



FIREBIRD

HEATING SOLUTIONS

OIL FIRED RANGE COOKER

WITH HIGH EFFICIENCY SEDBUK BAND A CONDENSING BOILER

INSTRUCTION MANUAL



Working towards a greener planet

TABLE OF CONTENTS

	Page
FOREWORD	1
1.0 INTRODUCTION	1
2.0 PARTS SUPPLIED	1
3.0 OPERATING INSTRUCTIONS	2
3.1 Door	2
3.2 Shelves	2
3.3 Digital Controller	3
3.3.1 Control Panel	3
3.3.2 Controller "Off" Position	3
3.3.3 Temperature Setting	3
3.3.4 Alarm Timer	3
3.3.5 Burner Lockout & Limit Indicators	3
3.4 Maintenance	3
4.0 SCHEMATIC	4
5.0 SPECIFICATION	5
6.0 TECHNICAL DATA	6
7.0 INSTALLATION	8
7.1 Flue Options	8
7.2 Flue Regulations	10
7.3 Plumbing	12
7.4 Pre Installation Checks	12
7.5 Location.....	12
7.6 Oil Tank.....	12
7.7 Positioning Cooker	12
7.8 Condensate Plume Dispersal	13
7.9 Condensate Disposal	13
7.10 Standards & Regulations	13
8.0 SAFETY	14
8.1 Health and Safety Information	14
8.2 Fuel Spillage	14
8.3 Safe Use of Kerosene	14
9.0 MAINS ELECTRICAL SUPPLY	15
9.1 Accessing the Mains Electrical Supply	15
9.2 Wiring of Mains Supply to Oven & Boiler	16
10.0 CLEARANCES TO COMBUSTIBLES	17
11.0 OIL SUPPLY	17
11.1 Oil Storage Tank Location	17
11.2 Flexible Oil Pipe(s)	17
11.3 Single Pipe System	17
11.4 Two Pipe System	17
11.5 Tiger loop Single Pipe Systems	17
11.6 Fire Valves	17
12.0 SERVICING	18
12.1 Recommended Service Intervals	18
12.2 Oil Tank	18
12.3 Boiler, Primary Chamber & Burners	18
12.4 Cleaning of Cooker	24
13.0 COMMISSIONING & HANDING OVER	24
14.0 TERMS & CONDITIONS OF GUARANTEE	25
15.0 CUSTOMER ACTION IN THE EVENT OF A FAULT	25

FOREWORD

We would like to thank you for purchasing a high efficiency Firebird range cooker. This instruction manual is produced for the reference and guidance of qualified installation engineers such as those who are OFTEC registered (Oil Firing Technical Association). EU legislation governs the manufacture, operation and efficiency of all domestic central heating oil cookers. Our cookers and burners will be supplied as matched units, tested and approved to OFTEC Standards OFS A101.

Firebird range cookers must be installed, commissioned and serviced by a competent person. It should be noted that it is the responsibility of the installer/householder to ensure that the cooker is properly commissioned. Failure to do so may invalidate the cooker guarantee and any extended warranty.

All appropriate OFTEC manuals and BS Standards should be studied, their requirements adhered to and used in conjunction with these instructions. This manual includes a list of some BS Standards and Building Regulations.

OFTEC is conducting training and registration of engineers. This is to be commended, as reading of this manual alone for installation and servicing procedures, cannot replace the critical advantage provided by training and years of experience.

WARNING

The manufacturer cannot accept responsibility for any damage to persons, animals or property, due to error in installation, error in adjustment of the appliance, improper or unreasonable use, non-observance of this instruction manual, or intervention of unqualified personnel.

1.0 INTRODUCTION

The Firebird range cooker is built to a high standard. Its facility to control central heating and cook separately, will give you every satisfaction in use. The cooking facilities consist of two circular hot plates with hoods and two cast iron ovens. The main oven has an electronic temperature control with a temperature range of 100-250°C. This electronic temperature control maintains an even and constant heat within the oven, giving better results when cooking. The second oven is a warming oven.

The unique design of the main oven ensures even heat at its centre, this even heat distribution has been achieved by carefully controlling the heat created by the burner and allowing it to flow throughout the entire oven. There is no need to consider if or when to rotate the product being cooked, just simply set the temperature, allow the appropriate time and enjoy the results.

An additional benefit of the Firebird range cooker is the heat radiated to the kitchen. The heat from the enamelled cast iron gives a cosy, comfortable warmth to the room and is equivalent to a large double radiator. As the cast iron maintains its heat for a long time, when left on standby (e.g. 150°C), the 11kw burner rarely fires and becomes a very economical room heater.

The central heating/hot water part of the cooker is a high efficiency Firebird domestic oil fired condensing boiler, certified to Sedbuk Band A. High efficiency condensing boilers use less fuel and have lower running costs than non-condensing boilers. Because of their increased efficiency, they emit less carbon dioxide than non-condensing boilers, which will contribute to reducing global warming.

The incredible efficiency of the condensing boiler within the Firebird range cooker, is due to the development of a single boiler unit with two unique heat exchanger units. This gives an exchange surface greater than a non-condensing boiler. The additional surface area increases the amount of heat extracted from the combustion process and thus reduces the heat wasted to the atmosphere. So much heat is extracted from the combustion gases that their water vapour element condenses into liquid form, releasing the latent heat that was used to create the vapour in the first place. It is this heat gain that gives the condensing boiler its significant advantage over a non-condensing model.

The condensate produced is often believed to be highly acidic. In fact the acidity of condensate from a Firebird condensing boiler is as low, if not lower, than that of vinegar. A condensate pump is fitted within the cooker to dispose of the condensate into a wastewater gully.

The Firebird condensing boiler within the range cooker, can be used for underfloor heating, provided the return temperature is above 40°C at all times. Even when not working in condensing mode, it will operate at extremely high efficiencies and can therefore be fitted to an existing heating system, without alteration to the radiator sizes.

The burners are factory set for use with Kerosene 28-second class C2 fuel.

2.0 PARTS SUPPLIED

1. Cast iron cooker.
2. Flue cover.
3. Flue cover cap.
4. Flue cover door.
5. Stainless steel towel rail.
6. 2 x towel rail brackets (including bolts).
7. Service access key.
8. Instruction manual.

3.0 OPERATING INSTRUCTIONS

All surfaces of this range cooker can be considered as a working surface except for the:

- Side panels - right, left and back.
- Handles - hotplate lids, oven doors (main and additional) and burner access.
- Doors - main oven, additional oven and burner access.
- Hotplate lid surfaces.

It is important to recognise that the working surfaces can reach very high temperatures. Always ensure that the appropriate precautions are in place (i.e. safety guards), especially where there are young children, elderly or infirm persons present. Oven gloves must be worn when handling the hot oven shelf.



3.1 DOOR

To open, lift the door upwards and outwards to release from latch. Close in a similar manner.

3.2 SHELVES

Lift the shelf up to release it from its locating pin and then pull it out of the chamber.

OVEN GLOVES must be worn when handling the hot shelf.



Locating pin.

3.3 DIGITAL CONTROLLER



3.3 DIGITAL CONTROLLER

3.3.1 Control panel

The control panel is located inside the top left hand door of the cooker. It consists of:

- Two digital displays (left for the oven and right for the boiler).
- A control knob underneath each display.
- Three indicator lights below each control knob.
- Built in alarm timer.

3.3.2 Controller "off" position

Rotate the control knob fully anticlockwise in order to turn off the cooker and/or boiler - the displays will flash 000 or 00 respectively (do not force).

3.3.3 Temperature setting for cooker and/or boiler

- Rotate the control knob slowly clockwise, up to the desired temperature. The temperature is set once rotation stops and the display flashes the selected temperature.
- The display now returns to the current temperature, the burner will start and run until the set temperature is reached. The green indicator light underneath the control knob will then switch on (AT C°).

Note: For optimum results, Firebird recommends preheating the oven for a minimum of one hour prior to cooking.

3.3.4 Alarm timer

Press the "+" button next to the display on the left hand side. The display will change from showing the temperature to showing minutes. Each press of the button represents one minute. The display will count down to 0 from the total minutes selected and the alarm will sound.

3.3.5 Burner lockout and limit indicator lights

There are two red indicator lights underneath each control knob with the description "burner lockout" (on the left) or "limit" (on the right).

If either of the "burner lockout" indicator lights switches on, the cause could be:

- The oil supply is insufficient (oil tank level may be low or empty).
- The burner is in need of servicing.
- A fault has developed in the burner.

If either of the "limit" indicator lights switches on, the system has overheated. This can be caused by any of the following:

- The system water level is low (boiler).
- The permanent live supply is lost or not connected (boiler).
- A fault has developed in the boiler control thermostat.
- The oven door is left open.
- A fault has developed in the oven thermostat or controller.

