FANMASTER

COOLING HEATING VENTILATION EXTRACTION

# INSTRUCTION MANUAL

## INDUSTRIAL DIESEL RADIANT HEATER

**MODEL: HDR40**

**FOR INDUSTRIAL USE ONLY**
**ADEQUATE VENTILATION REQUIRED**

**TO PREVENT SERIOUS INJURY, READ & UNDERSTAND ALL WARNINGS & INSTRUCTIONS BEFORE USE. PLEASE KEEP THIS DOCUMENT FOR YOUR RECORDS**

# FOR YOUR INFORMATION

Thank you for purchasing a Fanmaster diesel heater. Please read this instruction manual carefully before using this heater.

**Disclaimer:**
Fanmaster reserves the right to make alterations to specifications, quantities, dimensions, for production or other reasons, subsequent to publication.
While we believe the information is accurate and complete, we make no warranty or representation for any particular purposes. The information is offered in good faith and with the understanding that any use of the units or accessories in breach of the directions and warnings in this document is at the sole discretion and risk of the user

**Disposal Guidelines:**
Do not dispose of this product with general household waste. This product must be disposed according to the laws governing Waste Electrical and Electronic Equipment. If required, contact your local authorities for information regarding the available disposal facilities.

# 1. GENERAL SAFETY RULES & WARNINGS

- **PLEASE READ INSTRUCTIONS CAREFULLY.**
- **PLACE INSTRUCTION MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE. DO NOT ALLOW ANYONE WHO HAS NOT READ THESE INSTRUCTIONS TO ASSEMBLE, ADJUST OR OPERATE THIS HEATER.**
- **IF THE INFORMATION IN THIS MANUAL IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT IN CAUSING PROPERTY DAMAGE, SERIOUS INJURY OR LOSS OF LIFE.**
- **FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.**
- **ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER. IF YOU NEED ASSISTANCE OR REQUIRE HEATER INFORMATION SUCH AS AN INSTRUCTION MANUAL, LABELS, ETC. CONTACT FANMASTER.**
- **ADEQUATE VENTILATION IS REQUIRED. DO NOT USE IN ENCLOSED ENVIRONMENTS.**
- **UNVENTED PORTABLE HEATERS USE AIR (OXYGEN) FROM THE EXISTING AREA. ADEQUATE COMBUSTION & VENTILATION AIR MUST BE PROVIDED.**
- **DO NOT STORE OR USE GASOLINE, PETROL OR ANY OTHER FLAMMABLE OR COMBUSTIABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS HEATER.**
- **FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS**
- **DIRECT-FIRED HEATERS MAY CAUSE CARBON MONOXIDE (CO) POISONING WHEN INCORRECTLY USED, E.G INDOORS WITHOUT ADEQUATE AIR CIRCULATION, OR IF NOT PROPERLY WORKING. CO POISONING MAY LEAD TO DEATH.**
- **NOT FOR DOMESTIC OR RECREATIONAL VEHICLE USE**
- **THE ELECTRICAL SYSTEM TO WHICH THE APPLIANCE IS CONNECTED MUST COMPLY WITH LOCAL REGULATIONS. A RESIDUAL-CURRENT DEVICE (RCD) MUST BE INSTALLED.**
- **UNPLUG THE APPLIANCE BEFORE PERFORMING ANY MAINTENANCE OPERATIONS.**
- **ALWAYS CHECK THE POWER CABLE BEFORE USING THE APPLIANCE. IT MUST NOT BE BENT, TAUT, STRETCHED, CRUSHED OR ANY WAY DAMAGED.**
- **IF THE POWER CORD AND/OR PLUG IS DAMAGED, IT MUST BE REPLACED BY FANMASTER, A SERVICE AGENT OR A QUALIFIED PERSONS.**
- **THE FRONT OUTLET IS VERY HOT DURING OPERATION. DO NOT TOUCH! BURN DANGER.**
- **DO NOT LEAVE THE HEATER UNATTENDED WHEN IN USE.**
- **NEVER USE THE HEATER WITH WET HANDS OR WHEN EITHER THE HEATER OR THE POWER CABLE IS WET.**
- **CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE HEATER.**
- **THE HEATER IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LOCK OF EXPERIENCE & KNOWLEDGE.**

