



Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised re-cycling agent. This will allow the recycling of raw materials and help protect the environment.



Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.

sip
SIP INDUSTRIAL

machinery specialists since 1968

Fireball 74XRDT

Infrared

Diesel / Paraffin Heater



09311

Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference.

FOR HELP OR ADVICE ON THIS PRODUCT PLEASE CONTACT YOUR DISTRIBUTOR, OR
SIP DIRECTLY ON:
TEL: 01509500400
EMAIL: sales@sip-group.com or technical@sip-group.com
www.sip-group.com

Declaration of Conformity

We

SIP (Industrial Products) Ltd
Gelders Hall Road
Shephed
Loughborough
Leicestershire
LE12 9NH
England

As the manufacturer within the UK, England, Scotland & Wales, declare that the

Fireball 74XRDT Infrared Diesel / Paraffin Heater - SIP Pt No:
09311

Conforms to the requirements of the following directive(s), as indicated.

- Supply of Machinery (Safety) Regulations 2008
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012
Electromagnetic Compatibility Regulations 2016

And the relevant harmonised standard(s), including:

- BS EN 60335-1:2012+A11:2014
BS EN 60204-1:2006+A12009
BS EN 61000-3-2:2014
BS EN 61000-3-3:2013
BS EN 61000-6-2:2005
BS EN 61000-6-4:2007+A1:2011
BS EN 62233:2008
BS EN ISO 12100:2010

Handwritten signature of Paul Ippaso

Signed:

Mr P. Ippaso - Director - SIP (Industrial Products) Ltd
Date: 14/03/2011



Declaration of Conformity

We

SIP (Machinery Europe) Ltd
ASM Chartered Accountants
First Floor Block One
Quayside Business Park
Dundalk
County Louth
Republic of Ireland

As the manufacturer's authorised representative within the EC

Fireball 74XRDT Infrared Diesel / Paraffin Heater - SIP Pt No:
09311

Conforms to the requirements of the following directive(s), as indicated.

- Machinery Directive 2006/42/EC
Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) - Directive 2002/95/EC
Electromagnetic Compatibility - Directive 2014/30/EU

And the relevant harmonised standard(s), including:

- EN 60335-1:2012+A11:2014
EN 60204-1:2006+A12009
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 61000-6-2:2005
EN 61000-6-4:2007+A1:2011
EN 62233:2008
EN ISO 12100:2010

Handwritten signature of Paul Ippaso

Signed:

Mr P. Ippaso - Director - SIP (Industrial Products) Ltd
Date: 14/03/11.



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Danger / Caution: Indicates risk of personal injury and/or the possibility of damage.



Warning: Risk of electrical injury or damage!



Note: Supplementary information.

SAFETY INSTRUCTIONS



IMPORTANT: Please read the following instructions carefully, *failure to do so could lead to serious personal injury and / or damage to the heater.*

When using your heater, basic safety precautions should always be followed to reduce the risk of fire, electric shock, personal injury and / or damage to the heater. Read all these instructions before operating the heater and save this user manual for future reference.

SIP recommends that this heater should *not* be modified or used for any application other than that for which it was designed. If you are unsure of its relative applications do not hesitate to contact us and we will be more than happy to advise you.

KNOW YOUR HEATER: Read and understand the owner's manual and labels affixed to the heater. Learn its applications and limitations, as well as the potential hazards specific to it.

DO NOT USE THE HEATER IN DANGEROUS ENVIRONMENTS: Do not use your heater in damp or wet locations, including bathrooms or similar or expose it to rain. Always provide adequate space around the heater.

DO NOT OPERATE THE HEATER IN EXPLOSIVE ATMOSPHERES: Do not use the heater in the presence of flammable liquids, gases, dust or other combustible sources.

KEEP CHILDREN AND UNTRAINED PERSONNEL AWAY FROM THE WORK AREA: All visitors should be kept at a safe distance from the work area.

STORE THE HEATER SAFELY WHEN IT IS NOT IN USE: The heater should be stored in a dry, locked cupboard, or similar when not in use wherever possible and out of the reach of children.

STAY ALERT: Always watch what you are doing and use common sense.

