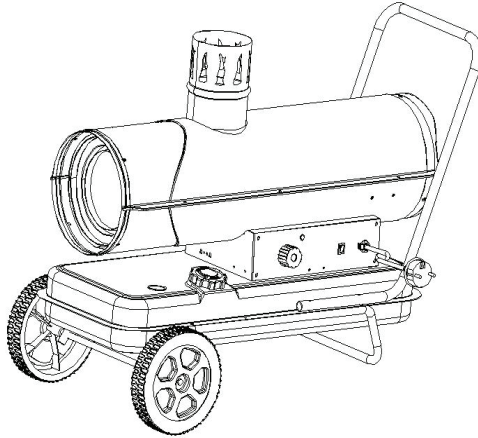




# **FANMASTER**

**COOLING HEATING VENTILATION EXTRACTION**

## **INSTRUCTION MANUAL**



### **INDUSTRIAL DIESEL FAN HEATER (INDIRECT-FIRED)**

**MODEL: IDH2-20IN**

**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 COMBUSTIBLE 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 LACK OF EXPERIENCE & KNOWLEDGE.

# 2. PRODUCT DESCRIPTION & SPECIFICATIONS

## PRODUCT DESCRIPTION

Industrial diesel or kerosene indirect fired portable space/fan heater with closed combustion chamber.

## SPECIFICATIONS

MODEL	IDH2-20IN
Heat Output*	20KW 68,240 BTU
Air Flow (L/s)	166
Fuel Type	Diesel or Kerosene
Fuel Consumption (L/h)	1.9
Fuel Nozzle Size (gph)	0.60
Voltage (V/Hz)	AC220-240V/50
Air Pressure Setting (bar)	0.38
Current Rating (A)	1.1
Electrical Power (W)	230
Fuse Rating	T3.15A
Net Weight (kg)	22.6
Dimensions (mm)	870(L)*450(W)*686(H)
Tank Capacity (L)	24
Operating Range (H)	~13
Flue outlet Dia (mm)	125
<b>Standard Accessories</b>	
Fuel Gauge	Yes
Handle	1
Ambient Thermostat	Built-in
Malfunction detection light	Built-in

# 3. ASSEMBLING INSTRUCTIONS

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

Pos.	Description	Qty
A	Power Cord Frame	2
B	Feet Pipe Assembly	1
C	Plain Washer M5	8 or 12
D	Nut M5	8 or 12
E	Feet Pipe Nut M12	2
F	Plain Washer M12	2
G	Wheels	2
H	Cotter Pin	2
I	Wheel Shaft	1
J	Screw M5	8 or 12
K	Plain Washer	8 or 12
L	Fuel Tank	1
M	Chimney/Flue	1
N	Handle	1

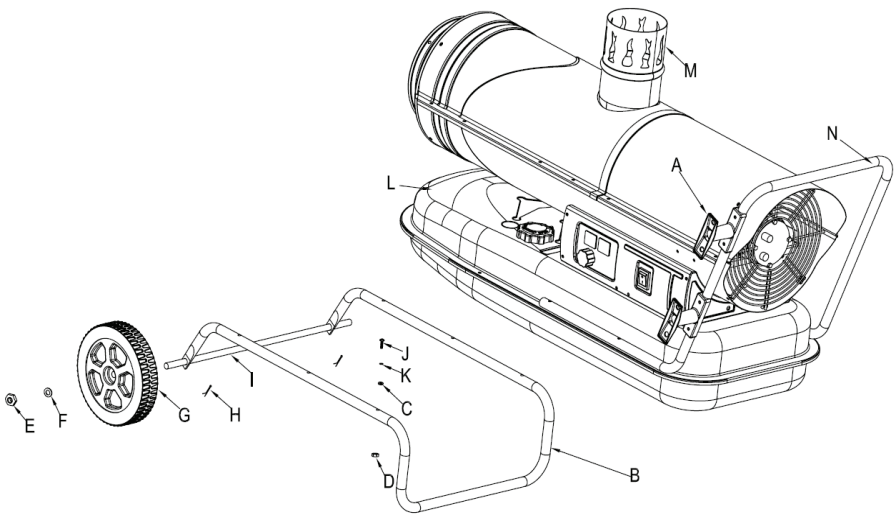


Fig 1.