# 2. PRODUCT DESCRIPTION & SPECIFICATIONS

**PRODUCT DESCRIPTION**

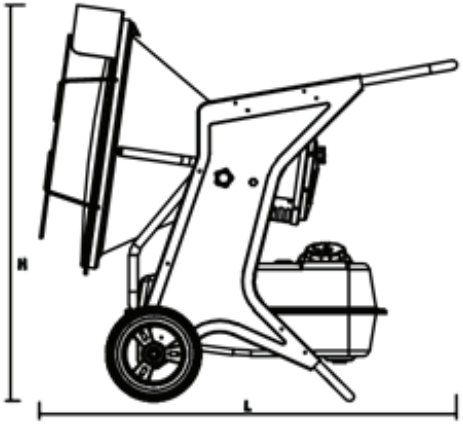
Industrial diesel or kerosene portable radiant heater with open combustion chamber.

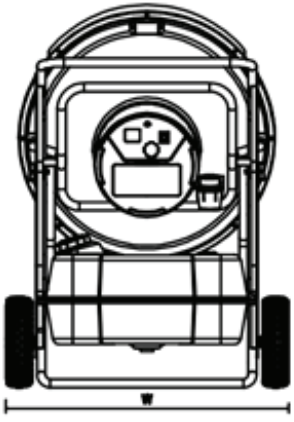
**SPECIFICATIONS**

| MODEL | HDR40 |
|---|---|
| Heat Output* | 40KW<br>136,480 BTU |
| Air Flow (L/s) | 165 |
| Fuel Type | Diesel or Kerosene |
| Fuel Consumption (L/h) | 3.8 |
| Fuel Nozzle Size (gph) | |
| Voltage (V/Hz) | AC220-240V/50 |
| Current Rating (A) | 0.33 |
| Electrical Power (W) | 80 |
| Net Weight (kg) | 27.2 |
| Dimensions (mm) | 925(L)*635(W)*860(H) |
| Tank Capacity (L) | 38 |
| Operating Range (H) | ~10 |

**OPERATING PRINCIPLE**

Air flow 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. The fuel flow is secured by an electrical pump, which sucks the fuel away from the tank and moves it to the nozzle under high pressure.

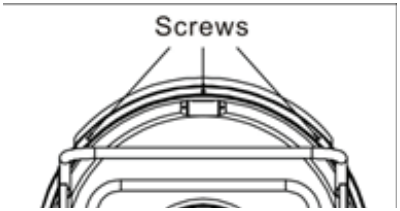


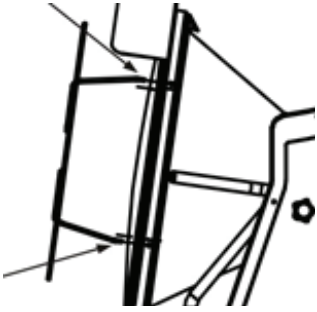
# 3. ASSEMBLING INSTRUCTIONS

Remove the heater from the carton. If the heater is damaged, please contact Fanmaster or where you purchased the heater from.

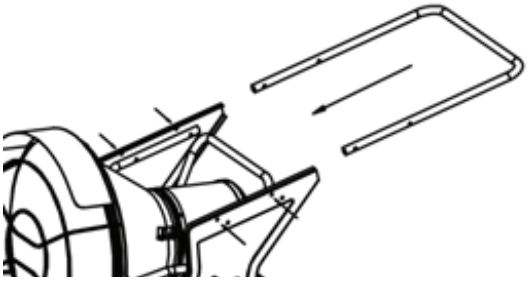
1. Attached Radiant Visor to the top/rear of the Radiant Cone Assembly using 3 screws