Permanent Pilot Flame Power Requirement	Pilot Flame Power Requirement (if Applicable)	Pilot	N/A	kW	SIP (INDUSTRIAL PRODUCTS) LTD, Gelders Hall Road, Shepshead, Loughborough, Leicestershire LE12 9NH, Tel: 01509500500.					
						Contact Details				

DISCONNECT THE HEATER FROM THE MAINS SUPPLY: When not in use.
AVOID UNINTENTIONAL STARTING: Make sure the switch is in the **OFF** position before connecting the heater to the mains supply.
DO NOT ABUSE THE MAINS LEAD: Never carry the heater by the mains lead or pull it to remove the plug from the mains socket. Keep the mains lead away from heat, oil and sharp edges. If the mains lead is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid unwanted hazards.
HAVE YOUR HEATER REPAIRED BY A QUALIFIED PERSON: The heater is in accordance with the relevant safety requirements. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user.

- **DANGER!** Check that the heater is in sound condition and good working order. Take immediate action to repair or replace damaged parts.
- Use recommended parts only - Unapproved parts may be dangerous and will invalidate the warranty.
- **WARNING!** Do not direct the front of the heater towards any combustible materials (e.g. wooden items, cloth, plastics, paper, etc).
- Only operate on a level and stable surface.
- **WARNING!** Do not use the heater near flammable material, liquids, solids, gases or compressed gas cylinders.
- Do not allow untrained persons to operate the heater and do not operate the heater without all covers etc. correctly fitted.
- Do not move or handle the heater when it is running or still hot - always turn it off and allow it to cool.
- Do not leave the heater unattended when in use. Switch the heater off and unplug from the mains supply before leaving the work area.
- Do not obstruct the air inlet (rear) or air outlet (front) of the heater.
- Do not use any form of ducting in front or at the rear of the heater.
- Do not allow children or animals near the heater, particularly when in use, or while still hot.
- **WARNING! RISK OF ELECTRIC SHOCK.** Do not expose the heater to water spray, rain, dripping water or moisture of any kind.
- Do not touch the heater outlet or any internal parts when first switched off as these can be hot and will take time to cool.
- Ensure that the heater is correctly turned off when not in use and stored in a safe, dry area, out of reach of children.
- Do not unplug the heater to switch it off - always use the on/off switch.
- **NEVER** use this heater where flammable vapours may be present.
- Keep all combustible materials away from this heater.
- When using the heater for the first time, you may notice a slight emission of smoke, or a slight burning smell. This is normal and will stop after a short time. Parts of the heater

were coated with protection oil during production. The smoke / smell is caused by any small residue of this oil.


- **NEVER** cover the heater.
- **NEVER** move or handle the heater while still hot.
- **ALWAYS** locate the heater on a stable and level surface.
- **ALWAYS** keep children and animals away from heater.
- Only use the heater in an upright position.
- Never stand on the heater.
- **DO NOT** dismantle or tamper with the heater, as this may be dangerous and will invalidate the warranty.
- Use only the electrical power (voltage and frequency) specified on the specification label of the heater.
- Use only a three-prong, grounded outlet.
- **ALWAYS** unplug the heater when not in use.
- **Do not** cover the heater.
- Understand the operating environment; Before each use the operator should assess, understand and where possible reduce the specific risks and dangers associated with the operating environment. Bystanders should also be made aware of any risks associated with the operating environment.
- Use only the electrical power (voltage and frequency) specified on the specification label of the heater.
- Use only a three-prong, grounded outlet.
- **ALWAYS** unplug the heater when not in use.

If a problem with the heater is experienced, or if the mains lead or plug become damaged, stop operation and contact your distributor for repair.

If the heater is used in a place of work all rules and laws etc. relating to the use of portable electrical appliances should be followed.

WARNING: Risk of Electric Shock!

This heater is only suitable for well insulated spaces or occasional use.



Caution: The warnings and cautions mentioned in this user manual can not cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be applied.

