DEAR PURCHASER

Thank you for buying a Falcon Fire. I am confident that in years to come your home will benefit from its convenience and cheerfulness. I am also proud to tell you that all Falcon Fires are manufactured in Ireland by my company, AdaCo Manufacturing Ltd, and with nearly two decades in the heating business under our belts, we have a lot of experience of what the public wants in heating.

Falcon Fires owes its success to the quality of its original design ideas, but just as important, the continued growth in sales is due to the confidence shown in the product and in the ability of everyone here at Adaco.

COMPANY RESOURCES

Our design and production team have qualifications ranging from Gas Combustion to Quality Control which ensures the careful production of each product through to its completion. We see the importance of training and when coupled with Quality production methods we can then guarantee the production of Gas Appliances to the highest standards.

THE PRODUCT

When I first considered designing a Gas Fuel-effect Fire in 1986, I laid down three strict guidelines as to what the finished product should be and they are Quality, Realism and Efficiency. Of course I realised as the design progressed that the original three parameters weren't separate at all, but all linked together. By using 'Quality' as the keyword in the design the other two followed automatically, creating a realistic and efficient gas fire proven to be second to none.

Strict adherence to these three parameters has left my company and its products number one in Ireland. I feel sure you'll agree about the realism and efficiency, but it will only be in years to come that the quality of your fire will prove itself.

Enjoy your fire.

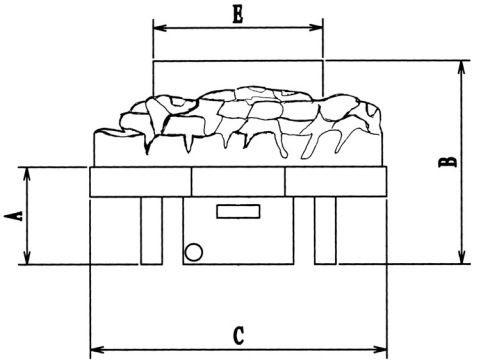
Ian Conboy
Managing Director

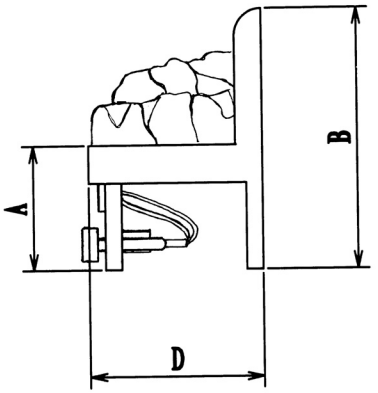
p.s. Make sure that your installation is carried out strictly to the relevant guidelines and standards.

ABOUT YOUR FALCON FIRE

Contents

TECHNICAL DATA





Technical Data

Gas Connection.....8 mm Compression Test Elbow
Burner.....Pre-aerated
Gas Input.....16” L.P.G. 6.6 KW/hr Net
.....18” L.P.G. 8 KW/hr Net
.....16” N.G. 7 KW/hr Net
.....18” N.G. 7.2 KW/hr Net

Injector’s.....16” L.P.G. Bray 190
.....18” L.P.G. Bray 240
.....16” N.G. Bray 530
.....18” N.G. Bray 600

Input Pressure Test Point.....Inlet Test Elbow

Operating Gas Pressures.....N.G. 20 mbar. 8 ins w.g.
.....L.P.G. 37 mbar. 14.8 ins w.g.

Burner Pressures(full rate) .....16” L.P.G. 35.5 mbar
18” L.P.G. 34.5 mbar
.....16” N.G. 15 mbar
.....18” N.G. 12 mbar

Ignition.....Piezo Electric
Electrode Spark Gap.....3-4mm
Pilot Flame Length 12-15mm

Flue Requirements Class One 7” min I.D.
.....(See page 4 Flueing).

Weight 4.5Kg (packed)

DIMENSIONS

	16 “ model	18“ model
A	135mm	135mm
B	250mm	250mm
C	345mm	400mm
D	225mm	285mm
E	230mm	285mm

Important Pre-Installation Notes

1.0 This appliance has been tested to comply to prEN509 and is intended for decorative purposes. The fire must be installed by qualified installer in accor dance with the installation instructions and all national and local regulations.

1.1 THE CHIMNEY/FLUE must be to Class 1 specification and have a minimum vertical height of 3 meters (10ft), with an internal diameter of not less than 175mm (7 ins). The flue must be clean prior to installation. Any dampers or register plates must be locked, open or removed.The installer must ensure that there is a positive upward draft in the flue.