2. Attach Safety Guard to front of heater with screws provided



3. Place handle on main structure and fasten with screws provided.



# 4. OPERATING INSTRUCTIONS

- Position the heater on a flat, level, non-flammable & solid surface.
- Only position the heater in the normal upright position (on the wheels)
- Do not place the heater near walls, corners or low ceilings.
- Do not place the heater below a power socket outlet.
- Do not place the heater on moving vehicles or where it can tip over.
- Keep the heater away from flammable, combustible, explosive or corrosive materials.
- Keep the heater away from curtains or similar materials that could block the air inlet and outlet.
- Never block or restrict the air inlet and outlet for any reason.
- Keep the power cable away from heat sources, sharp edges, cutting and moving parts.
- Do not expose directly to the weather or to excessive humidity.
- Do not place the heater in the immediate surroundings of a bath, shower or swimming pool.
- Ensure the following minimum safety clearances from materials or objects in the surroundings of the heater:

| | |
|---|---|
| Side: | 0.6m |
| Air inlet side: | 1m |
| Top: | 1.5m |
| Hot air outlet side: | 3m |

**START-UP**

- Fill the tank with clean fuel. Only use Diesel or Kerosene
- Connect the plug to the relevant power source
- Turn the "ON/OFF" switch to "ON" it will turn on after a few second

**SHUTDOWN**

- Move switch to "OFF" position.
- Never disconnect the heater from mains to stop it while in operation.
- Always allow the cooling sequence to be completed, otherwise the residual heat could damage internal components.
- Do not cover the heater. Do not block the air inlet and outlet.
- The heater outlet is very hot during operation and after use. Do not touch! Use personal protecting equipment if needed.
- Unplug the heater before moving it. Never pull the cable to unplug or move the unit.

# 5. CLEANING, MAINTENANCE & STORAGE

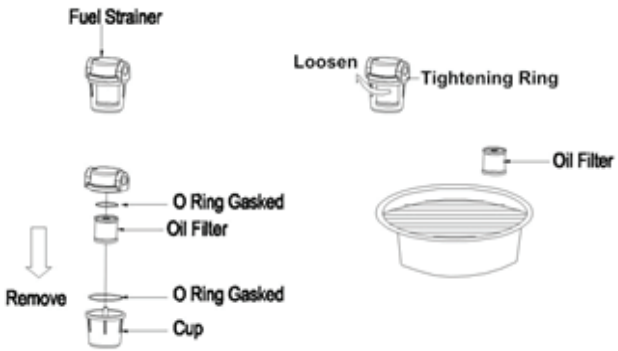
- Before starting any maintenance task, shut down, unplug and let the heater cool down for at least 15 minutes.
- Do not attempt any electrical repair yourself. If the heater needs service or repair, contact a qualified persons.
- When cleaning, make sure that water does not enter the unit.
- Do not open the enclosure to clean the inner parts. Do not spray water into the heater.
- Never use solvents, gasoline, toluene and similar aggressive chemicals to clean the heater.

Regularly wipe the enclosure using a soft sponge or cloth. For very dirty parts, use a sponge wetted with lukewarm water and a mild detergent, then dry using a clean cloth. Regularly inspect the power cable: if worn, cracked or damaged have it replaced by a qualified persons only.
Before storing the heater, make sure it is perfectly cool and dry. Cover the unit with a blanket or tarp and store it in a dry, ventilated place.

The following checks are recommended before every seasonal use:

**Fuel Filter**

- The Fuel Filter should be cleaned at least twice per heating season by rinsing it in clean diesel.



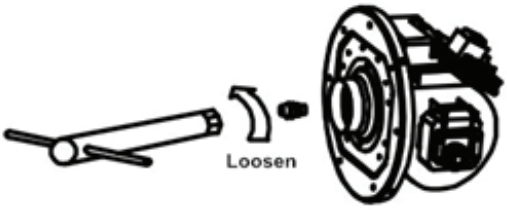

**Fuel Tank**

- Empty fuel tank
- Flush out fuel tank with clean fuel & dispose of fuel.