Model: 09311		Indirect Heating Functionality: No		Direct Heat Output: 20.3kW		Space Heating Emissions		Nox		46 mg/kWhinput (GCV)			
Fuel		Paraffin / Diesel		Liquid		Item		Symbol		Value		Unit	
Select Fuel Type						Useful Efficiency (NCV)							
Nominal Heat Output		P _{nom}		20.3		Useful Efficiency of Nominal Heat Output		η _{th, nom}		92.6		%	
Minimum Heat Output (indicative)		P _{min}		N/A		Useful Efficiency of Minimum Heat Output (indicative)		η _{th, min}		N/A		%	
Auxiliary Electricity Consumption						Type Of Heat Output / Room Temperature Control (select one)							
At Nominal Heat Output		e _{lmax}		0.115		Single Stage Heat Output, No Room Temperature Control						No	
At Minimum Heat Output		e _{lmin}		0.115		Two or More Manual Stages, No Room Temperature Control						No	
In Standby Mode		e _{lSB}		N/A		With Mechanical Thermostat Room Temperature Control						No	
						With Electronic Room Temperature Control						Yes	
						With Electronic Room Temperature Control Plus Day Timer						No	
						With Electronic Room Temperature Control Plus Week Timer						No	
						Other Control Options (Multiple Selections Possible)						No	
						Room Temperature Control, With Presence Detection						No	
						Room Temperature Control, With Open Window Detection						No	
						With Distance Control Option						No	
						With Adaptive Start Control						No	
						With Working Time Limitation						No	
						With Black Bulb Sensor						No	

PARTS LIST

Ref. No.	Description	SIP Part No.	Ref. No.	Description	SIP Part No.
1.	Fuel Tank	PW09-00450	30.	Insulator Plate	PW09-00474
2.	Fuel Gauge	PW09-00451	31.	Nozzle	PW09-00475
3.	Fuel Gauge Seal		32.	Burner Head Blade	PW09-00476
4.	Fuel Cap	PW09-00260	33.	Burner Head	PW09-00477
5.	Fuel Cap Seal (outer)		34.	Electrode	PW09-00478
5-1.	Fuel Cap Seal (inner)		35.	Nipple	PW09-00286
6.	Fuel Filter	PW09-00251	36.	Electronic Pump Pipe	PW09-00479
7.	Pumping Filter Seal	PW09-00452	37.	PVC Return Hose	PW09-00480
8.	Pumping Filter	PW09-00453	38.	Electric Pump	PW09-00481
9.	Cooling Motor Base	PW09-00454	39.	Fuel Hose	PW09-00482
10.	Cooling Motor	PW09-00455	40.	Photocell	PW09-00295
11.	Cooling Fan	PW09-00456	41.	Photocell Bracket	PW09-00296
12.	Support	PW09-00457	42.	Control Base	PW09-00483
13.	Mains Lead	PW09-00458	43.	Thermistor	PW09-00484
14.	Air Outlet Plate	PW09-00459	44.	Tilt Switch Wire	PW09-00311
15.	Front Guard	PW09-00460	45.	Tilt Switch	PW09-00310
16.	Cover Ring	PW09-00461	46.	PCB	PW09-00485
17.	Handle	PW09-00462	47.	Blower Motor	PW09-00486
18.	Main Cover	PW09-00463	48.	Blower Casing	PW09-00487
19.	Heating Plate	PW09-00464	49.	Blower Fan	PW09-00488
20.	Insulator	PW09-00465	50.	Inlet	PW09-00489
21.	Inner Body	PW09-00466	51.	Igniter	PW09-00490
22.	Inner Body Cover	PW09-00467	52.	Sub PCB Wire	PW09-00491
23.	Inner Body Gasket	PW09-00468	53.	Sub PCB	PW09-00492
24.	Air Guard	PW09-00469	54.	Rear Cover	PW09-00493
25.	Thermostat	PW09-00298	55.	Label	PW09-00494
26.	Thermostat Wire	PW09-00470	56.	Display Window	PW09-00495
27.	Rear Plate	PW09-00471	57.	Main Switch Cable	PW09-00496
28.	Burner Gasket	PW09-00472	58.	On/Off Switch	PW09-00497
29.	Diffuser	PW09-00473	59.	Stand	PW09-00498

ELECTRICAL CONNECTION

WARNING! It is the responsibility of the owner and the operator to read, understand and comply with the following:

You must check all electrical products before use to ensure that they are safe.

You must inspect power cables, plugs, sockets and any other connectors for wear or damage.