### 3. ASSEMBLING INSTRUCTIONS - CONTINUED

1. Insert the wheel shaft "I" to the corresponding holes of the feet pipe assembly "B".
2. Insert the cotter pin "H" to the corresponding holes; slide the wheels "G" over the wheel shaft "I", put plain washer "F" to the two sides of the shaft, screw nut "E" to fix the wheel on the shaft.
3. Place the heater body on the feet pipe assembly (stand), make sure the 4 holes of handle "N" point towards the corresponding 4 holes on the low tube frame respectively.
4. Using the screws "J", plain washer "C" and nut M5 "D" to fix the low tube frame assembly and handle to the tank "L".
5. Align the holes for power cord frame "A" to the handle "N", using the screw "J", plain washer "C" and nut "D" to fix it.

# 4. OPERATING INSTRUCTIONS



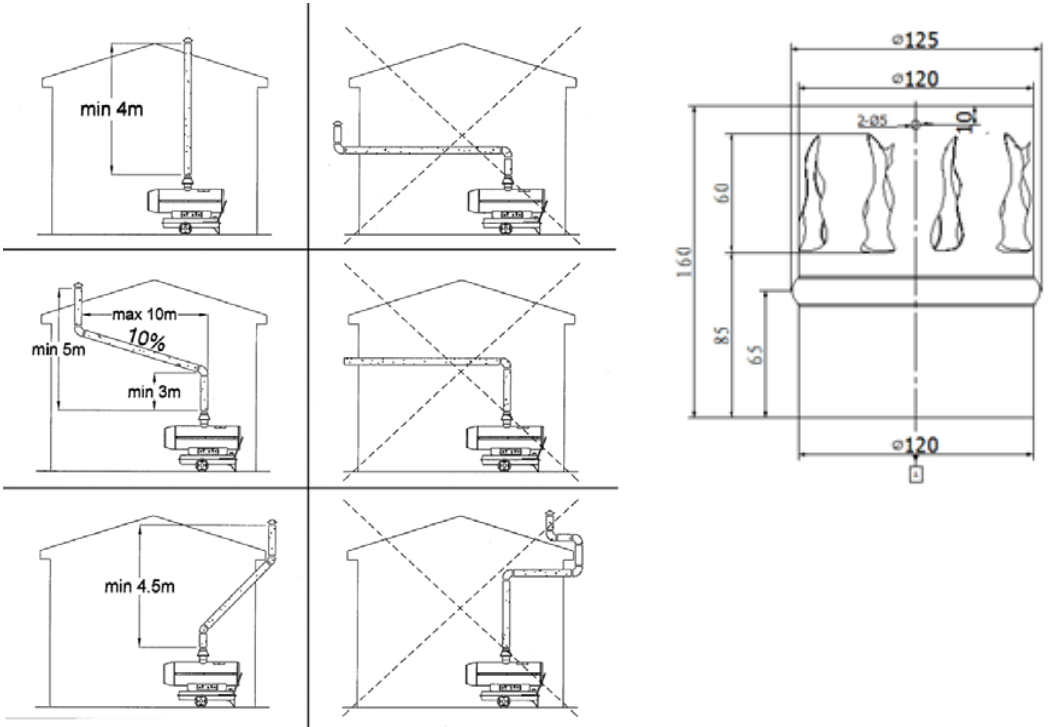
- Position the heater on a flat, level, non-flammable & solid surface.
- Indirect-fired heaters while used in indoors, must be connected to an exhaust pipe to vent the fumes of combustion outside. To maintain an adequate Oxygen rate, a minimum of 80 m<sup>3</sup>/h airflow from outside must occur.
- For indirect-fired heaters: connect the heater to an exhaust duct. To get a proper exhaust flow out, the fumes must rise through the flue. Avoid any elbows and bends in the first part of the exhaust ducts for at least 3m.
- 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

# 4. OPERATING INSTRUCTIONS - CONTINUED

## FLUE/EXHAUST INSTALLATION

For indirect-fired heaters: connect the heater to an exhaust duct. To get a proper exhaust flow out, the fumes must rise through the flue. Avoid any elbows and bends in the first part of the exhaust ducts for at least 3m.





