Woodfire will provide you with many years of trouble free heating.

Here are some simple maintenance tips that will help you keep your Ethos fire looking and performing at its best.

Door Glass:

Under normal operating conditions, using the correct dry, seasoned wood, your Ethos door glass should remain relatively clear. If the glass does become dirty it can be cleaned simply with a mild kitchen detergent. Keeping the door glass clean will allow a lot more heat to radiate in to your room.

Your door glass will not break with heat generated by the fire, but it can be broken if it is struck hard with a poker or piece of wood. In the event that your door glass is cracked or broken, it must be replaced immediately; **do not operate your Ethos woodfire with broken door glass.** Refer parts list at the rear of this manual for details.

Secondary Air Tubes:

The secondary airtubes are located (1) at the top of the fire box, running left to right directly beneath the baffle, and (2) across the rear of the firebox. The top airtube is secured in place by a retaining clip on the left hand side. The top air tube should be removed and cleaned once a year.

Baffles:

The top baffle sits on the top secondary air tube (1) at the top of the fire box of your Ethos woodfire and reflects heat towards the fire increasing the length of the flame path and creating an area for secondary combustion, all of which are essential for clean burning and high efficiency. Take care not to knock the baffle when refuelling.

If broken do not operate the fire until the top baffle is replaced.

The side baffles are located on top of the side firebricks.

Refer parts list at rear of this manual for details.

Fire Bricks:

Fire bricks serve two main purposes. First, they protect the steel fire box and second they maintain high temperatures in the fire box to efficiently achieve complete combustion of the fuel. **Place fuel carefully in to the fire box** rather than dropping or throwing it in, to avoid direct damage to the bricks. Cracked or broken bricks are easily replaced, refer parts list at rear of this manual for details.

Maintenance & Cleaning (cont)

Door Seal:

Check the door seal regularly to ensure a perfect seal at all times, a faulty or worn seal will allow excess air in to the fire and make it difficult to regulate air intake.

If the door glass consistently has black patches or streaking near the edges inspect and if necessary replace the door seal as this indicates the seal is leaking (drawing air from the room).

Flue Cleaning:

Flue cleaning and maintenance is best performed by a knowledgeable professional, with the correct cleaning equipment (**important to use a 130 mm diameter flue brush**). After the fire has gone out and has cooled, carefully note the position of the the secondary air tube, and then remove it. Carefully lower the baffle down to sit on top of the fire bricks. Close the fire door. Remove the cowl and lower flue brush down the flue system so that any soot and/or creosote drops on to the baffle below and can be easily removed. Once cleaned, ensure the baffle and secondary air tube are replaced in their original positions, particularly note the air tube holes should be facing the front of the fire.

Fire Exterior:

The outer flue liner visible in the room is coated with high temperature black paint and can be recoated if any damages to the finish occur using an aerosol can Stovax Satin Black.

The coloured outer cabinet and fire door may be wiped clean using a soft cloth with warm soapy water. **Ensure that no solvent based cleaners are used to clean the outside of your fire**, some kitchen or bathroom cleaners may harm the colour finish of your fire.

Treat the coloured finish of your fire with care. The high temperature colour finish applied to your wood fire is extremely durable, but it should be treated similarly to any other painted appliance. Metal or abrasive objects could scratch or damage the finish and care should be used to avoid knocking or leaning anything against the fire. **Never clean with abrasive or solvent based cleaners.**

Troubleshooting

From time to time you may encounter difficulty with the operation of your Ethos Woodfire. Here, we list some common log burner problems and suggest simple ways that you can solve them:

Problem	Possible Cause	Solution
The room filled with smoke/fumes and an unpleasant odour the very first time I lit the fire.	<ol style="list-style-type: none"> 1. The flue paint is curing 	<ol style="list-style-type: none"> 1. Ventilate the room, open doors and windows, use fan if necessary. This will stop after the first hot fire.
I can't get the fire started	<ol style="list-style-type: none"> 1. Wood is wet 2. Pieces too large 3. Paper burning out 4. The flue is blocked 	<ol style="list-style-type: none"> 1. Use dry kindling/wood 2. Use well spaced, smaller pieces of kindling/wood 3. Use provided firelighter only 4. Have the flue cleaned
Smoke comes into the room when I open the door	<ol style="list-style-type: none"> 1. Opening the door too early after lighting or refuelling 2. Door is left open while establishing the fire 3. Fire is not hot enough 4. Pulling smoke into the room 5. Not enough draught 6. Flue blocked 7. Negative pressure inside the home caused by extraction fans etc 	<ol style="list-style-type: none"> 1. Refuel only when wood has burned down to a red hot ember bed 2. NEVER operate the fire with the door open 3. Allow a hot fire to establish using smaller pieces of wood 4. Open the door slowly and carefully 5. Fully open air control before opening the door 6. Check and clean the flue if necessary 7. Turn off ventilation appliances when reloading fire

Troubleshooting (cont)

Problem	Possible Cause	Solution
The door glass is dirty	<ol style="list-style-type: none"> 1. The glass has a slight haze in a few places after burning a while 2. The glass is dark brown/black over most of the glass most of the time 3. The glass has black streaks around edges 	<ol style="list-style-type: none"> 1. This is normal, it will burn off with hot fire or it can be cleaned when the glass has cooled down 2. Fire is too cold. Burn dry wood. Avoid lowering air control too early, always operate the fire at hot optimum temperature 3. Check and if necessary replace door seal rope
Ash falls out of the firebox when I open the door	<ol style="list-style-type: none"> 1. Door is opened too quickly 2. Too much ash accumulated in the firebox 3. Opening the door too soon after lighting or reloading 	<ol style="list-style-type: none"> 1. Open the door slowly and carefully 2. Remove surplus ash 3. Open the door only when fuel has burned down to a red hot ember bed
Logs roll forward and rest against the door glass	<ol style="list-style-type: none"> 1. Bottom front log burns away before top log 	<ol style="list-style-type: none"> 1. Load top log diagonally toward rear of firebox to prevent rolling
Smoke and/or creosote is weeping from the seam in the outer liner	<ol style="list-style-type: none"> 1. Burning wet wood 2. Blocked flue causes fire to back circulate and exhaust wood smoke up combustion air gap 3. Fire operated with door ajar allowing smoke to exhaust up combustion air gap where it can condense. 	<ol style="list-style-type: none"> 1. Burn only dry, seasoned wood with less than 20% moisture content 2. Have the flue cleaned immediately 3. NEVER OPERATE THE FIRE WITH THE DOOR OPEN. Open the door only when refueling

Troubleshooting (cont)

Problem	Possible Cause	Solution
<p>I don't get enough heat. What's wrong?</p>	<ol style="list-style-type: none"> 1. Poor start up, not enough fuel 2. High moisture content in wood 3. Fuel load is not igniting properly before air control is lowered 4. Insert model – upper firebox casing cover not fitted correctly, allowing heat to escape into chimney cavity 	<ol style="list-style-type: none"> 1. Use plenty of dry kindling to start fire and establish a hot ember bed. Load more fuel 2. Use only well seasoned and dry wood 3. After reloading leave air control on high until fire is well established 4. Installer required to remove fascia and fit casing cover correctly. Contact your dealer for more information

Replacement Parts

Your authorised Ethos woodfire dealer has access to a full selection of genuine replacement parts for your Ethos fire.

It is important to use genuine parts to maintain your fire to comply with the 15 year firebox warranty terms, and to ensure you have the best possible experience with your fire.

Fire Bricks:

Model	Description	Aquos Qty
EEP-50119	Top baffle replacement	1
EEM-90043	Side baffle section	2
EEM-90002	Side fire brick 230mm x 115mm x 40mm	9
EEM-90025	Bottom fire brick 230mm x 115mm x 25mm	5
EEP-50030	Bottom fire brick 115mm x 115mm x 25mm	2

Common Maintenance Parts:

Model	Description	Aquos Qty
EEP-50032	Air control knob	1
EEP-50037	Door knob	1
EEM-90004	Door glass	1
EES-10102	Door glass retainer	1
EES-11010	Door latch assembly	1
EEP-50118	Top air tube retaining clip	1
EEP-50031	Back fire brick retaining clip	3
EEP-50140	Top air tube	1
EEP-50141	Rear air tube	1
EES-10006	Front bottom air deflector, stainless steel	1
EEP-50061	Top grille section	1
EES-10016	Fire poker, ash rake	1

See your local Ethos dealer for a full list of available parts.