You must ensure that the risk of electric shock is minimised by the installation of appropriate safety devices; A residual current circuit Breaker (RCCB) should be incorporated in the main distribution board. We also recommend that a residual current Device (RCD) is used. It is particularly important to use an RCD with portable products that are plugged into a supply which is not protected by an RCCB. If in any doubt consult a qualified electrician.

Connecting to the power supply:

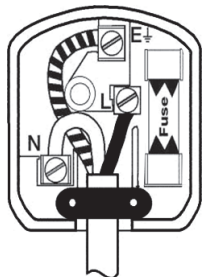
This SIP heater is fitted with a standard 230v ~ 13 amp type plug. Before using the heater, inspect the mains lead and plug to ensure that neither are damaged. If any damage is visible have the heater inspected / repaired by a suitably qualified person. If it is necessary to replace the plug a heavy duty impact resistant plug would be preferable.

The wires for the plug are coloured in the following way:

Yellow / green	Earth
Blue	Neutral
Brown	Live

As the colours of the wires may not correspond with the markings in your plug, proceed as follows: The wire which is coloured blue, must be connected to the terminal marked with N or coloured black. The wire which is coloured brown, must be connected to the terminal, which is marked L or coloured red. The wire which is coloured yellow / green should be connected to the terminal which is coloured the same or marked \perp