# 5. CLEANING, MAINTENANCE & STORAGE - CON

**Fuel Nozzle**

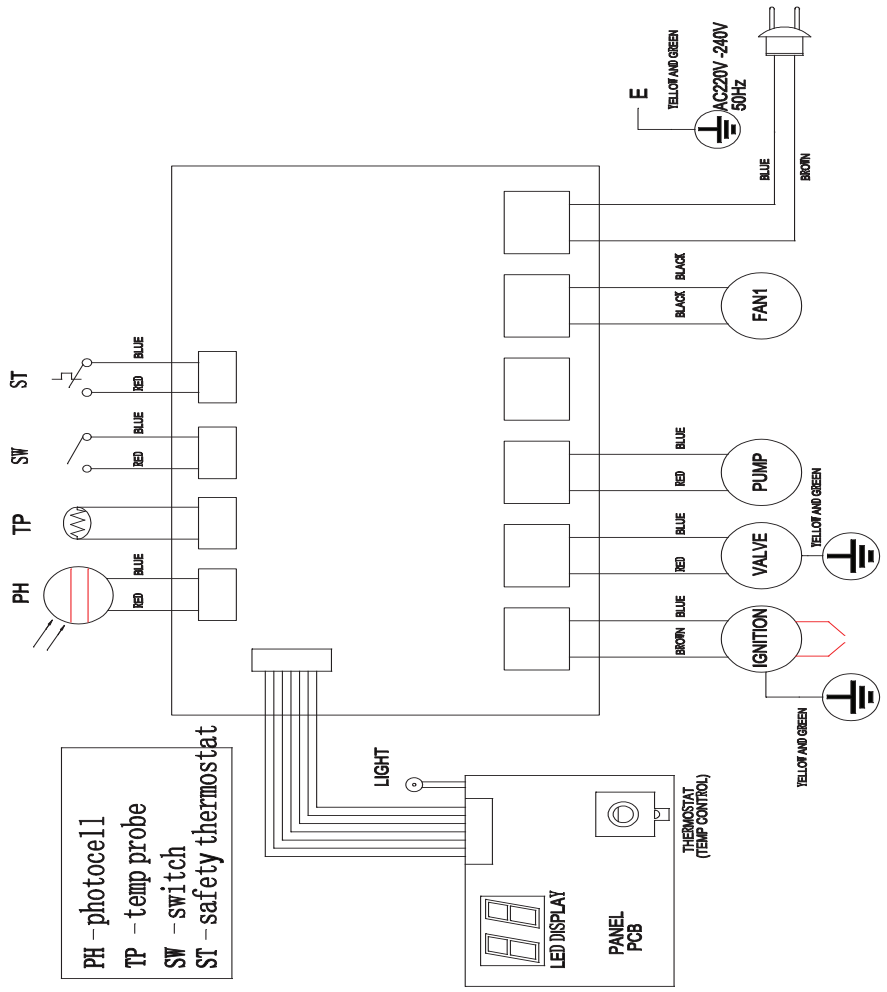
- Nozzles should be cleaned or replaced at least once per heating season.
- To clean dirt from nozzle, blow compressed air through nozzle. It may be necessary to soak nozzle in clean diesel to help loosen any particles.