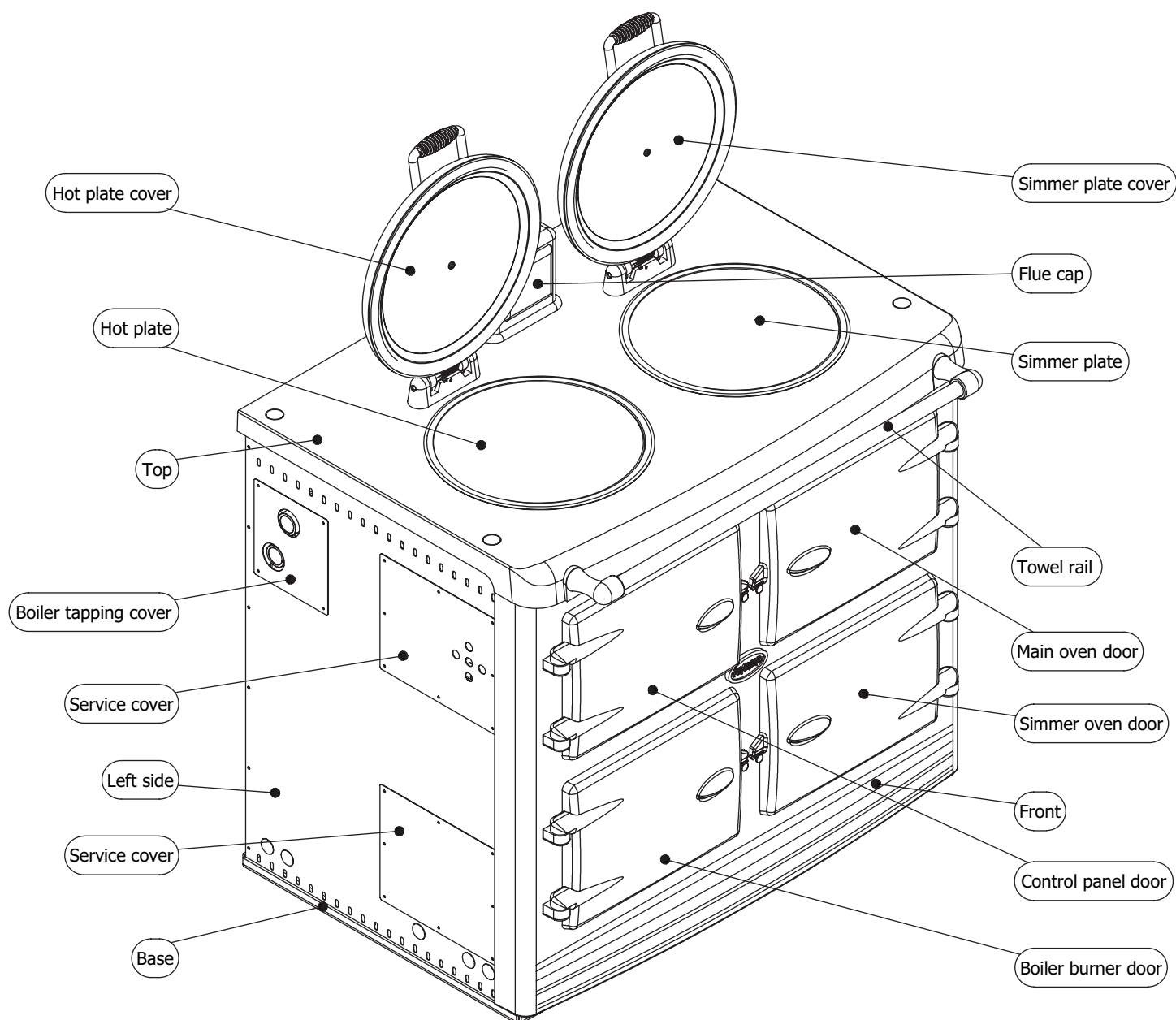
Note that if either of the burner lockout or limit indicator lights switches on, the cooker should be switched off until the cause has been detected and rectified. In the case where a fault has occurred or a service is required, a service engineer should be called.

3.4 MAINTENANCE

The following points should be considered to enable the range cooker to function safely and correctly throughout its working life.

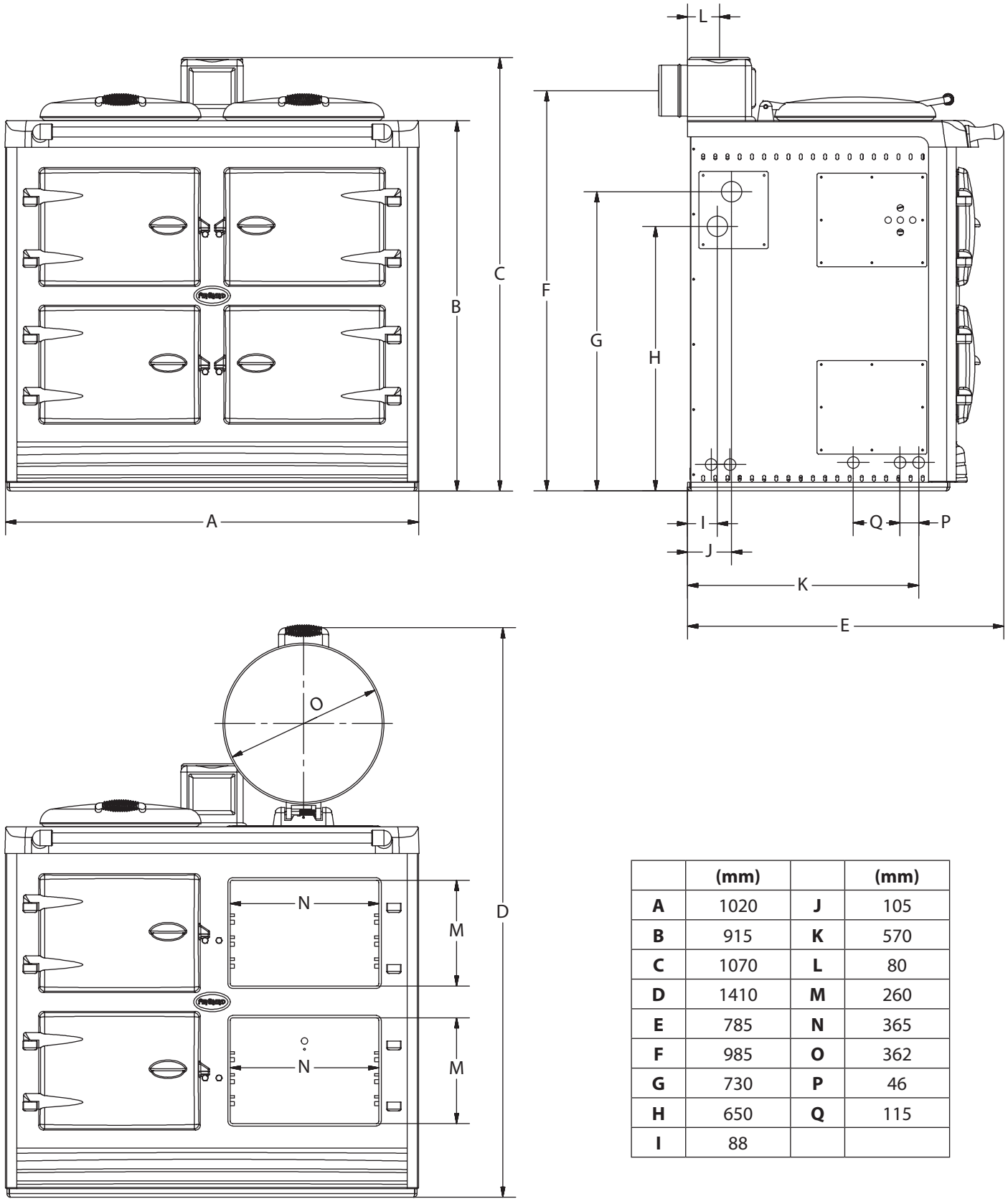
- Precautions should be taken to prevent damage to the heating system and to the building in the event of the heating system being inoperative during frost conditions;
- Adequate maintenance and servicing should be performed by a suitably qualified (OFTEC registered) installer at regular 12 monthly intervals to ensure continual efficient and safe operation of the appliance and its working controls.

4.0 SCHEMATIC



Parts	
Hot plate cover	Boiler burner door
Simmer plate cover	Boiler tapping cover
Hot plate	Service cover
Simmer plate	Left side
Top	Service cover
Towel rail	Base
Main oven door	Flue cap
Simmer oven door	Front
Control panel door	

5.0 SPECIFICATION



6.0 TECHNICAL DATA

Boiler Model			CR26	CR35
Boiler Heat Output		kW	26	35
		Max. BTU/h ('000)	88.78	119.50
CONNECTIONS				
Heating Flow			1" BSP	1" BSP
Heating Return			1" BSP	1" BSP
Drain Off Valve			½" BSP	½" BSP
Condense Trap			10mm braided plastic pipe	10mm braided plastic pipe
WATER CONTENT				
Water Content Boiler (litres)			24	24
FLUE				
Balanced Flue Assembly (mm)			125 (5")	125 (5")
TEMPERATURE CONTROL				
Boiler Central Heating Control			60°C-80°C	
Boiler Safety Limit			110°C + -3°C	
Oven Temperature Control			100-250°C	
Oven Safety Limit			265°C + -3°C	
HEATING SYSTEM				
Fit in accordance with BS 7074 Part 1, BS 5449, OFTEC Standards and all other relevant legislation.				
Boiler Test Pressure			4.5 bar	
Safety Valve Operating Pressure			3 bar	
WATER SIDE RESISTANCE			Water Resistance	
Flow rate to give a nominal output at:	10k	20k	mbar	Pa
Water Flow Rate (kg/h) CR 26	2232	-	207	20700
	-	1121	52	5200
Water Flow Rate (kg/h) CR 35	3010	-	375	37500
	-	1518	98	9800
PRESSURE JET OIL BURNERS			Oven: RDB1	
			Boiler: RDB 2.2 up to C35	
FUEL			C2 Kerosene	
ELECTRICAL SUPPLY			230V AC 50Hz to be fused at 5 A	
WEIGHT				
Empty (kg)			600	600
Full (kg)			624	624
COOKER BURNER				
Fuel Rate (kg/h)			0.9792	0.9792
Total Heat Input (kW)			11.707	11.707
Exit Flue Gas Temperature (°C)			158	158
Exit Flue Gas Mass Flow (kg/s)			0.00716	0.00716
BOILER BURNER				
Fuel Rate (kg/h)			2.244	2.988
Total Heat Input (kW)			26.897	36.087
Exit Flue Gas Temp (°C)			76	81.3
Exit Flue Gas Mass Flow (kg/s)			0.010	0.013
BURNER AND OVEN				
Exit Flue Gas Mass Flow (kg/s)			0.014	0.017
EMISSIONS BOILER				
CO (mg/kWh)			6	4
NOx (mg/kWh)			93	130
EMISSIONS OVEN				
CO (mg/kWh)			0	
NOx (mg/kWh)			97	

TOTAL HEAT INPUT AND BURNING RATES BOILER AND OVEN BURNERS

Model	CR26	CR35
BOILER		
Heat Input (kW)	26.69	36.18
Burning Rate (kg/h)	2.22	3.01
OVEN		
Heat Input (kW)	11.70	11.70
Burning Rate (kg/h)	0.97	0.97
BOILER AND OVEN		
Total Heat Input (kW)	38.39	47.88
Burning Rate (kg/h)	3.19	3.98

Note: values in the above table are calculated for C2 Kerosene with a calorific value of 43.30 MJ/kg at 15°C.

NOZZLE SIZES FOR MAXIMUM OUTPUT BOILER AND OVEN BURNERS

BURNER NOZZLE (US g/h)	CR26	CR35
BOILER	Danfoss 0.75 80° ES	Danfoss 1.00 80° ES
OVEN	Steinen 0.4 80° HT	

BURNER SETTINGS FOR COOKER AND BOILER BURNERS

Note: variations in nozzle throughput, flue type and draught, oil viscosity etc., may give results differing from these laboratory performance figures.