Always secure the wires in the plug terminal carefully and tightly. Secure the cable in the cord grip carefully.





Warning: Never connect live or neutral wires to the earth terminal of the plug. Only fit an approved plug with the correct rated fuse. If in doubt consult a qualified electrician.



Note: Always make sure the mains supply is of the correct voltage and the correct fuse protection is used. In the event of replacing the fuse always replace the fuse with the same value as the original.



Note: If an extension lead is necessary in order to reach the mains supply; The cross section should be checked so that it is of sufficient size so as to reduce the chances of voltage drops. Always fully unwind the lead during use.

GUARANTEE

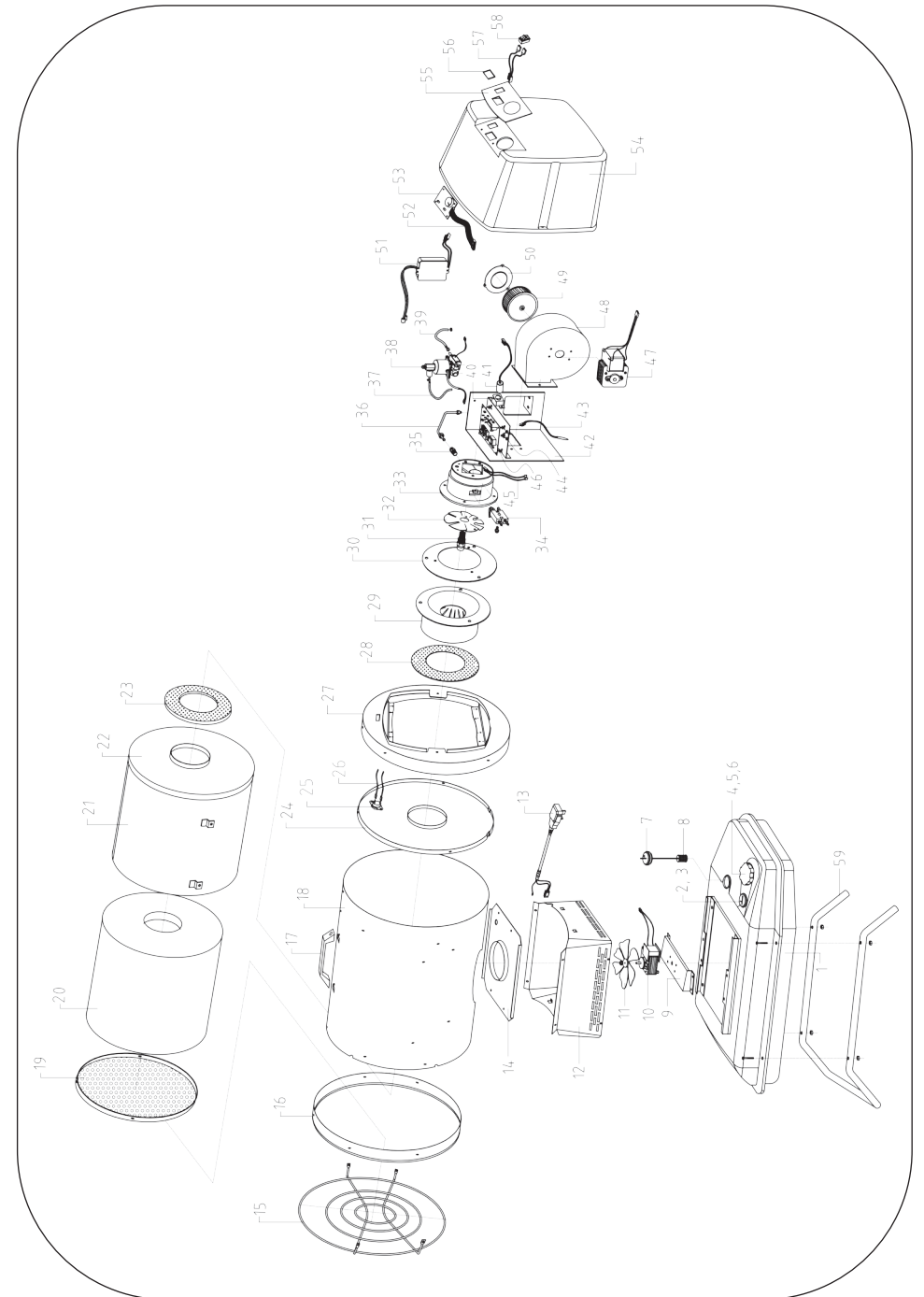
This SIP heater is covered by a 12 month parts and labour warranty covering failure due to manufacturers defects. This does not cover failure due to misuse or operating the heater outside the scope of this manual - any claims deemed to be outside the scope of the warranty may be subject to charges including, but not limited to parts, labour and carriage costs.