**MAINTENANCE SCHEDULE**

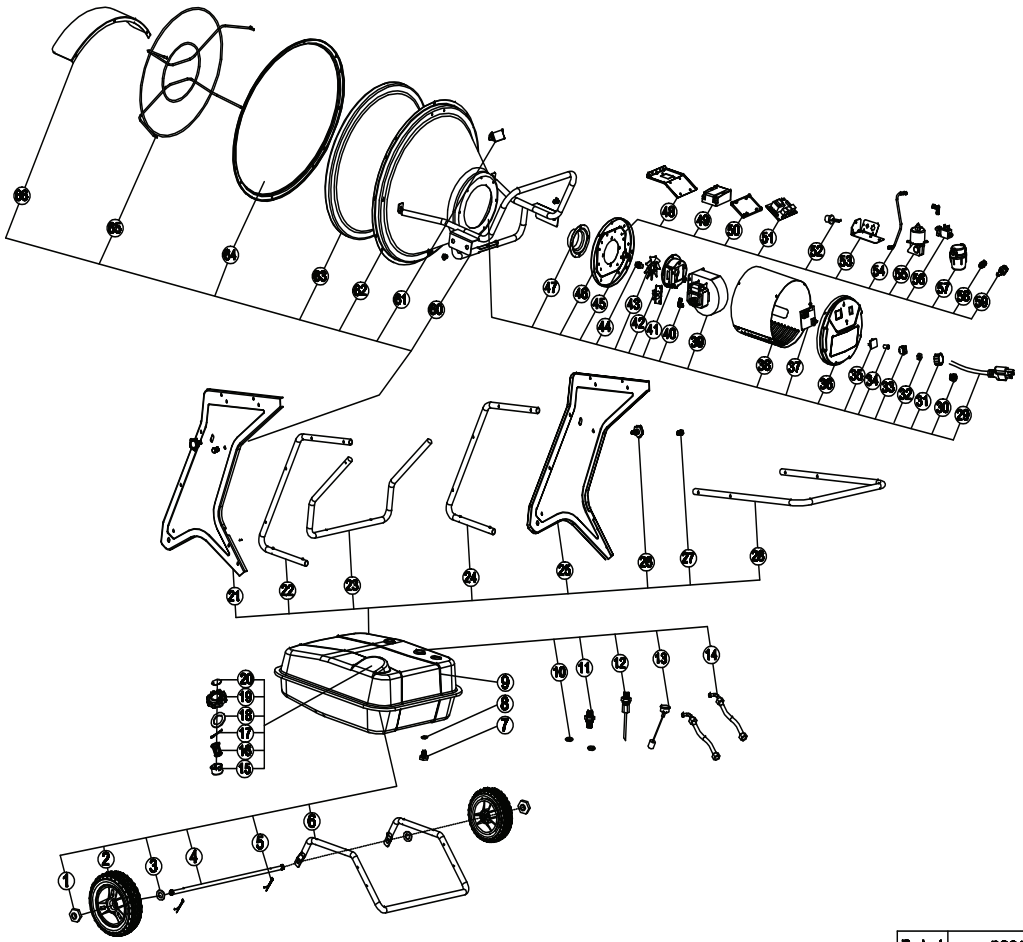
| PART | FREQUENCY |
|---|---|
| Fuel Tank | Clean a minimum once a year |
| Fuel Nozzle | Clean or replace once per season |
| Fuel Filter | Clean or replace once per season |
| Photocell | Clean or replace once per season |
| Ignition Device | Clean or replace every 1000 hours of operation |
| Fan Blades | Clean as required |

# 6. WIRING DIAGRAM




| Project |
| --- |
| BG01402-45 |
| BG01402-45-16 |
| Common use for above models |

# 7. PARTS BREAKDOWN



| Key No. | Description | Quantity |
|---|---|---|
| 66 | Radiant visor | 1 |
| 65 | Safty frame | 1 |
| 64 | Front cover | 1 |
| 63 | Combustion chamber | 1 |
| 62 | Radiant core assembly | 1 |
| 61 | High temperature Label plate | 1 |
| 60 | Radiant core support assembly | 1 |
| 59 | Return fuel connector | 1 |
| 58 | Oil pipe connector | 1 |
| 57 | Oil filter | 1 |
| 56 | solenioid valve | 1 |
| 55 | Fuel pump | 1 |
| 54 | Fuel pipe ass'y | 1 |
| 53 | Electromagnetic pump support | 1 |
| 52 | Photocell ass'y | 1 |
| 51 | Power PCB 1 | 1 |
| 50 | PCB support | 1 |
| 49 | Ignition transformer | 1 |
| 48 | Bracket of ignition transformer | 1 |
| 47 | Diffusion cap | 1 |
| 46 | Body front ring | 1 |
| 45 | Re-set thermostat | 1 |
| 44 | Nozzle | 1 |
| 43 | Blade for combustion chamber | 1 |
| 42 | Ignitor needle | 1 |
| 41 | Burner head | 1 |
| 40 | Elbow connection | 2 |
| 39 | Rotor motor | 1 |
| 38 | Body shell | 1 |
| 37 | Display PCB2 | 1 |
| 36 | Rear plastic cover | 1 |