COOKER BURNER RDB 1								
Output BTU kW		Nozzle Size - Angle - Type	Pump Pressure	Head Type	Air Shutter	Nominal CO ₂	Recommended CO ₂	Air Box
37,000	11	0.40 80° ES	7 bar	T1 (short)	5.5	7.5%	7.5%*	1

BOILER BURNER RDB 2.2								
Output BTU kW		Nozzle Size - Angle - Type	Pump Pressure	Head Type	Air Shutter	Nominal CO ₂	Recommended CO ₂	Air Box
90,000	26	0.75 80° ES	8 bar	T3	3.8	12.5%	11.5-12%*	1
120,000	35	1.00 80° ES	9 bar	T3	6.5	13.5%	12.5%*	1

The above performance figures are based on ideal laboratory test conditions.

Above air shutter settings may need to be revised to take differences in resistance between different kinds of flue installations into consideration.
Use flue gas analyser to achieve optimum results.

Commissioning notes:

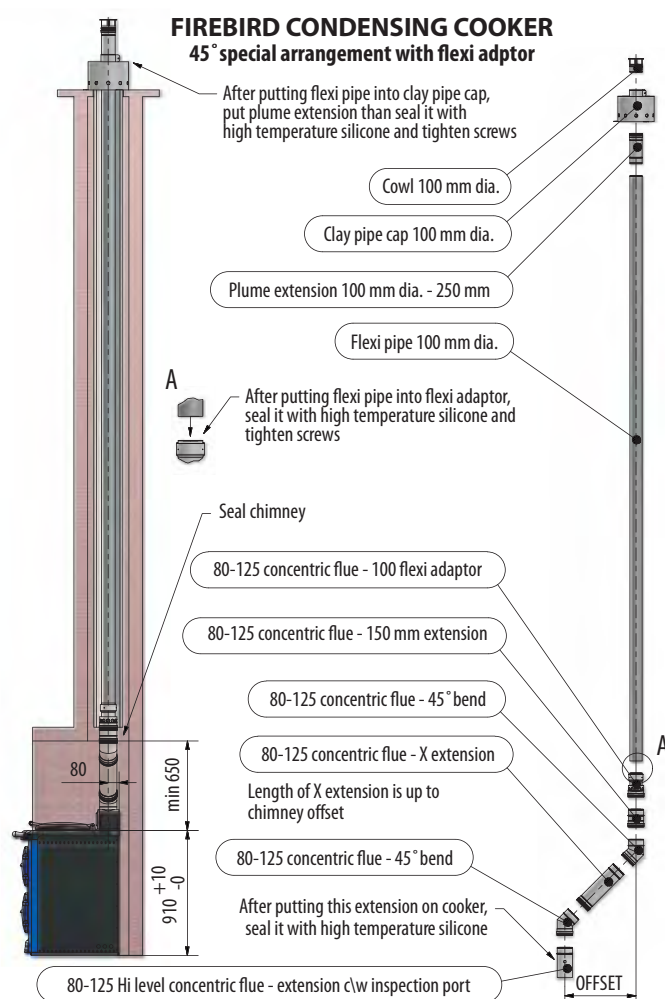
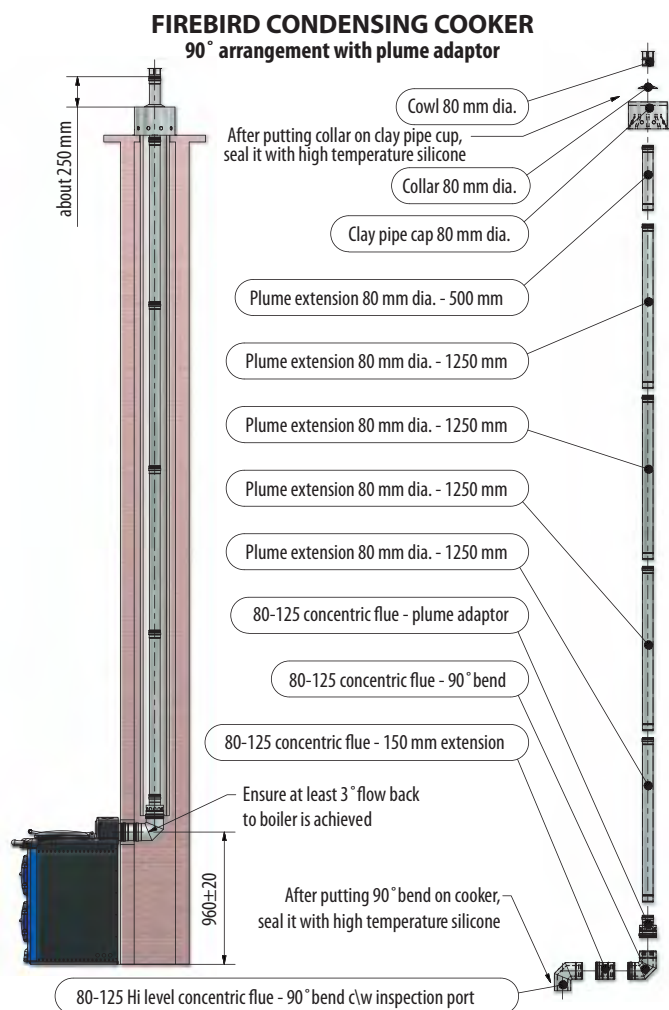
* The burner is capable of running between -2.0/+0.5% of the nominal CO₂ value specified in the table above.
During commissioning the burner should be adjusted to the recommended value specified.

7.0 INSTALLATION

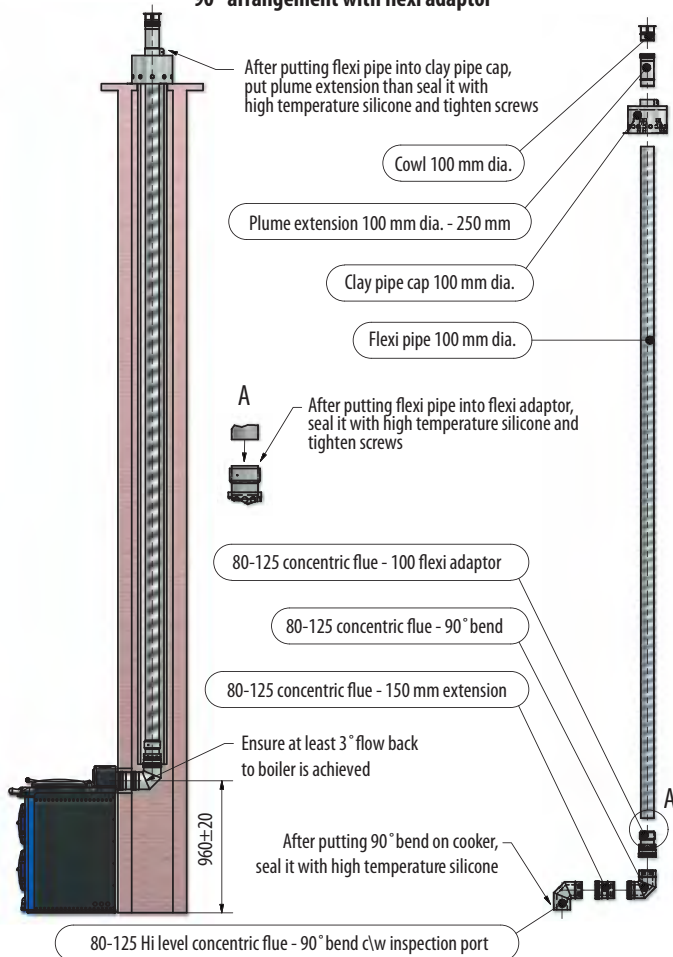
7.1 FLUE OPTIONS

The Firebird range cooker can be installed where there is an existing chimney or on an external wall. There are many flue options, some of which are shown in the next section. Due to the unique design of the air ducts in the Firebird range cooker, all flues are available in "balanced flue" configuration.

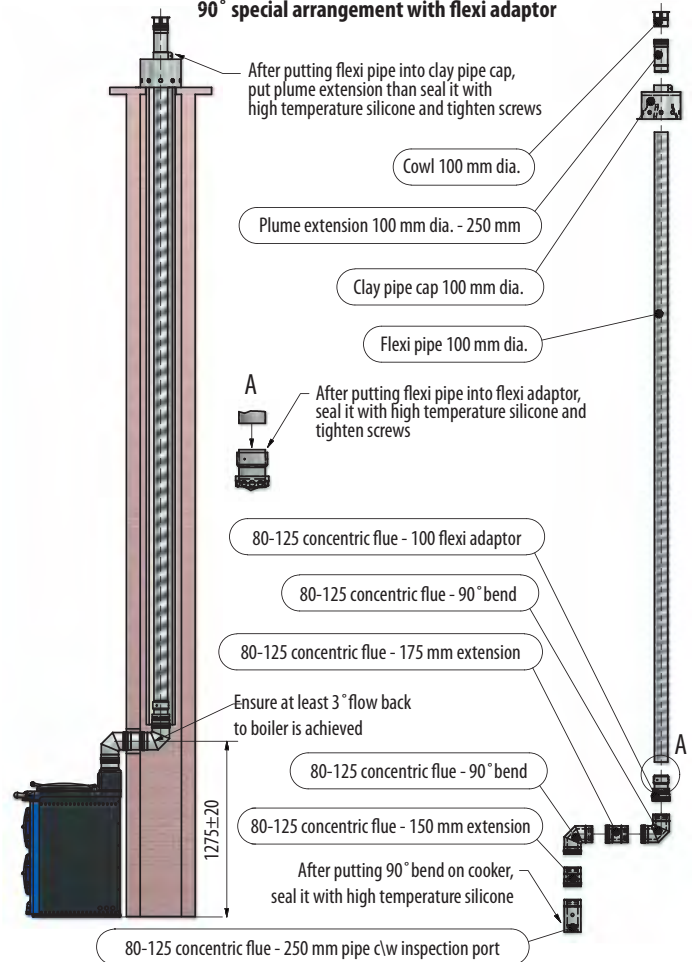
The following diagrams show the flue types available from Firebird which can be used on the Firebird range cooker.