The warranty does not cover consumable parts such as filters and electrodes etc.

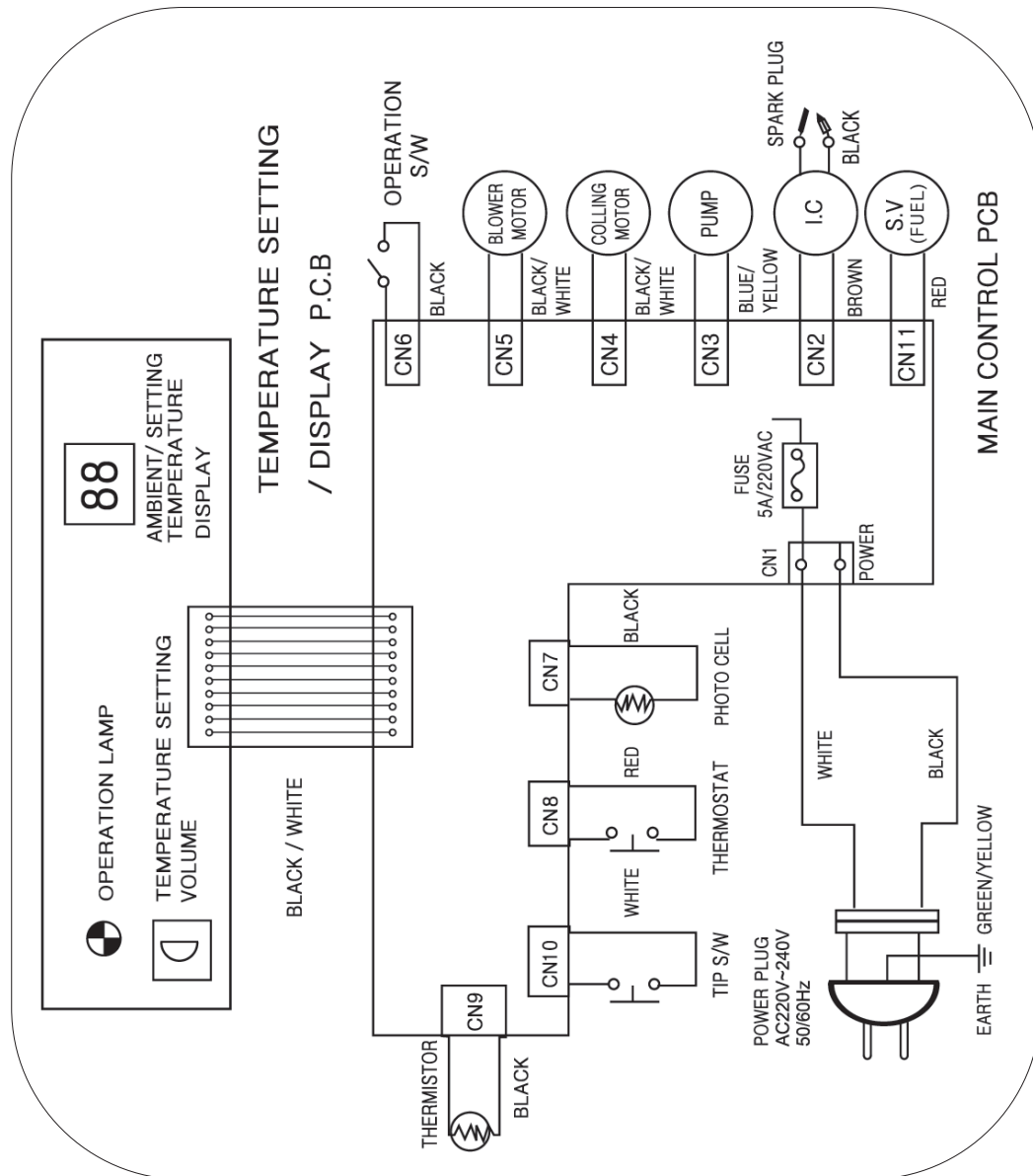
In the unlikely event of warranty claims, contact your distributor as soon as possible.