# 4. OPERATING INSTRUCTIONS - CONTINUED

## START-UP

- Fill the tank with clean fuel. Only use Diesel or Kerosene
- The fuel gauge on top of the tank allows you to check the fuel level
- Connect the plug to the relevant power source
- If the thermostat control knob setting temperature is higher than the ambient temperature, the electrodes will start sparking & after 7 seconds the heater will start.
- If the thermostat control knob setting is lower than the ambient temperature, turn the thermostat control knob to the desired temperature setting. The electrodes will start sparking & after 7 seconds the heater will start.

## COLD START-UP

In low temperature, in Alpine/Highland/Inland regions, unseasonably cold weather. Block the air vent hole on the air pump (see Fig. 4) by using your finger during ignition to make start-up easier.

## ABNORMAL OPERATION:

In case of malfunction (flame failure, reduced air flow, bad combustion) the heater stops and the indicator light starts FLASHING (THE LOCK-OUT MODE code will be showed on the display window).

## MANUAL RESET/RESTART

If the heater is in lock-out mode, check and remove the cause of lock-out before restarting the heater. To reset, turn the ON/OFF switch to 0 and then again to I. If problem continues please contact Fanmater. Turning the thermostat control knob will NOT reset the heater.

## SHUTDOWN

Move switch to "OFF" (O) 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. Keep air inlet and fan free from dust and dirt. To clean inner parts, gently blow compressed air through air inlet. 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 plac

The following checks are recommended before every seasonal use:

## Nozzle

Carefully unscrew nozzle from nozzle fitting. Blow compressed air through nozzle orifice to free it from dirt. Replace nozzle if necessary.

## Air Filters

Clean air filters. Remove filter end cover (11), wash air intake filter (10) using a light detergent and dry it thoroughly before re-installing. Replace air delivery filter (9) once a year (Fig.3)

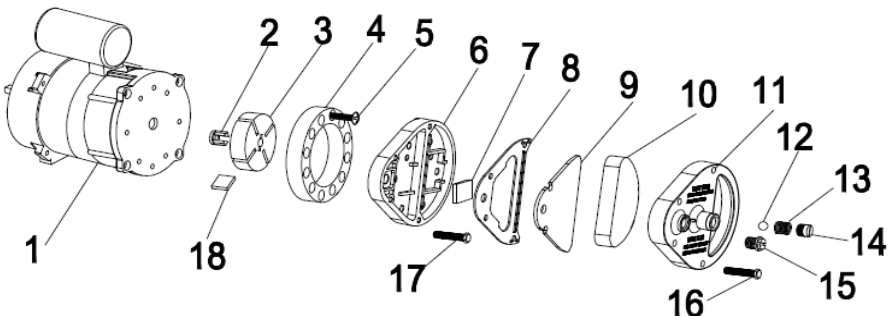


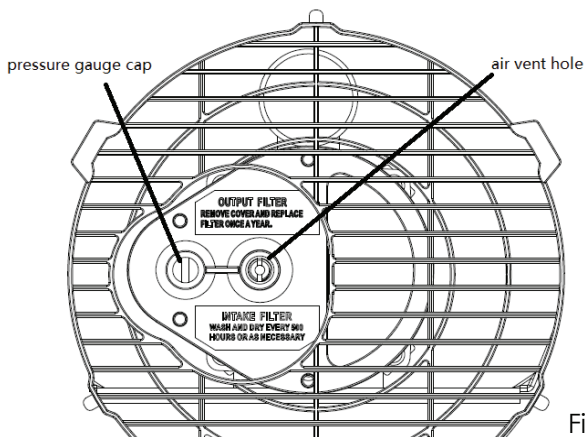
Fig 3.