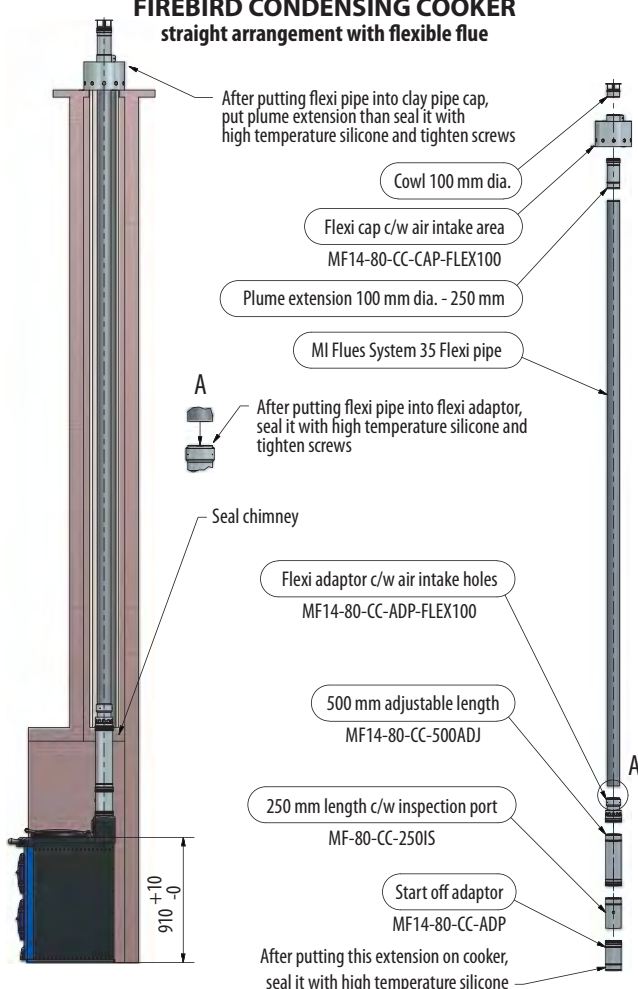
FIREBIRD CONDENSING COOKER 90° arrangement with flexi adaptor



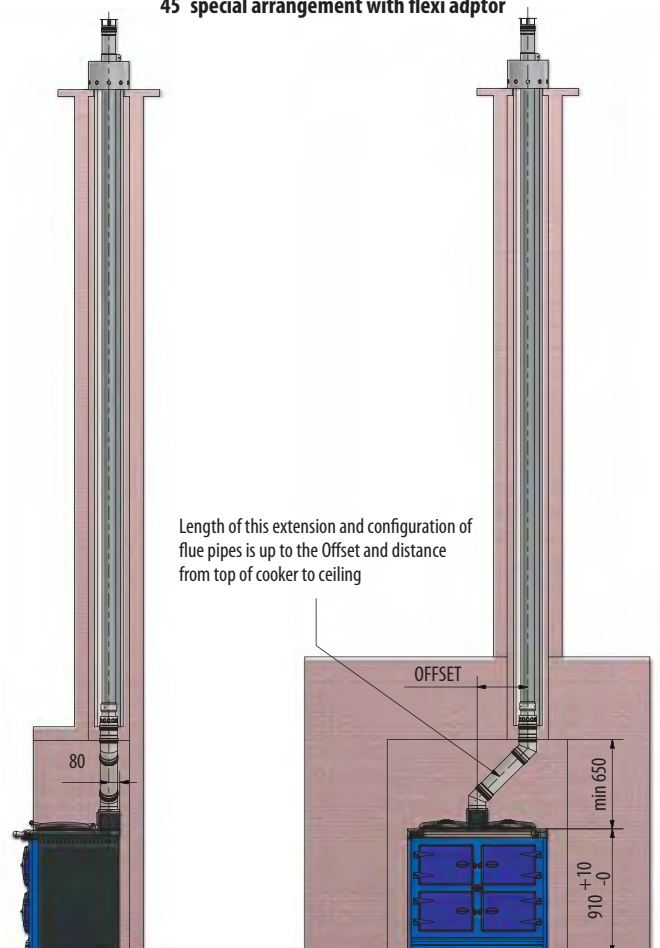
FIREBIRD CONDENSING COOKER 90° special arrangement with flexi adaptor



FIREBIRD CONDENSING COOKER straight arrangement with flexible flue



FIREBIRD CONDENSING COOKER 45° special arrangement with flexi adaptor



7.2 FLUE REGULATIONS

OIL-FIRED COMBUSTION APPLIANCE INSTALLATIONS

APPLIANCES

(F5.2) The requirements of F5.2 will be met by an appliance that complies with the OFTEC Standard appropriate for the class of the appliance.

SUPPLY OF AIR FOR COMBUSTION

(F5.3) The requirements of F5.3 will be met where the oil-fired appliance is provided with an air supply in accordance with Section 4 of BS5410: Part 1: 1997.

SUPPLY OF AIR FOR COOLING

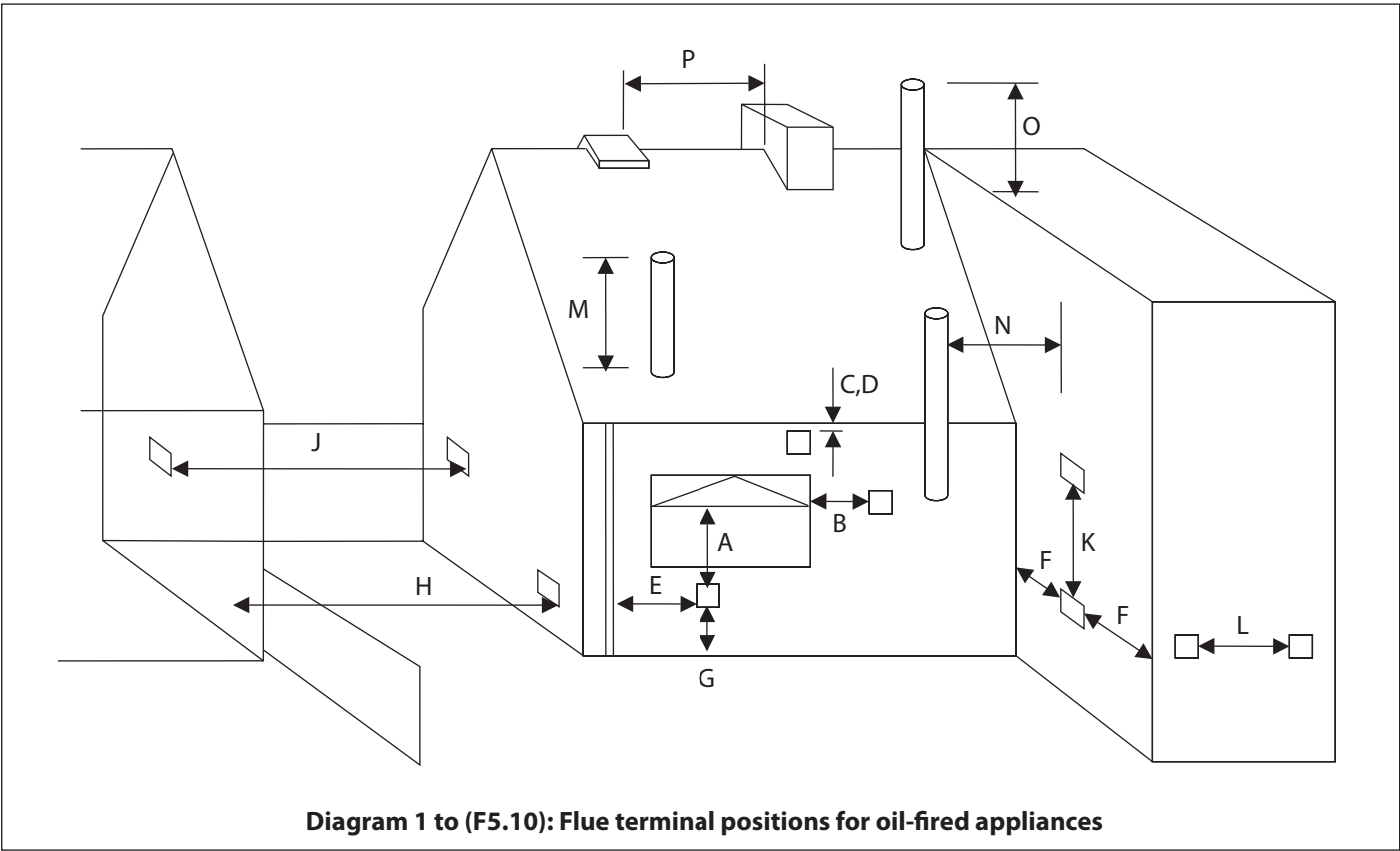
(F5.4) The requirements of F5.4 will be met where the oil-fired appliance, located in an appliance compartment, is provided with air for cooling in accordance with Clause 4.4.3 of BS5410: Part 1: 1997.

REMOVAL OF PRODUCTS OF COMBUSTION

(F5.7) The requirements of F5.7 will be met where the chimney or flue-pipe is constructed and installed in accordance with the requirements of BS5410: Part 1: 1997.

(F5.8) The requirements of F5.8 will be met where the flue gas temperature is measured in accordance with OFTEC Appliance Standard OFS A100 for boilers or OFS A101 for cookers.

(F5.10) The requirements of F5.10 will be met where the terminal is separated from openings, obstructions or combustible material by at least the distance shown in the diagrams and table to this specification -



**Table to diagram (F5.10):
Flue terminal positions for oil-fired appliances**

Location		Minimum distance to terminal in mm	
		Pressure Jet	Vaporising
A	Directly below an opening, air brick, opening window etc	600	n/all
B	Horizontally to an opening, air brick, opening window etc	600	n/all
C	Below a plastic/painted gutter, drainage pipe or eaves, with protection	75 [5]	n/all
D	Below a balcony or a plastic/painted gutter, drainage pipe or eaves	600	n/all
E	From vertical sanitary pipe work	300	n/all
F	From an internal or external corner	300	n/all
G	Above ground or balcony level	300	n/all
H	From a surface or boundary facing the terminal	600 [6]	n/all
J	From a terminal facing the terminal	1200	n/all
K	Vertically from a terminal on the same wall	1500	n/all
L	Horizontally from a terminal on the same wall	750	n/all
M	Above the highest point of an intersection with the roof	600 [1]	1000 [7]
N	From a vertical structure to the side of the terminal	750 [1]	2300
O	Above a vertical structure not more than 750mm from the side of the terminal	600 [1]	1000 [7]
P	From a ridge terminal to a vertical structure on the roof	1500	n/all

Notes:

1. Terminating positions M, N, and O for vertical balanced flues should be in accordance with manufacturer's instructions.
2. Vertical structure in N, O and P includes tank or lift rooms, parapets, dormers etc.
3. Terminating positions A to L are only permitted for appliances that have been approved for low level flue discharge when tested to OFTEC Standard OFS A100 for boilers or OFS A101 for cookers.
4. Terminating positions must be at least 1 800mm from an oil storage tank unless a wall with at least 30 minutes fire resistance and more than 300mm higher and wider than the tank is provided between the tank and the terminating position.
5. Where a flue terminates not more than 600mm below a projection and the projection is plastic or has a combustible finish, then a heat shield of at least 750mm wide must be fitted.
6. The distance from an appliance terminal installed at right angles to a boundary may be reduced to 300mm in accordance with Diagram 2 to (F5.10).
7. Where a terminal is used with a vaporising burner, a horizontal distance of at least 2 300mm is required between the terminal and the roof line.
8. Notwithstanding the dimensions above, a terminal should be at least 300mm from combustible material.
9. n/all = not allowed.