1.2 THE FIRPLACE, builders opening and hearth should only be constructed of non-combustible materials. The hearth must be a minimum of 12mm thick, project at least 300mm in front and 150mm either side of the appliance and installed and sealed so that the updraft or air, which the chimney creates, can only be supplied through the fireplace opening.

1.3 THE GAS SUPPLY should be made using rigid or semi-rigid pipe and with not more that 1.5 meters of 8mm O.D. pipe, additional length of pipework may be in 10mm O.D. using 15mm or 22mm for longer lengths or routes, where pressure drop may be experienced, an isolation valve should be fitted to the gas line adjacent to the appliance for isolation during service work. This valve should have a suitable seat for propane or methane. Soft copper pipework should not be sued where pipework could exceed 100 degrees centigrade.

1.4 PIPE ROUTING AND PURGING should be by the shortest route and sleeved and sealed through solid walls. It is good practice to seal the open ends of the gas line before feeding it through walls in order to avoid any accidental pick up of debris, in particular longer pipe runs should be purged of debris before final connection.

1.5 VENTILATION ensure that the air ventilation requirements are in exact accordance with national regulations for appliances of 7 KW or under with a measured flue flow and also for appliances over 7 KW. Normal ventilation is 100cm sq. of free air space.

1.6 FALCON FIRE FORONTS have been designed for safe and convenient use with Falcon Fires, other fronts may be used but ensure a minimum of 30 cm sq. of air space at the base of the front.

1.7 O.D.S. this appliance is fitted with an oxygen depletion sensor O.D.S., which monitors the air quality in the room, shuting off the gas supply if combustion products are detected in the room.
IMPORTANT WARNING This component is non adjustable and requires no internal maintenances, do not alter, isolate or in any way put outof operaton any part of the ODS if the oxygen pilot needs attention, use only genuine Falcon spares.

INSTALLATION PROCEDURES

1.8 SERVICE this appliance should be serviced on an annual basis.

1.9 Prior to installation ensure that the local distribution conditions (Gas type and pressure) are compatable. See Gas Supply section P.5.

Installation Method

FIREPLACE PREPARATION

Falcon Fires come fully assembled, ready for installation, requiring no Internal adjustment or modifications. The Firebed should only be assembled after installation and should follow the section on page 14, ‘Arrangement of Firebed and Coals ’.

Securing the Falcon Fire to a non-combustible heart is by means of two rawlplugs and screws through the holes provided in the front leg of the appliance.

The gas connection can then be made through the 8mm compression elbow provided which also houses the pressure test point nipple.

N.B. It is important to secure the fire solidly to ensure that there will be no movement after the appliance is installed.

Please refer to User Section, pages 8 & 9 for Firebed arrangement and lighting procedure.

TESTING PROCEDURES

Combustion Products Clearance Tests

When the appliance is installed, commissioned or serviced the flue should be checked for spillage. This test shows whether the flue is operating
satisfactorily and if the ventilation is adequate.The test should be made using one of the following methods:
1. A smoke match or lighted taper, should be moved from side to side 50mm below the top of the opening.
2. Smoke should be blown from a smoke generator held just below the outer edge of the top opening.

THE PROCEDURE FOR CARRYING OUT THE SMOKE TEST IS AS FOLLOWS

1. Close all the doors and windows in the room containing the appliance.
2. Light the appliance. Wait 10 minutes.
3. If an extract fan or any other air consuming device (eg. solid fuel cooker, tumble dryer etc.) is installed in the same room or an adjoining room, firstly test for spillage with these devices off. Then operate these devices, wait approximately 5 minutes and repeat the spillage test again.

N.B. If the air consuming appliance are in an adjoining room then the second spillage test should be carried out with the adjoining doors open. If any spillage occurs, check to establish whether it is momentary or not, or due to the flue still being cold. If spillage persists check the flue and air vents. In addition to any visual inspection, the flueway should be tested with a smoke pellet, not alone to.see that all smoke is drawn into the flue, but also to insure that no smoke issues from any joint or opening within the building.

ALL FAULTS MUST BE REPAIRED.

Gas Pressure Check

Natural Gas Appliance Pressure .....20 mbar 8”w.g.
L.P.G. Appliance Pressure .....37 mbar 14.8w.g.
The inlet compression elbow also provides a pressure test point.