Note: Proof of purchase will be required before any warranty can be honoured.



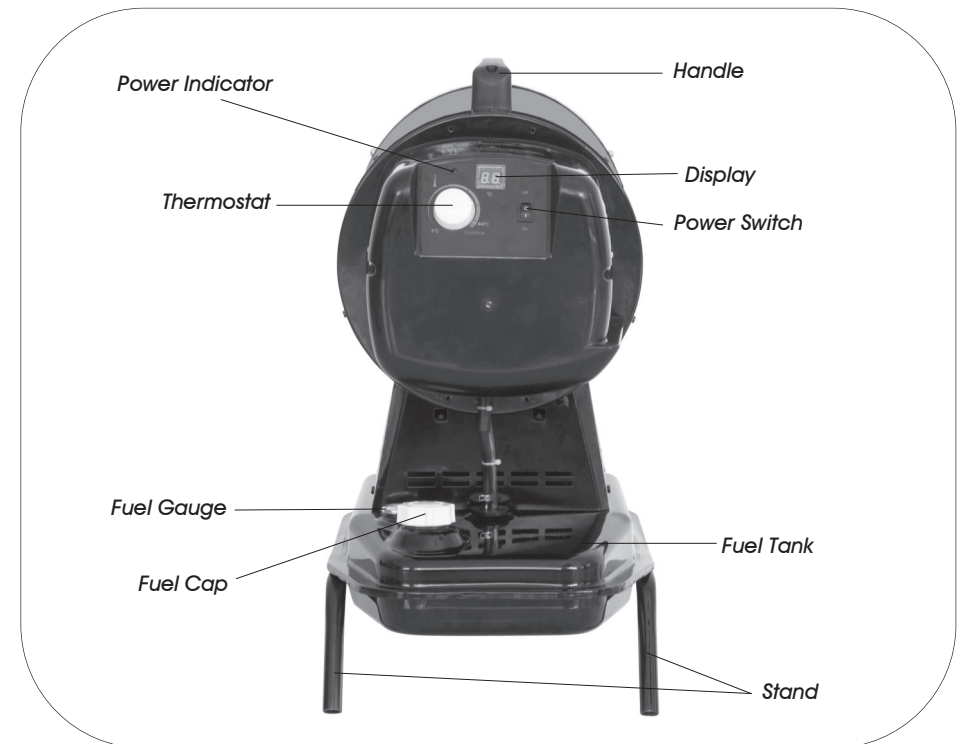
WIRING DIAGRAM



TECHNICAL SPECIFICATIONS

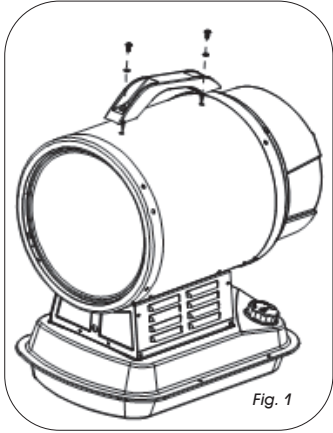
Part Number	09311
Input Voltage	220V - 240V ~ 50/60hz
Fuel	Diesel / Paraffin
Heat Output	70,000 BTU/hr (20 Kw)
Fuel Consumption	2.0L/Hr (Approx.)
Fuel Tank Size	12 Litres
Net Weight	19.5 Kg
Minimum Clearance Around Heater	Top - 1500 mm
	Sides - 1500 mm
	Rear - 1500 mm
	Front - 3000 mm

GETTING TO KNOW YOUR HEATER



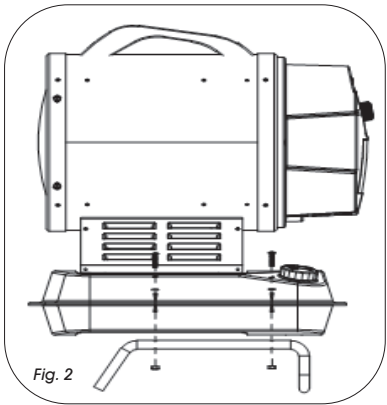
ASSEMBLY INSTRUCTIONS

FITTING THE HANDLE



- Attach handle by lining up the holes in the handle with the holes in the upper shell of the heater (fig.1).
- Insert screws and tighten.

FITTING THE STAND



- Line up the holes on the stand with the holes on the fuel tank of the heater as shown (Fig.2).
- Fit the screws through the holes and secure in place by fitting and tightening the nuts.

MAINTENANCE



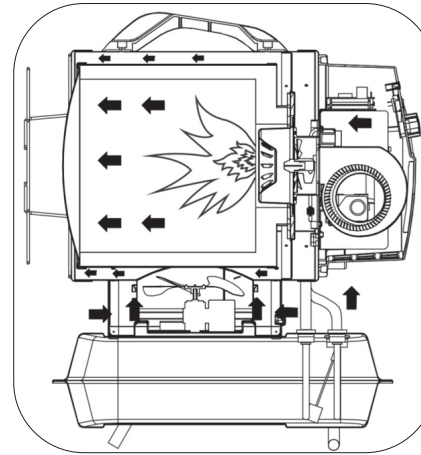
Danger: Maintenance operations should only be carried out by suitably qualified persons.

Component	Frequency	Procedure
Fuel Tank	Clean every 150-200 hours of operation or when necessary.	Empty and rinse with fresh fuel.
Nozzle	Clean or replace once per season or when necessary.	Contact service centre.
Photocell	Clean once per season or when necessary.	Contact service centre.
Fuel Filter	Clean or replace twice per season or when necessary.	Clean the fuel filter with clean fuel.
Ignition Device	Clean or replace every 1000 hours of operation, or when necessary.	Contact service centre.
Fan Blades	Clean when necessary.	Contact service centre.