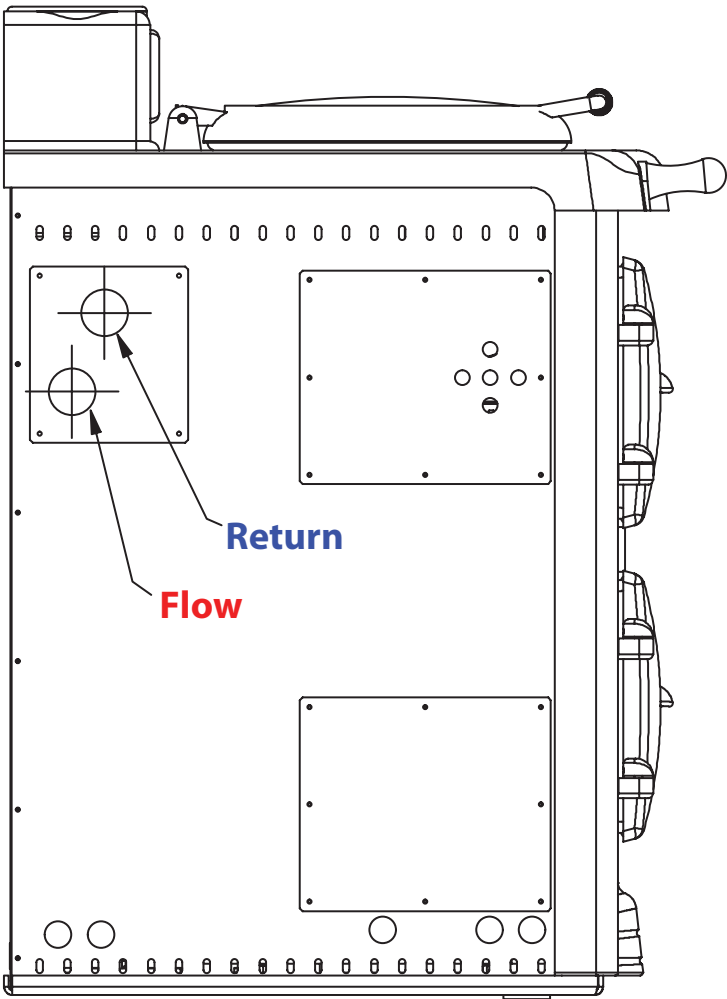
7.3 PLUMBING

Plumbing should comply with local standards and regulations.

Note: The Firebird range cooker can be used in both sealed and opened vented pumped systems.

Plumbing connections are 1" BSP and are located at the left hand side of the cooker, with the lower of the two connections being the "Flow".

A bypass with a control valve between the flow and return must be fitted. This is to accommodate easier system balancing and the built in over run sensor in the controller, which can engage the circulating pump even after the heat demand has ceased.



7.4 PRE INSTALLATION CHECKS

You must have a solid floor or base made of non-combustible material and capable of supporting the total weight.

The installer should be aware of his/her responsibilities under the Health and Safety at Work Act. The interests of safety are best served if the cooker is installed and commissioned by a competent person, OFTEC trained and registered.

ENGLAND & WALES

If the competent person is not OFTEC trained and/or registered, a Building Notice is required. Other parts of the British Isles including the Channel Islands, also require notification to building control.

COOKER INSTALLATION

The cooker should be installed on a hearth, complying with Building Regulations.

Other than special considerations for condensate removal and plume dispersal, the installation of an oil firing condensing boiler is the same as for non-condensing boilers.

BS 5410: Part 1 1997 gives the requirements for domestic boiler and oil storage installations.

The same requirements apply for installation with regard to cleaning and flushing and providing inhibitors for a Firebird range cooker as for any other boiler. Manufacturer's instructions must always be followed together with the requirements of BSEN 12828, 2003 & BS EN 12831, 2003, which supersede BS 5449 1990 and the statutory requirements of the Building Regulations.

7.5 LOCATION

When choosing a location for this appliance you must have:

- Sufficient room for the installation, a satisfactory flue, and an adequate air supply for correct combustion and operation.
- Adequate space for maintenance and air circulation.

Note: Installation should be carried out in a well ventilated area.

7.6 OIL TANK

The installation of the oil tank and supply line should comply with all the instructions shown earlier in this manual. Consult OFTEC Manual - Book No.3, Section 2.

If a single supply line is used, ensure that the level of the bottom of the tank is above the burner. A suction line system via a de-aerator should be used where the level of the oil in the tank may fall below the level of the oil burner pump.

CHECK AND ENSURE THAT THE
CORRECT GRADE FUEL OIL
HAS BEEN SUPPLIED

Note: Should a site inspection be required from the manufacturer's engineer, a call out fee will be charged if the fault is a result of incomplete or incorrect commissioning.

7.7 POSITIONING THE COOKER

- Ensure that adequate clearance is available for making the water and flue connections.

- The disposal of condensate products should be taken into account when choosing a position for the cooker.
- Existing systems should be treated with chemical cleaner and properly flushed before the cooker is fitted and corrosion inhibitor should be added.
- In areas of hard water, a suitable descaler is recommended.
- Ensure that an air gap is included around the sides of the cooker, particularly the side where the oven is located.

7.8 CONDENSATE PLUME DISPERSAL

When choosing the location for the cooker, special consideration must be given to the positioning of the flue terminal. Care should be taken to locate it, so as to prevent either the end user or their neighbours perceiving the plume to be a nuisance. It should be noted that the normal statutory clearances required around low level flue terminals (ref. T45 T1/135) might not be sufficient to cope with plume dispersal from a condensing boiler.

The following points should be considered:

1. Plumes can extend out horizontally and they can also drift out to the sides and above the terminal. Care needs to be taken, therefore, to avoid the plume reaching adjacent surfaces, particularly windows and neighbouring dwellings.
2. Flue terminals need to be located where air can pass freely across them to disperse vapours.
3. The effect of the moisture generated, must be considered in relation to the possible corrosion of metal parts it might reach and to the possible formation of ice on pathways in freezing conditions.
4. Keep flue terminals at a minimum of 1m (horizontally) from openings in the building.
5. Do not keep flue terminals directly below a window.
6. Do not install flue terminals next to a door.
7. Do not install flue terminals within 1m of ventilated soffits or eaves.
8. Keep flue terminals at least 1m away from a surface or a boundary facing the terminal.
9. Follow the appliance manufacturer's instructions.

7.9 CONDENSATE DISPOSAL - IMPORTANT

Firebird range cookers, when in condensing mode, extract more heat from the flue products and the resulting condensate, which is mildly acidic, needs to be drained from the boiler via a condensate pipe to the drainage system.

Provision must be made for the removal of condensate from the boiler to an internal soil stack, waste pipe, external soil stack, gully or soak-away as per BS6798.

The boiler within the cooker is fitted with a condensate pump to facilitate this. This condensate pump has a flexible hose for easy installation.

7.10 STANDARDS AND REGULATIONS

To ensure the highest standards of installation & safety, it is important that the range cooker be installed in compliance with the following regulations where applicable.

All CURRENT editions of the appropriate Building Regulations:

Part L & J	England & Wales
Part F	Section III Scotland - Conservation of Fuel Power
Part L	Northern Ireland -Conservation of Fuel Power
Part J	Republic of Ireland -Conservation of Fuel Power
BS 5410	Part 1 1997 Code of practice for Oil Firing Installations
BS 799	Part 5 1987 Specification for Oil Storage Tanks
BS 4876	1984 Performance Requirements for Oil Burning Appliances
BSEN 12828	2003 (UK National Annex). Heating Systems in Buildings - Designed for Water Based Heating Systems
BS 7074	Part 1 1989 Application, Selection and Installation of Expansion Vessels and Ancillary Equipment for Sealed Water Systems
BS 5446	1990 Installation of Hot Water Supplies for Domestic Purposes.
BS 5449	Forced Circulation Hot Water Central Heating Systems for Domestic Installations
BS 7593	1992 Code of Practice for Treatment of Water in Heating Systems
BS 715	1989 Metal Flue Pipes, Fittings, Terminals and Accessories
BS 1189	1989 Clay Flue Linings and Flue Terminals.
BS 4543	Part 3 1990 Factory Made Insulated Chimneys for Oil Fired Appliances
BS 6700	Design, Installation, Testing and Maintenance of Services Supplying Water.
BS 7671	Current IEE Regulations. Local Water Undertaking Bylaws. Water Supply (Water Fitting) Regulations 1999. The Control of Pollution (Oil) Regulations.

In addition, the work must comply with OFTEC installation requirements for oil fired boilers and storage tanks.

It is the responsibility of the installer and everyone concerned with any aspect of installation, to ensure that all applicable Standards and Regulations are fully adhered to.

8.0 SAFETY

8.1 HEALTH AND SAFETY INFORMATION

Under the Consumer Protection Act 1987 and Section 6 of the Health and Safety Act 1974, we are required to provide information on substances hazardous to health.

Insulation and seals

Ceramic Fibre, Alumino - Silicone Fibre material are used for boards, ropes and gaskets. Known hazards are that people may suffer reddening and itching of the skin. Fibre entering the eye will cause foreign body irritation. It may also cause irritation to the respiratory tract.

People with a history of skin complaints or who may be particularly susceptible to irritation should take precautions. High dust levels are only likely to arise following harsh abrasion. Suitable personal protective equipment should be worn where appropriate.