| Key No. | Description | Quantity |
|---|---|---|
| 35 | Display window | 1 |
| 34 | Light cover | 1 |
| 33 | on/off switch | 1 |
| 32 | Thermostat adjustment knob nut | 1 |
| 31 | Thermostat Knob | 1 |
| 30 | Cable fastener | 1 |
| 29 | Power cord | 1 |
| 28 | Handle | 1 |
| 27 | Hex screw | 2 |
| 26 | Clamping screw | 2 |
| 25 | Left panel | 1 |
| 24 | Light frame | 1 |
| 23 | Support frame | 1 |
| 22 | Right frame | 1 |
| 21 | Right panel | 1 |
| 20 | Breath cover | 1 |
| 19 | Fuel tank cap | 1 |
| 18 | Sealing ring | 1 |
| 17 | Tank cap shaft | 1 |
| 16 | Oil inlet filter | 1 |
| 15 | Oil inlet filter holder | 1 |
| 14 | Oil pipe | 2 |
| 13 | Oil leveler | 1 |
| 12 | Oil suction pipe | 1 |
| 11 | Oil pipe union | 1 |
| 10 | Sealing ring | 2 |
| 9 | Fuel tank | 1 |
| 8 | Oil drain Seal ring | 1 |
| 7 | Oil drain screw | 1 |
| 6 | Feet pipe | 1 |
| 5 | Cotter pin | 2 |
| 4 | Wheel shaft | 1 |
| 3 | Flat gasket | 2 |
| 2 | Wheel | 2 |
| 1 | Screw nut | 2 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Project | BGO1402-45 | | Part No. | | Parameter | |
| Designer | | Standard | | Units | m m | |
| Check | | Approval | | Scale | | |
| Ningbo Baogong Electrical Appliance Co.,Ltd. | | | | Model Name | Exploded diagram | |
| | | | | Drawing No. | | |

# 8. TROUBLESHOOTING

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| **FO** | The ON/OFF switch is on the turned ON position when plugged in | Disconnect the plug, turn the switch to "O" OFF position. Reconnect the plug & switch heater to "I" ON position. |
| **F1** | No Fuel | Turn the switch to "O" OFF, reill the fuel tank. |
| | Fuel is contaminated | Turn the switch to "O" OFF, empty & refill the fuel tank. Clean the filter using clean fuel. |
| | Photocell is dirty or damaged | Clean photocell with a soft cloth or tissue |
| | Fuel Filter is dirty or blocked | Clean fuel filter with clean fuel |
| | Ignition error | Contact Fanmaster |
| **F2** | Damaged cable | Replace or contact Fanmaster |
| | Sensor is damaged | Replace or contact Fanmaster |
| **F3** | Internals overheating | Turn the heater off & wait until the heater has cooled down |
| | Tilting sensor intervened | Ensure heater is on flat level ground |
| **LO** | External Temperature is below -9'C | |
| **CH** | Continuous operation (55'C) | |

# 8. TROUBLESHOOTING - CONTINUED

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| **Heater does not run** | The switch is in the "O" OFF postion | Turn the switch to "I" ON |
| | No power | Check the plug is properly connected to the power source. Check the power supply |
| | Thermostat setting | Adjust the thermostat higher than the ambient temperature |
| | Temperature sensor override | Wait for 10 minutes & try to start the heater again |
| | Fuse damaged | Replace fuse |
| **Motor/Pump runs but no flame** | No Fuel | Turn the switch to "O" OFF, reill the fuel tank. |
| | Ignition device is dirty | Check & clean electrodes |
| | Fuel Filter is dirty or blocked | Clean fuel filter with clean fuel |
| | Fuel Nozzle is dirty or blocked | Clean fuel nozzle with clean fuel or replace |
| | Photocell is dirty, damaged or installed incorrectly | Clean photocell with a soft cloth or tissue. Replace if needed |
| | Dirty fuel | Empty & refill the tank with clean fuel & empty again |
| **Fan blocked or spins to slowly** | Fan is damaged | Check & replace fan assembly |

# 9. WARRANTY

Any claim under this warranty must be made within 12 months of the date of purchase of the product. To make a claim under the warranty, take the product (with proof of purchase) to the store where you purchased the product or go to https://www.fanmaster.com.au/warranty-claims-returns.

This warranty is given by Fanmaster Pty Ltd
ABN: 45 353 934 457
Unit 1/6-8 Yalgar Rd, KIRRAWEE NSW 2232
P: 1300 900 345
E: warranties@fanmaster.com.au

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Exclusions: This warranty does not cover:

- Any defects caused by an accident, misuse, abuse, improper installation or operation, lack of reasonable care, unauthorized modification, loss of parts, tampering or attempted repair by a person not authorized by the distributor.
- Any product that has not been installed, operated or maintained to a satisfactory level.
- Any damage caused by improper power input or improper cable connection.

FANMASTER
COOLING HEATING VENTILATION EXTRACTION

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