ERROR CODES

Error Code	Cause	Solution
E0	Operator Error.	
	<ul style="list-style-type: none"> The power switch is in the On (I) position when the heater is connected to the mains supply. 	<ul style="list-style-type: none"> Disconnect the heater from the mains supply, turn the power switch to the Off (O) position and reconnect to the mains supply.
E1	Photocell Error.	
	<ul style="list-style-type: none"> No fuel in tank. Fuel is contaminated / dirty. Fuel filter is dirty / blocked. Photocell is dirty or faulty. Ignition error. 	<ul style="list-style-type: none"> Turn the power switch Off (O) and refuel the heater. Turn the power switch Off (O) and drain the fuel tank; Clean or replace the fuel filter and refill the tank with clean fuel. Clean or replace the fuel filter. Contact service centre. Contact service centre.
E2	Temperature Control Sensor Error.	
	<ul style="list-style-type: none"> Cable fallen off or damaged. Sensor faulty / damaged. Ambient temperature above 60°C. 	<ul style="list-style-type: none"> Contact service centre. Contact service centre. Normal .
E3	Thermostat Error.	
	<ul style="list-style-type: none"> Heaters internal temperature is too high. Anti-tilt sensor activated. 	<ul style="list-style-type: none"> Turn the heater off and allow it to cool, then restart. Set the heater on a firm level surface, and restart.
E4	Blower Motor Error	
	<ul style="list-style-type: none"> Input current too high; Above 247V. Motor obstructed. Motor Faulty. Loose Connection. 	<ul style="list-style-type: none"> Check supply and adjust accordingly. Check and clear obstruction. Contact service centre. Contact service centre.
E5	Cooling Motor Error	
	<ul style="list-style-type: none"> Motor obstructed Motor faulty. Loose Connection. 	<ul style="list-style-type: none"> Check and clear obstruction. Contact service centre. Contact service centre.
LO	<ul style="list-style-type: none"> Ambient temperature below - 9°C. 	<ul style="list-style-type: none"> Normal condition.
CH	<ul style="list-style-type: none"> Continuous operation (55°C). 	<ul style="list-style-type: none"> Normal condition.

OPERATING PRINCIPLE



Airflow is necessary to ensure proper combustion; It is supplied by the internal burner fan.

The air enters the burner funnel and gets mixed with a high-pressure fuel jet. The fuel flow is supplied by an electrical pump, which sucks the fuel from the tank and moves it to the nozzle under high pressure.

OPERATING CONDITIONS



WARNING! Air contaminants taken into the heater may affect the heat output, damage the heater and may cause health problems.

Example: Body-shop filler dust/paint overspray will damage the motor bearing, clog the filter and compressor and contaminate the combustion chamber causing flame flutter and health hazards. Please note that any parts damaged by filler dust/paint overspray or similar will not be covered by warranty. Additionally, a cleaning charge will be made for any heaters damaged by filler dust/paint overspray or similar.

VENTILATION

WARNING! Only operate and refuel/fuel the heater in well ventilated areas. careful consideration must be given to the placement of the heater to provide safe and comfortable heating. Ensure continuous ventilation is provided to the heater operating area. A ventilation opening **must** run to the outside of the premises in which the heater is to be operated.

OPERATING INSTRUCTIONS

- The Fireball 74 XRDT Infrared heater is suitable for well ventilated applications.
- Is a clean burning unit which operates on diesel or paraffin.
- The Heater develops 70,000 Btu/hr.
- The 13 litre fuel tank will run the heater for an extended period between refills.
- The heater is fitted with safety cut-outs to protect against over-heating and to protect the heater should it tip over.

STARTING THE HEATER

(see page 9 for descriptions).

- Fill the fuel tank until the fuel gauge points to "f".
- Ensure the fuel cap is secure.
- Plug the mains lead into a suitable power socket and turn the mains switch on.
- Push the Power switch to the on (I) position.
- The temperature that the thermostat is set to will be shown on the display:
 - * If the set temperature is lower than the ambient temperature, the heater will not run and after a few seconds the ambient temperature will show on the display; To start the heater, turn the thermostat control clockwise to raise the set temperature (as shown on the display) above the ambient temperature and the heater will run.
 - * If the set temperature is higher than the ambient temperature the heater will start to run.
- Once running the ambient temperature will show on the display.
- The set temperature can be adjusted at anytime during operation; Turn the thermostat control left to lower the temperature and clockwise to raise the temperature, at this time the temperature on the display indicates the set temperature and after a few seconds it will change to the ambient temperature.
- The heater will run until the ambient temperature goes above the set temperature, at which point the heater will automatically stop running until the ambient temperature drops below the set temperature, or the thermostat is turned up.

STOPPING THE HEATER

- Turn the power switch to the off (0) position.
- Combustion will stop and the cooling cycle will begin.
- When cooling cycle has been completed (fan stops running), it is safe to turn off and unplug the heater from the mains supply.

OPERATING INSTRUCTIONS...cont



WARNING! Do not turn the mains switch off or disconnect the heater from the mains supply to stop the heater or until the cooling cycle is complete.



WARNING! Turning the mains switch off, or removing the plug from the mains supply to stop the heater or before the cooling cycle is complete may cause overheating, possible damage to the heater and will void the warranty.