Generally, normal handling and use will not give discomfort. Follow good hygiene practices.

First aid and/or medical attention should be sought following eye contact or prolonged reddening of the skin. The small quantities of adhesives and sealants used in the product are cured. They present no known hazards when used in the manner for which they are intended.

This product has been designed to the following standards:

EMC Directive

(Electromagnetic Compatibility) 89/336/EC

EN 61000-6-1 Electromagnetic Compatibility Generic Standard - Immunity for Residential, Commercial and Light Industrial Environments. (Feb.200 I)

EN 61000-6-3 Electromagnetic Compatibility Generic Standard Emission Standard for Residential, Commercial and Light Industrial Environments. (Feb.200 I)

LV Directive

(Low Voltage) 73/23/EEC

IEC 60335-1 Household and Similar Electrical Appliances – Safety (May 200 I)

Boiler Efficiency Directive

92/42/EEC

BSEN 304 Oil Boilers with Forced Draft Burners

8.2 FUEL SPILLAGE

Should a fuel spillage arise:

1. Switch off all electrical and other ignition sources.
2. Remove all contaminated clothing to safeguard against fire risk and skin damage. Wash affected skin thoroughly with soap and water, remove clothing to a safe well ventilated area and allow to air before cleaning.
3. Contain and smother the spill using sand and/or other suitable oil absorbent media or non-combustible material.
4. Do not allow fuel to escape into drains or watercourses. If this happens, contact the relevant authorities in your area (Ireland only). For the UK, contact the Environment Agency on 0800 807060.
5. Consult your local authority regarding disposal of contaminated soil.

8.3 SAFE USE OF KEROSENE

These fuels give off a flammable vapour when heated moderately. Vapour ignites easily, burns intensely and may cause explosion. The vapour can follow along at ground level for considerable distances from open containers and spillages, collecting as an explosive mixture in drains, cellars, etc. Fuels remove natural oils and fats from the skin and this may cause irritation and cracking of skin. Barrier cream containing lanolin is highly recommended, together with good personal hygiene and where necessary, appropriate personal protection equipment. (P.P.E.).

Kerosene may also cause irreversible damage to health on prolonged or repeated skin contact.

Always store fuels in a properly constructed and labelled tank. Always handle fuel in open air or well ventilated space, away from sources of ignition and refrain from smoking.

Always drain fuel using a proper fuel retriever, funnel or mechanical siphon. Never apply heat to a fuel tank, container or pipe work. Never siphon fuel through a tube by mouth. If accidentally swallowed, seek medical advice immediately and do NOT induce vomiting. Avoid inhaling fuel vapour as this can cause light-headedness and seriously impair judgement.

Ensure that a carbon monoxide alarm is installed in the household. If fumes are escaping from the product or flue, the alarm will sound. The emergency response unit must be called immediately to deal with the problem.

If fuel is accidentally swallowed:

- Seek medical attention immediately. Do **NOT** induce vomiting.

If fuel is splashed into eyes:

- Wash out with running water for at least ten minutes and seek medical attention.

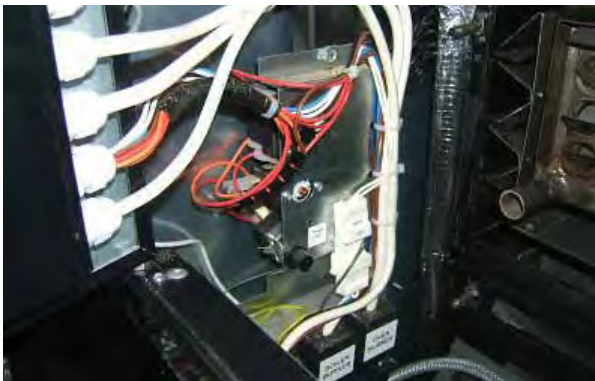
9.0 MAINS ELECTRICAL SUPPLY

9.1 ACCESSING THE MAINS ELECTRICAL SUPPLY

The mains seven-pin plug is located behind the bottom left hand door of the cooker and behind the insulated panel. This can only be opened using the service access key supplied with the cooker on delivery. This seven-pin plug and both pre-wired burner plugs are located in the junction box on the left. The mains cable can be fitted through grommets located at the left hand side or at the back of the cooker casings. Wiring is carried out as per the following diagrams.



Lock which can be opened with service access key supplied.

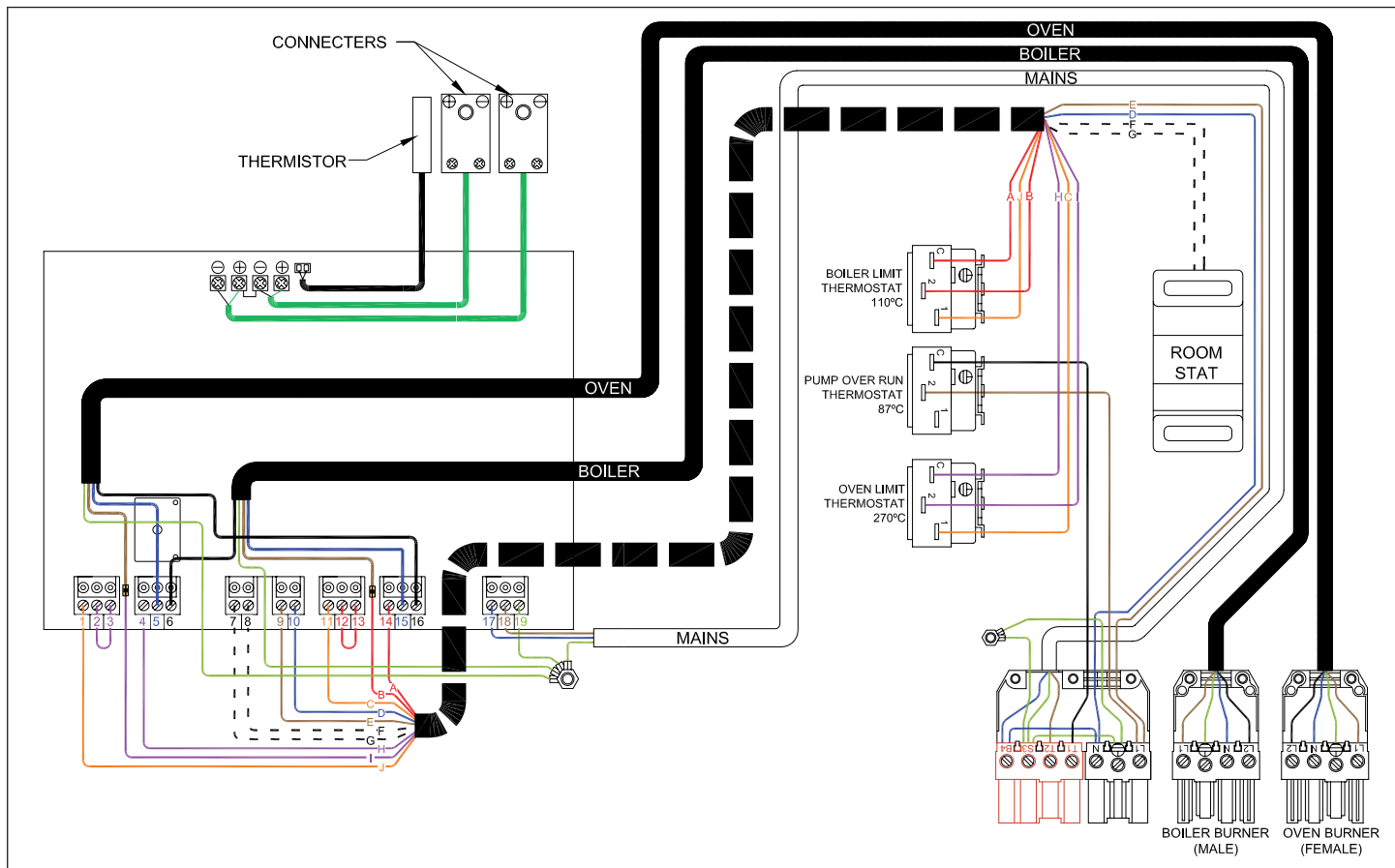


There is an option to wire a room stat. on a separate plug at this junction. Both limit stats. for boiler and oven are located in this junction box also.



This is the location of the 7-pin plug and both burner plugs.

9.2 WIRING OF MAINS SUPPLY TO OVEN & BOILER



Wiring the Seven Pin Plug (Mains Supply)

The seven-pin plug is used to:

- Connect a power supply (permanent and switched), to activate the oven/ boiler controller.
- Connect a supply from the controller to activate the circulating pump.

T1 - Permanent live supply to facilitate pump over-run.
 T2 - Switched supply to activate controller.
 S3 - Earth.
 B4 - Neutral.
 L1 - Supply to circulating pump and earth to circulating pump.
 N - Neutral to circulating pump.

The format above allows for manual control of the oven and the boiler at the control panel only (as described in section 3.3).

A timer can be used to activate the switched supply, as per the image above (T2). Ensure the required temperatures are pre-set on the controller before setting the timer.

Room Thermostat Connection

For separate control of central heating, the room stats. connection can be used to send a supply to a room thermostat and back to the controller. This calls the central heating pump into action. A timer can also be incorporated in this loop if desired.

Note: the controller must be active for the central heating pump to operate, i.e. switched/timed supply at T2 above.

The room stat. option will have a loop fitted in the factory, to allow control of the cooker and central heating at the panel only. Alternatively, if a room stat. is not used, a timer can be used at this connection to call the central heating into action, by ignoring the "out" supply and sending the new timed supply back to the controller at the opposite side of the loop.

Electrical Supply

All wiring external to the appliance must conform to the current BS 7671 (U.K) & Safety Document 635, ETC: Part 1 section 5.6.4., The Electricity at Work Regulations. The cooker requires a 230V-240V, 50 Hz supply. Connection of the appliance and any system controls to the mains supply must be through a moulded on plug top (fitted with a 5 amp fuse) which is fitted to the appliance with EN 60335, Consumer Protection, SI 1994 No. 1768, plug and sockets etc. (safety) Regulations 1994.

Note: always install in accordance with current local wiring regulations and consult a qualified electrician when exposing or working with wiring.

WARNING: This Supply Must Be Earthed
 (Refer to B.S.7430: Code for Practice of Earthing).

Where there is a risk of low voltage occurring, a voltage sensitive device should be fitted to prevent start up of the burner and not to endanger the installer.