# 5. CLEANING, MAINTENANCE & STORAGE - CON

## Air Pump Pressure Adjustment (Fig 4.)

The Air Pump pressure is factory set and must be checked and adjusted by qualified technicians only. Tampering with the unit may be dangerous.

Remove pressure gauge cap. Connect a pressure gauge on the pressure measuring port on the rear guard. Start heater and read air pressure value. If necessary adjust pressure to the correct value turning the adjusting screw (the air vent hole in the adjusting screw middle) clockwise to increase, anticlockwise to decrease the pressure:



Model	Air Pressure (bar)
IDH2-20IN	0.38

Fig 4.

## Ignition Electrodes (qualified persons only)

Clean, adjust, & if necessary replace ignition electrode. For electrode gaps see Fig.4-5 (dimensions in mm)

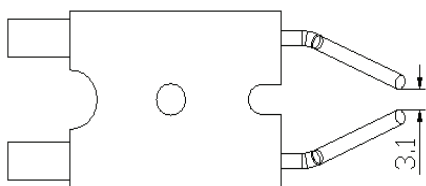


Fig 5.

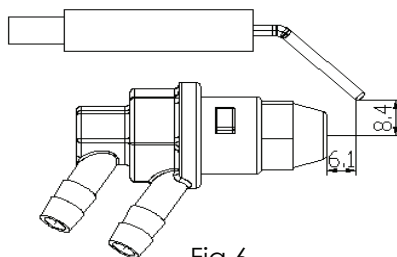
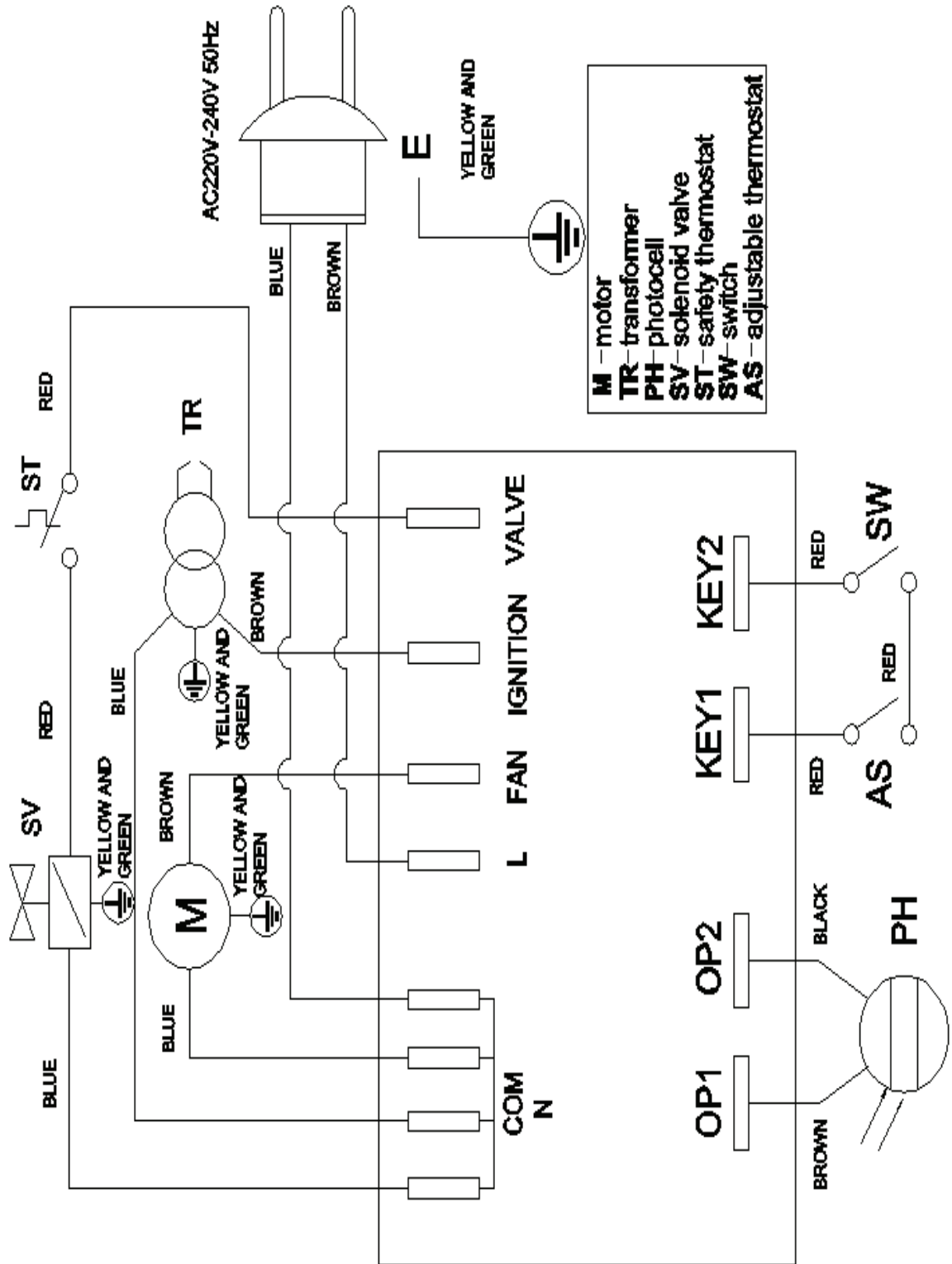
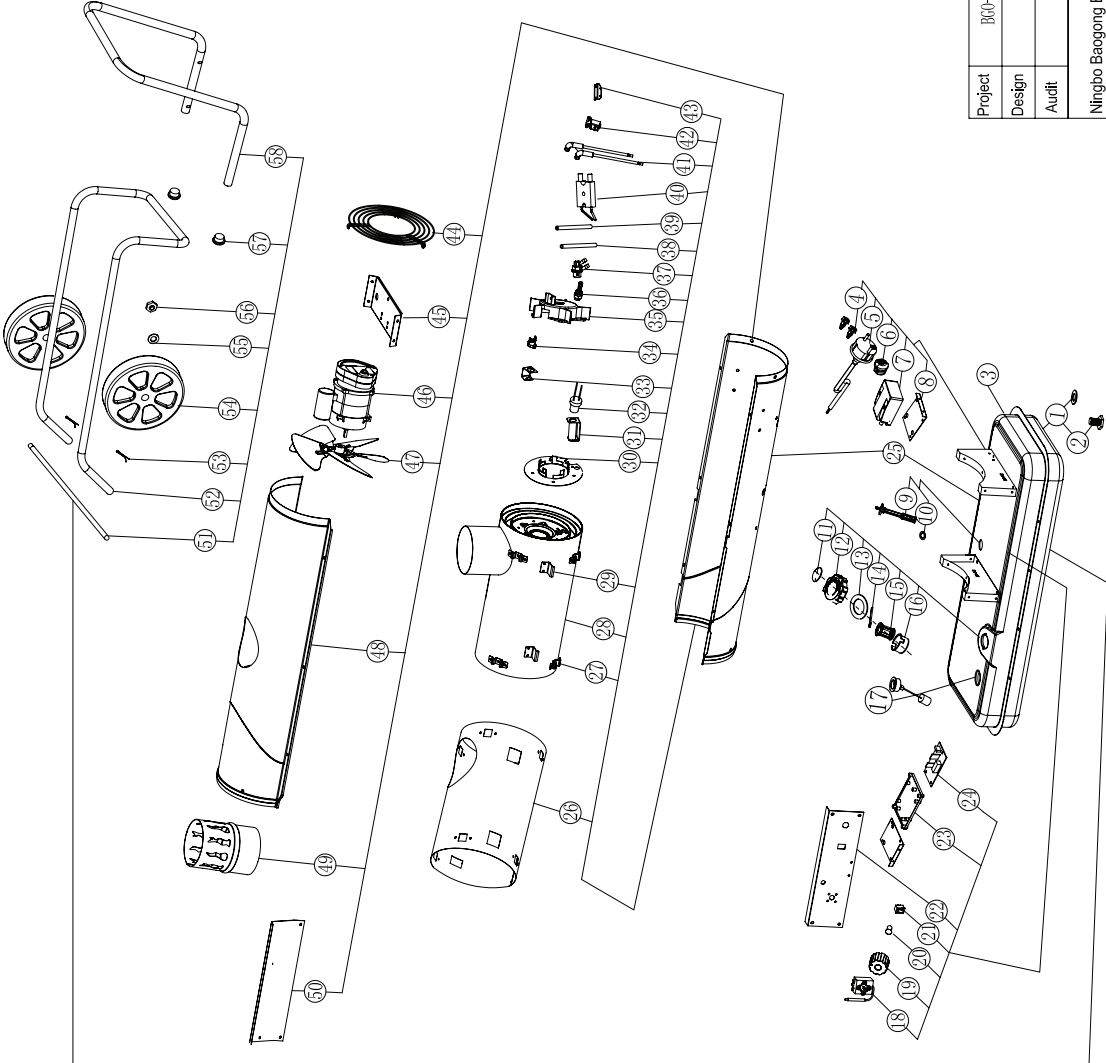