Testing, Compliance & Authorisations

Emissions, Output and Efficiency:

Ethos Woodfires are tested for compliance of their flue gas emissions to the requirements of the joint Australian/New Zealand Standard 4013:1999 and determination of power output and heating efficiency to AS/NZS 4012:1999.

Model	Emissions output g/Kg	Efficiency	Estimated Peak Output kW	AS/NZS Standards Test Report	ECAN Authorisation Number
Aquos	0.6	66%	18	ARS 08/1837	091861

Safety:

Ethos Woodfires are Safety Tested for compliance to the joint Australia/New Zealand Standard 2918:2001

Testing:

All testing has been carried out by Applied Research Services Limited at their Nelson Laboratory.

This laboratory is accredited by International Accreditation New Zealand (IANZ). IANZ has a mutual recognition arrangement with the National Association of Testing Authorities (NATA), Australia, such that both organisations recognize accreditations by IANZ and NATA as being equivalent.

Test reports may be accepted in the name of either accrediting body.

Manufacturers Warranty

- This warranty is granted to you by Ethos Woodfires and is subject to the stated conditions, failure to comply may render the warranty void.
- This warranty does not in any way affect your rights under the Consumer Guarantees Act and is in addition to your implied legal rights.
- This warranty applies only to the original purchaser at the original installation location and cannot be transferred.

Firebox:

The Ethos firebox, excluding all moveable or wearing parts is provided with a **Fifteen Year Warranty** from date of purchase against defects caused by faulty materials or manufacture.

Other Parts:

All other parts, including: door seals, door glass, baffle, firebricks, air tubes and operating mechanisms are provided with a **Twelve Month Warranty** from date of purchase where a proven product defect is due to faulty materials or manufacture.

Exclusions:

This warranty does not cover: Any physical misuse or abuse of the heater, any damage which may be caused by incorrect operation, when sea driftwood and/or domestic rubbish is burned, or if the fuel used does not meet the following criteria conditions: contains less than 20% moisture (dry weight), has not been treated with preservatives or impregnated with chemicals or glue, is not chipboard, particle board or laminated board, and is not painted, stained or oiled.

Warranty Conditions:

- The appliance must be installed in accordance with the manufacturers' specifications to comply with AS/NZS 2918:2001 and all applicable statutory regulations and local authority requirements.
- Installation should be performed by a suitably qualified heating installer.
- The appliance must be maintained and operated strictly according to the instructions provided otherwise warranty will be deemed null and void.
- Warranty claims should be made to your Ethos dealer.
- **Work completed by or damage incurred by installers, plumbers, contractors and/or misuse of the product will not be covered by this warranty.**

Owner's Warranty Details

Please record details below for your fire and installation:

Owners Name:	
Installation Address:	
Ethos Model:	
Fire Serial Number:	
Date Of Purchase:	
Purchased From:	
Installer Details:	

Warning:

- Any modification of the appliance that has not been approved in writing by Ethos Woodfires is considered as breaching the authorisation of the appliance.
- Do not use flammable liquids or aerosols to start or rekindle the fire or in the vicinity of the fire when operating.
- Do not store wood within heater installation clearances.
- Always open the air control fully before opening the fire door.

Caution:

- This appliance should not be operated with a cracked glass.
- This appliance should be operated and maintained at all times in accordance with these instructions.
- The use of all types of preservative treated wood as a fuel and burning domestic refuse can be hazardous and will reduce the life of some components

Contact

ETHIOS
WOODFIRES

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**15 YEAR
FIREBOX
WARRANTY**

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**CHOOSE
YOUR BESPOKE
COLOUR FOR THE
SAME PRICE**

ETHOS
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**PROUDLY
DESIGNED AND
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IN NEW ZEALAND**

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All information in this manual is accurate at the time of printing.
Performance may vary from test values depending on actual operating conditions.
Ethos Woodfires reserves the right to change specifications and designs without prior notice.