To isolate the appliance completely, unplug from the mains socket. Always ensure that this socket is easily accessible and close to the appliance.

Persons in charge of this appliance should be aware of this socket outlet position.

10.0 CLEARANCES TO COMBUSTIBLES

When bringing your kitchen units up to the sides of the cooker, leave a 10mm gap between the cooker and the adjacent units. If an optional hob side filler strip is fitted to the cooker, this gap can be reduced to 5mm. Likewise the base of your units can be brought up flush to the cookers built in plinth. When bringing the worktop up to the side of the hob, leave a 10mm gap to combustible material. Where the flue passes through a combustible material, a twin wall solid packed insulated chimney connector must be used, it must come flush with the outer surface of the material and run all the way to the masonry chimney or to the point of termination of the factory made chimney.

In the case of a newly fitted kitchen, you should discuss the installation of the cooker with your builder.

When installing a non-combustible worktop, it is necessary to allow adequate clearance for the removal of the hob.

11.0 OIL SUPPLY

11.1 OIL STORAGE TANK LOCATION

It is very unlikely that a fire should start from a domestic oil tank. However the oil tank does need to be protected from a fire, which may originate from a building nearby. For this reason, the tank should be located at least 1.8 metres from any building and no closer than 760mm from any boundary.

If it is not possible to keep these distances, the building wall should not have any openings other than ventilation openings. In addition, the wall should have at least 30 minutes fire resistance and should extend 300mm higher and 300mm beyond both ends of the tank.

A non-combustible radiation barrier is an alternative but this must meet the requirements of BS 5410 Part 1 1997, "clause 28" Section 6.4.

Steel tanks must be mounted on brick or block piers with a waterproof membrane between the piers and tank.

See OFTEC Technical Information T19

Oil storage tanks should not be fitted within 1.8m of boiler flue outlets.

Do not allow household waste or hot ash containers in the vicinity of the oil storage tank or boiler flue outlet.

11.2 FLEXIBLE OIL PIPE(S)

A flexible burner oil hose is supplied with the cooker and must be wholly contained within the appliance case.

Note: a filter should not be fitted inside the boiler and all joints in the oil line must be oil tight. Soldered joints are not permissible. Before connecting to the boiler, always flush the complete oil supply line and ensure that oil supply is completely clean and free of any dirt or foreign matter.

11.3 SINGLE PIPE SYSTEM

Where installation is such that the level of the bottom of the oil tank is situated above the burner(s), a single pipe system may be used.

11.4 TWO PIPE SYSTEMS

Where installation is such that the level of the bottom of the oil tank is situated below the burner(s), a two-pipe system is required. Ensure that valves and filters are not fitted in the return line, as this line must be unobstructed at all times. In this case, the oil burner pump should be set for two-pipe operation.

11.5 TIGERLOOP SINGLE PIPE SYSTEMS

IMPORTANT

The tigerloop should not be fitted inside the dwelling - see tigerloop manufacturer's instructions.

Where installation normally requires a two-pipe system but has long or impractical return line runs, a tigerloop de-aerator can be used - removing the air from a single pipe lift oil feed. Higher lift heights can be achieved than are possible with conventional two-pipe systems.

Individual tigerloop instructions must be followed implicitly.

11.6 FIRE VALVES

A Fire valve is an essential part of the oil supply system. It should be capable of cutting off the flow of oil outside the building, in the event of a fire starting up within the cooker. The valve should be located just outside the building at the point where the oil supply line enters. It must be activated by a remote sensor located over the burner, but in a position clear of any direct radiation or excessive heat.

IMPORTANT: Fire valves should comply with OFTEC Standards OFS E101. Fitting of fire valves should comply with BS: 5410 part 1.

12.0 SERVICING

Note: Firebird recommends that the cooker be serviced and/or commissioned by a competent person, preferably OFTEC trained and registered.

12.1 RECOMMENDED SERVICE INTERVALS

A service should be carried out annually.

Before carrying out a service it is recommended that the following be checked:

1. Smoke.
2. CO2.
3. Flue gas temperature.
4. Oil pressure.
5. Flue is unrestricted & operating properly.
6. Oil and/or combustion leaks.

Advance to service **ONLY** after ensuring that both electric and oil supply to boiler is safely isolated.

12.2 OIL TANK

Draw off any accumulated water and sludge from the tank by opening the drain cock. Turn off the oil supply and remove the filter bowl. Then wash the element clean with Kerosene.

12.3 BOILER, PRIMARY CHAMBER & BURNERS

WARNING: Isolate the appliance completely by unplugging the mains socket.



To access the burners, begin by opening the bottom left door (boiler) and top left door (primary chamber) as shown. Then open the service access doors using the service key provided. The top door will swing open but the bottom door will need to be removed by lifting upwards and outwards.



Once the door is removed, you can see the right snorkel hose for the oven burner and the left snorkel hose for the boiler burner.



Loosen both clips using a star head screwdriver or 7mm socket.



Release both snorkel hoses at one end as shown, to facilitate accessing the burners.

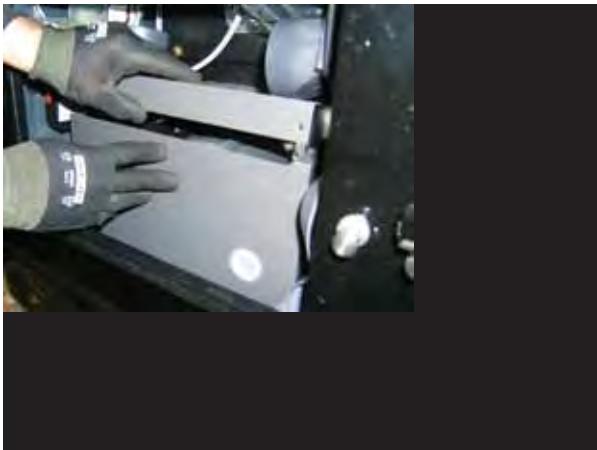
BOILER



As the snorkel hoses are extendable, it is possible to push them back into the side as shown.



In models where there is a boiler burner cover, remove screws.



Remove boiler burner cover as shown in the following images.

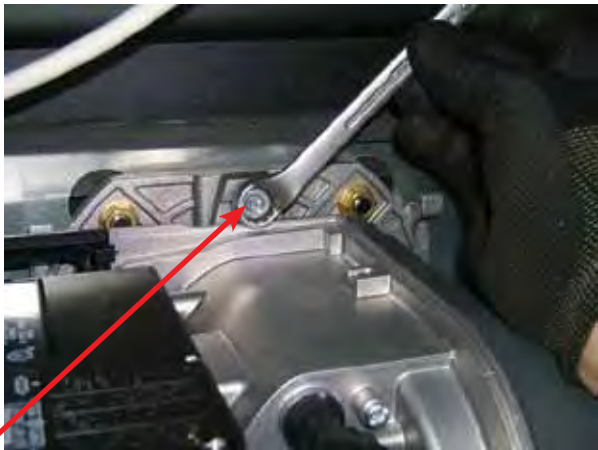


Remove the three screws on the left side of the boiler burner cover to remove the side panel.



Remove the two screws as shown to take out the lower door mounting panel. This will allow room to remove the boiler burner.

NOTE It is advisable to cover this area with a piece of cardboard or something suitable to protect it against getting damaged during burner removal.



Remove the nut securing the boiler burner as shown.



Lift the boiler burner out until the blast tube is clear of the flange.



Leave the boiler burner out at this point and move up to the oven burner located in the primary chamber.

OVEN BURNER



Lift the boiler burner upwards.

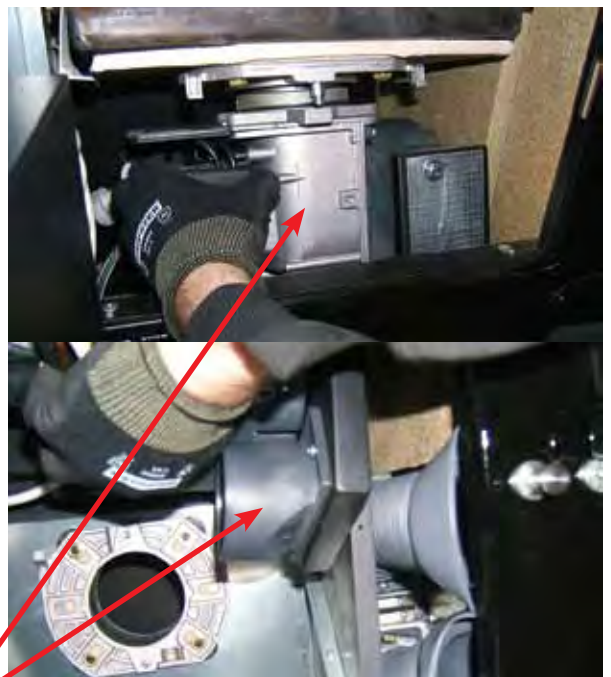


Using one hand to support the burner upwards, remove the securing nut as shown.



The boiler burner can now be removed.

Note: oil line is still connected. Care should be taken not to damage line.



Carefully lower the oven burner and tilt as much as necessary in order to allow the snorkel adapter to pass the boiler burner cover side panel.



The oven burner can now be removed.

Note: oil line is still connected. Care should be taken not to damage line.



Both burners are now removed.

1. Check performance of the oil nozzle and replace if necessary. Ensure correct specification replacement nozzle is used.
2. Inspect all oil filters and replace if necessary.
3. Remove the burner, clean the blast tube and ensure that airways are clear.
4. Ensure electrodes are clean, dry, not broken and are set as per burner specifications.
5. Clean the fan and photocell.
6. Once again check flexible oil lines and connections for damage or leaks and replace if necessary.

PRIMARY CHAMBER



To inspect the primary chamber, the heat shield must be removed.