TO CHECK GAS INLET PRESSURE

Identify to correct Inlet pressure for the appliance type,
(Natural gas 20 mbar, L.P.G. 37 mbar).

With the pressure test device still connected to the appliance turn on the valves and light the appliance (See Page 9). Increase the gas consumption of the appliance to maximum. The pressure read should not be significantly different from the appliance pressure.

Any reduction in pressure would indicate a restriction in the line, faulty regulation or poor supply. Other appliances, particularly those with a high gas rating, being fed from the same branch should also be switched on its maximum setting. Then with all appliances running the pressure should be observed. A reduction could indicate incorrect pipe sizing.

INSTALLER NOTES

Note to the Installer

DEMONSTRATE THE OPERATION OF THE FIRE TO THE HOUSEHOLDER INCLUDING

1. Cleaning and arrangement of the coals.
N.B. Clean coals only with a soft brush, remove any larger matter by hand.
Do NOT use a vacuum cleaner.

2. The lighting procedure including, the operation of the pilot light and F.F.D. (thermocouple) and the gas flow rate (volume) adjustment section of the control.

3. Explain how the fire can be lit using a match to the pilot light (in case of Piezo Electric Failure).In order to continue the safe and efficient use of the appliance point out that regular yearly servicing is recommended.

4. All gas isolation valves and their operation.

5. Point out all relevant User sections in this Manual.

6. Point out to the customer the necessity to temper the appliances by running at a low setting for approximately the first four hours of use.

7. Explain that any odour due to the newness of the fire will pass after a few hours.

LEAVE THESE INSTRUCTIONS WITH THE CUSTOMER FOR SAFE KEEPING.

Servicing

IMPORTANT
Always turn the gas off at the supply tap before carrying out any maintenance on the appliance.

IMPORTANT
Always check for gas soundness after servicing, check all gas carrying joints that may have been disturbed during servicing.

ANNUAL SERVICING SHOULD ENTAIL
1. Inspection and cleaning of the flue.

2. Clean coals with a soft brush or replace as necessary.

3. Any soot deposits left on the pilot assembly can be cleaned off using a non fluffy cloth. Do not use an abrasive material.

PILOT LIGHT
Falcon Fires all operate a twin port pilot arrangement. One port is lit by the Piezo ignitor which then operates the thermocouple and flame failure device. The other port lights the main burner. Maintenance on the pilot assembly should only entail cleaning and setting of the gaps. When dismantling the pilot assembly, care should be taken to note the position of all components. Cleaning of the pilot light is by removing lint or fluff from either the top or bottom section.

THERMOCOUPLE AND FLAME FAILURE DEVICE

The thermocouple and flame failure device operates by heat from the pilot light on the thermocouple probe generating a small electrical current which has sufficient power to keep the safety valve on the gas control open.
So without heat on the thermocouple, no gas can flow to the main burner. Failure of the thermocouple is indicated by the same. A soot deposit on the thermocouple can also cause failure.
The Flame Failure Device (FFD) is operated by the Control knob of the gas valve and the system is constructed so that the F.F.D. can only be opened when the operation sequence is started from the fully "Off "position on the control valve. Thus securing that the control valve can supply gas to the pilot light only during the starting operation, while at the same time it is impossible to operate the starting sequence when the main gas valve is open.

REPLACING A THERMOCOUPLE

1. Care should be taken not to over-tighten the securing nut at the rear of the gas control.
2. Ensure that the alignment slots on the thermocouple probe sit in the Pilot assembly housing properly.

PIEZO IGNITION

The control valve is equipped with an Integrated Piezo ignitor which can only be activated when the control knob is pressed in from the "OFF" position and turned anticlockwise to the
ignition position.
On turning the knob, the flow of gas to the Pilot light is opened shortly before the start position is reached.
After ignition of the Pilot light the control knob is held down for about 10 seconds until the F.F.D. is held open, then the control knob can be released and turned further anti-clockwise to open the gas flow to the main burner.

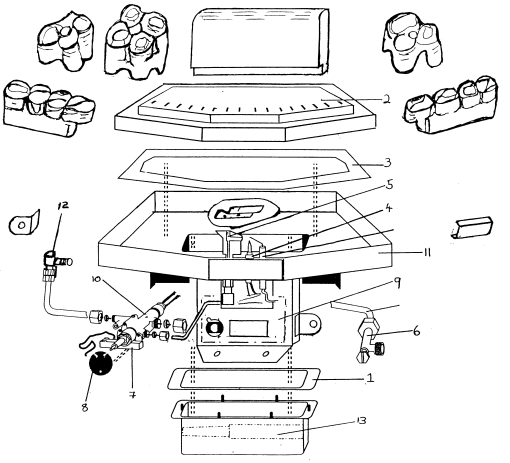
WHEN REPLACEING OR RESETTING ELECTRODE

1. Extreme care should be taken not to put pressure on the bake lite body of the Electrode. Unscrew the mounting bolt so as to loosen the pilot assemly brackets just enough to adjust or replace or the electrode.
2. From the tip of the Electrode to the Electrode to the Thermocouple head should be 4mm and on the same vertical plane. (See figs. 9 & 10).
3. Clean the component parts of the pilot assembly to ensure a bright blue spark when lightning.

INSTALLER NOTES

Spares List – see diagram

Diag No.	Description	Order Code
1	Mixing Tray Gasket	AC1
2	Burner Plaque 16" +18"	CBP16/CBP18
3	Burner Plaque Gasket	AC2
4	Thermocouple 350mm M9	SG1
5	O_2 Depletion Pilot Assembly	CS1
6	Test Elbow 8mm	TE1
7	Piezo Driver + Lead	SG 4
8	Gas Control Knob	SG2
9	Gas Control Sign	SG 3
10	Gas Control Value	SG 1
11	Main Tray	AC16
12	Injection elbow Nat Gas 16" Br. 600	
	18"	Br.
	LPG 16"	Br. 190
	18"	Br. 280
13	Mixing Tray + Venturi	AC3
	(see user section for renewable ceramics)	



Arrangement of Firebed and coals

TO ACHIEVE THE BEST VISUAL EFFECT FROM YOUR FALCON FIRE IT IS IMPORTANT TO FOLLOW THE INSTRUCTIONS CAREFULLY

USER SECTION

1. Place the ceramic rear insulating plaque (A) at the rear of the fire burner (fig. 1) making sure that the taper of the plaque corresponds with the taper of the burner tray.

2. Place the right hand (R) and the left hand (L) moulded coal matrix along the front edge of the fire burner (fig. 1) making sure that no part of these coals touch the pilot assembly in the centre front of the fire tray.

3. Place the left hand (L), centre (C), and right hand (R) main coal beds at the rear of the burner plaque, up against the ceramic rear plaque (fig.2), space the 3 coals evenly apart from left to right. There should now be a gap between the main coal bed. and the rear of the front coal matrix.

4. Install all the loose coals as follows (18 coals for the 18" unit, 15 coals for the 16 " unit) Place 7 coals (6 coals for the 16" unit) across the gap between the front coal matrix and main coal bed. Place a further 6 loose coals (5 for the 16" unit) on the main coal beds sloping back to therear ceramic plaque.(fig.3.)

5. Place the remaining coals on top of the main fire bed ensuring a gradual slope upwards to the back of the fire is maintained. (fig. 4.)