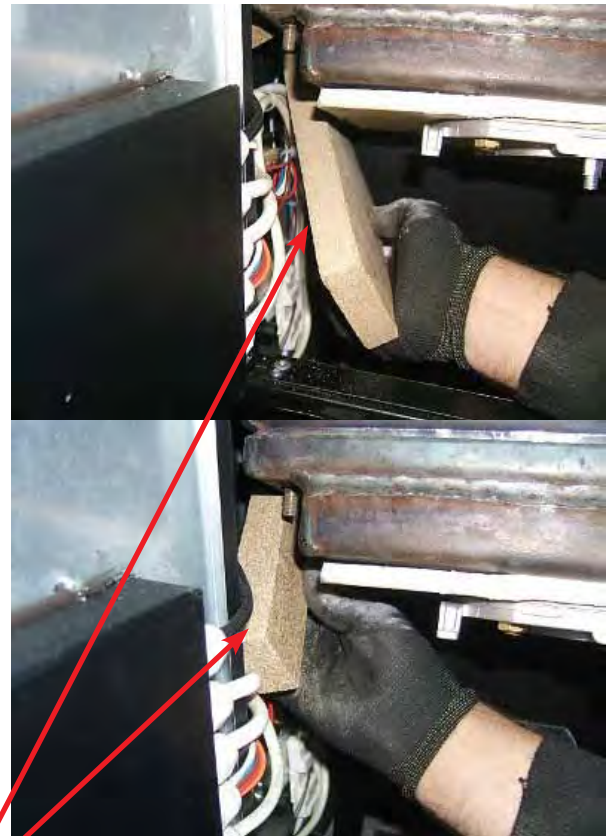
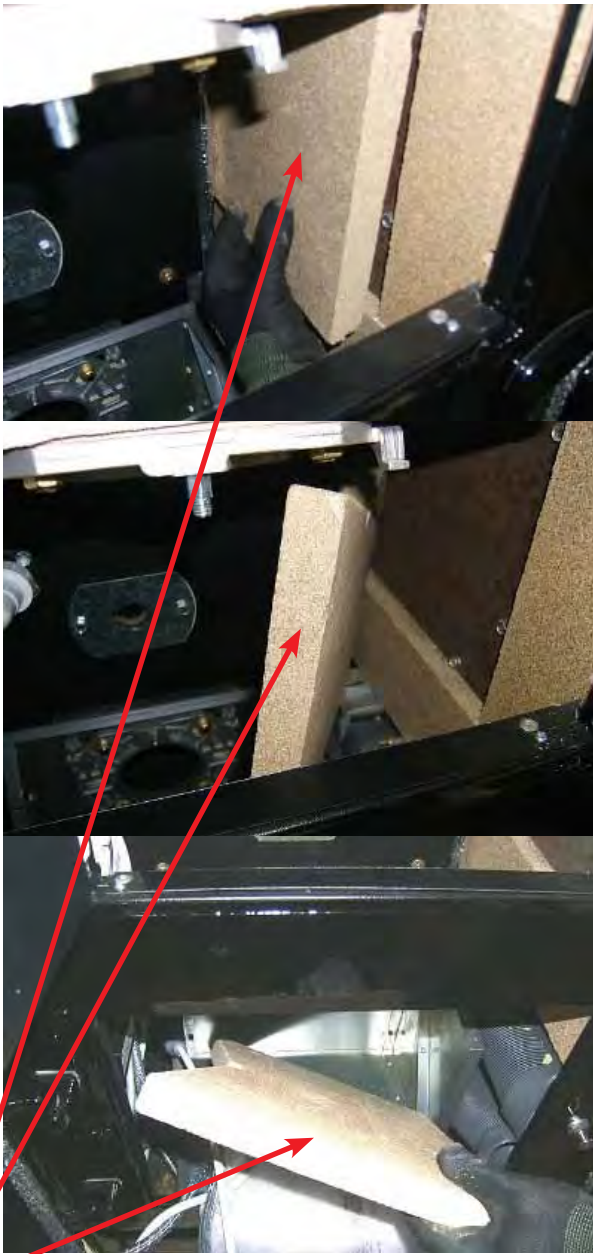
To remove the heat shield, lift up (approx. 15mm), pull outwards and slip downwards as shown.



The primary chamber door is as shown.



Remove the insulation support pad as shown.



Remove the primary chamber side insulation as shown (two parts).

Then remove the oven side panel insulation.
Note: This needs to be turned and extracted.



Remove the three remaining securing nuts of the primary chamber door.



Remove the wiring heat shield which is held with the front left securing nut of the primary chamber door.



The door can now be removed and the chamber inspected and vacuumed if necessary.



Remove the boiler door securing nuts.



Remove the retaining plate and O ring.



First remove the condense drain elbow. To do this, loosen the collar at the door side as shown here.



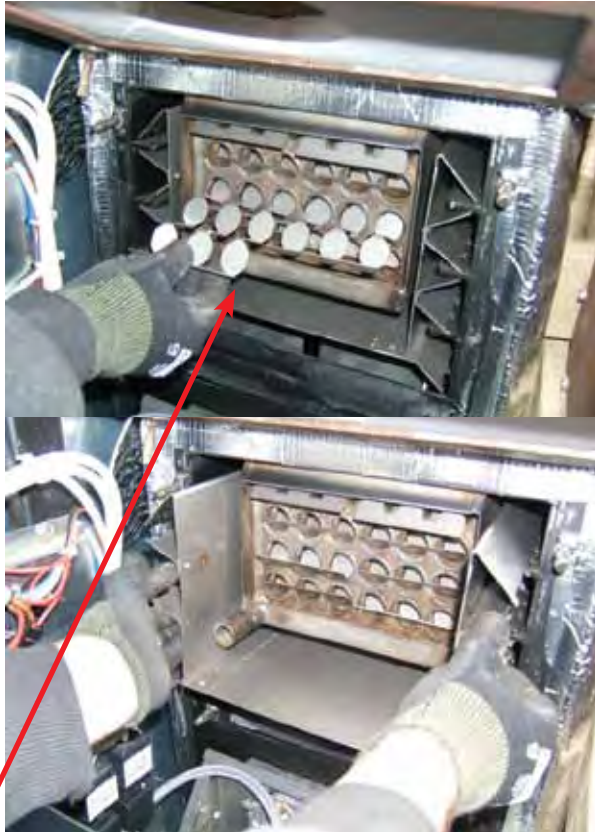
Remove the boiler door.



Then slide the elbow outwards.



Remove the gasket at this point.



The baffles are now visible.

Remove the baffles and clean using a soft brush or wire brush (in some cases it may be necessary to wash the stainless steel baffles with detergent eg. washing up liquid).

Clean the internal walls of the boiler using a soft brush or wire brush. Then use a vacuum cleaner to pick up any loose debris around the internal walls and the primary chamber.

After re-installing the various components and burners, please carry out a combustion analysis and ensure that the boiler is performing to specification as outlined in this manual. Flue conditions may cause deviation from these figures.

12.4 CLEANING OF COOKER

A non-abrasive multi surface product can be used to clean the enamelled components and the plates of the cooker (top and front). There are a wide variety of products available to customers that have been tested on vitreous enamelled components without causing damage. These products can be purchased at hardware or convenient stores. A soft cloth should be used to avoid scratching.

The oven should be cleaned with steel wool and wiped with a soft cloth. Once cleaned, a light layer of virgin olive should be applied to the internal surface.

There are no specific cleaning intervals for the cooker and it depends largely on the usage of the cooker and if spillages occur.

13.0 COMMISSIONING & HANDING OVER

It is the responsibility of the installer to ensure that the range cooker is properly commissioned. Failure to do so may invalidate the guarantee and any extended warranty.

The following checks must be carried out during commissioning:

1. Electrical check (is the wiring correct).
2. Fitting of a pressure gauge and venting of oil pump.
3. Adjustment of oil pressure to nominal input value.
4. Settings of combustion air to the declared burner settings (CO, CO₂, smoke).
5. A control check must be conducted to see if all components are functioning correctly.
6. The boiler should be checked to ensure that the system is full of water and functional.

Once a thorough check of the system has been made, the householder should be given a clear and concise demonstration of the boiler and cooker operation and system controls. The householder should receive OFTEC forms CD10 and CD11, this instruction manual, the burner manufacturer's manual plus any other relevant instructions/documentation. The guarantee card should be completed and posted. The householder should be advised about the importance of annual servicing.

14.0 TERMS & CONDITIONS OF GUARANTEE

This Firebird product is designed and manufactured to give many years of trouble free service. We offer a 5 year warranty on the cooker and boiler shell and 2 years warranty on all other parts, provided installation has occurred within 12 months from date of purchase. The 5 year cooker and boiler shell warranty consists of labour and parts for the first 3 years and parts only in years 4 and 5. The warranty is conditional on the cooker being commissioned and operated correctly.

The following terms, laid out in the guarantee must be adhered to:

- (a) All claims under the guarantee must be received within 5 years from the date of installation, provided installation has occurred within 12 months from date of purchase.
- (b) The cooker must be installed and commissioned by a competent person and as set out in this instruction manual.
- (c) Maintenance should be carried out at the intervals outlined in this manual.
- (d) Installation of the cooker must be in accordance with this instruction manual and all relevant standards and codes of practice.
- (e) Firebird can accept no liability in respect of any defect arising from incorrect installation, negligence, fair wear and tear, misuse, alteration or repair by unqualified persons.
- (f) Firebird's prior authorisation must be obtained before examination or repair of the cooker takes place.
- (g) Firebird will examine all claims made under the guarantee and for any claims deemed invalid, costs incurred will be borne by the householder.
- (h) The cooker must be used for domestic heating purposes only.
- (i) Any defective part removed under any or all of the guarantees, **MUST** be returned to Firebird.

THE STATUTORY RIGHTS OF THE HOUSEHOLDER
ARE NOT AFFECTED BY THIS GUARANTEE

15.0 CUSTOMER ACTION IN THE EVENT OF A FAULT

The customer must have proof of purchase of the product.
The customer must prove that the cooker was commissioned.
The customer should return to the store where the product was purchased. If the problem cannot be solved by this stage, Firebird will be contacted and send out a service engineer to analyse the fault.

Republic of Ireland

Firebird Heating Solutions Ltd.
Údarás Industrial Estate,
Baile Mhic Íre,
Co. Cork,
Ireland.

t: +353 (0)26 45253

f: +353 (0)26 45309

e: info@firebird.ie

www.firebird.ie

Northern Ireland

Firebird Heating Solutions Ltd.
Shean,
Forkhill,
Newry,
BT35 9SY.

t: +44 (0)28 3088 8330

f: +44 (0)28 3088 9096

e: firebirdproducts@hotmail.co.uk

www.firebird.ie

United Kingdom

Firebird Heating Solutions Ltd.
Central Avenue,
Lee Mill Industrial Estate
Nr. Ivybridge,
Devon PL21 9PE
United Kingdom.

t: +44 (0)1752 691177

f: +44 (0)1752 691131

e: sales@firebirduk.co.uk

www.firebirduk.co.uk