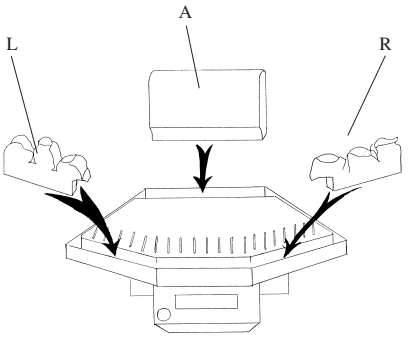


fig.1

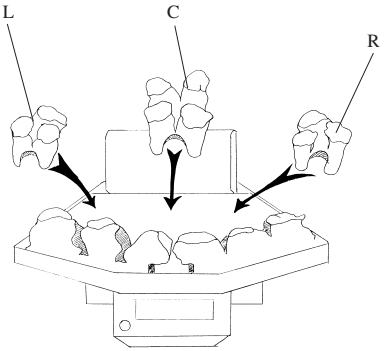


fig.2

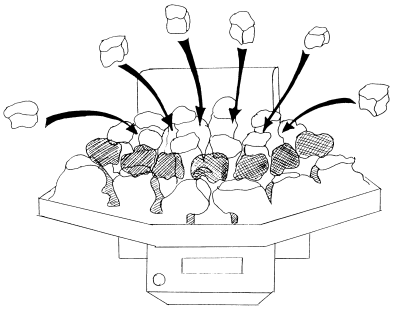


fig.3

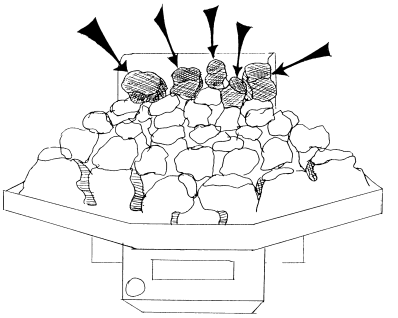


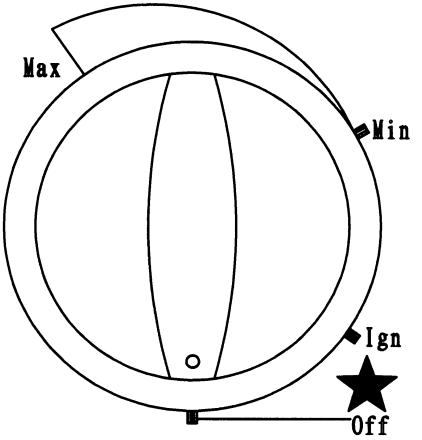
fig.4

Lighting Procedure and Operation

USER SECTION

TO LIGHT THE PILOT

The pilot can then be lit as follows.
With the gas control knob pointing towards the “off” position, press and turn the knob, anticlockwise towards the Pilot/Ignition position.
You will hear the “click” of the Piezo Ignitor and the pilot should light.
If however, the pilot fails to light, repeat the procedure. When the pilot is lit at both ports, hold the gas control knob in for approximately 10 seconds until the flame failure device is engaged.
In the unlikely event of failure to ignite the Pilot light by normal means, it is possible to ignite it by a match when the switch is pushed in at the pilot/ignite position. (Fig.9)



LIGHTING YOUR FALCON FIRE

With the Pilot light lit, gas will flow to the burner by turning the control knob further anti-clockwise towards the maximum setting (Fig. 10). With the control now at maximum, the “volume” of the fire can be adjusted within the range by rotating the knob.
The fire can only be returned to the ‘Pilot’ or ‘Off’ position by depressing the control knob and rotating clockwise to either the ‘Pilot’ of ‘Off’ position.

TEMPERING

It is important to run the fire at a low setting for approximately 4 hours so as to get the best service life from your coals and fire.You may notice a slight odour from your fire and a greenish tinge to the flames which will disappear after an initial four hours.

User Replacement Parts

	Description	Code	Quality/pack
1	Coals 16”	MC1	15
2	Coals 18”	MC2	18
3	Ceramic Rear Plaque 16”	CFC16	1
	18”	CFC18	1
4	Front Moulded Coal 16” LHS	CMC16	1
	RHS	CHC16	1
5	Front Moulded Coal 18” LHS	CMC18	1
	RHS	CHC18	1
6	Main Coal Bed set	CB3	3

N.B. Use only genuine Falcon spare parts

General User Information & Maintenance

2.1. This appliance has been tested to comply with prEN509 and is intended for decorative purposes. The fire must be installed by a qualified installer in accordance with the installation instructions and all national and local regulations.

2.2 FIREGUARD: This appliance has a naked flame and it is strongly recommended that a fire guard be used for the protection of young children, the elderly or infirm.

2.3 FIREBED LAYOUT: Never alter the firebed layout as described in this manual, either by adding additional coals or by throwing rubbish on to the appliance.

2.4 CHIMNEY/FLUE: The flue should be swept clean prior to installation and checked regularly to ensure that all the products of combustion are being cleared.

2.5 O.D.S.: This appliance is fitted with an Oxygen Depletion Sensor (ODS), which monitors the air quality in the appliance room, shuting off the gas supply if combustion products are detected in the room. If the fire repeatedly turns itself off, a qualified engineer must be called to check the complete installation.

2.6 SERVICE: This appliance should be serviced on an annual basis by a qualified person, also at regular intervals ensure that all products of combustion are being cleared into the flue. When the appliance is cold remove any larger pieces of foreign matter, (debris, soot etc.) and also dust off coals using a soft brush.
New ceramics are available through your supplier or through our mail order service, always quote Serial No and Model No.

2.7 Any purpose provided installation should be checked regularly to ensure that it is free from obstruction.

USER INSTRUCTIONS

Guarantee

REGISTRATION OF GUARANTEE

Falcon Gas Fires

Falcon Gas Fires are unconditionally guaranteed for a period of One year from the date of purchase on all parts and labour, where the unit is subjected to normal wear and tear.