Fig 6.

# 6. WIRING DIAGRAM



# 7. PARTS BREAKDOWN



Key No.	Description	Quantity	Key No.	Description	Quantity
58	Handle	1	24	Power PCB	1
57	Steel pipe plug	2	23	PCB bracket	1
56	Screw nut	2	22	Control panel	1
55	Flat gasket	2	21	On/off switch	1
54	Wheel	2	20	Light cover	1
53	Cotter pin	2	19	Thermostat knob	1
52	Feet pipe	1	18	Capillary thermostat	1
51	wheel axle	1	17	Oil leveler	1
50	Side plate	1	16	Oil inlet filter	1
49	Chimney connector	1	15	Oil inlet filter holder	1
48	Top cover	1	14	Tank cap shaft	1
47	Fan	1	13	Sealing ring	1
46	Motor assembly	1	12	Fuel tank cap	1
45	Motor support	1	11	Breath cover	1
44	Air inlet grill	1	10	Sealing ring	1
43	Solenoid valve bracket	1	9	Fuel filter	1
42	Solenoid valve	1	8	Bracket of ignition transformer	2
41	High voltage cable	2	7	Ignition transformer	1
40	Ignition needle	1	6	Cable fastener	1
39	Oil hose	1	5	Power cord	1
38	Gas hose	1	4	Support	2
37	Nozzle Adapter	1	3	Fuel tank	1
36	Nozzle assembly	1	2	Oil drain screw	1
35	Flame plate	1	1	Oil drain seal ring	1

Project	Design	Audit	Part no.	Quantity	Material
B00-20C	Standardized	Approval		Units	m m
				Proportion	
				Model number	explode drawing
				Drawing number	

Ningbo Baogong Electrical Appliance Co., Ltd.

# 8. TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
<b>Motor does not start</b> <b>The power indicator is flashing</b>	No power or low voltage	Check power supply & voltage Check fuse & replace if necessary
	Faulty or damaged power cord	Check & replace
	Faulty motor/capacitor	Check & if necessary replace
	Lock-out mode due to previous overheating	Detect the cause of overheating. Shut the heater down. Check air inlet & outlet. Wait 5 minutes & restart the heater.
<b>Motor runs but the heater does not ignite &amp; locks out after a short time.</b>	Empty fuel tank, dirty or wrong fuel	Check fuel level, fill the tank with clean diesel or kerosene if required. Remove wrong or dirty fuel.
	Fuel filters clogged	Clean or replace filters
<b>The power indicator light is flashing</b>	Air leaks in fuel line	Check fuel lines, connections are tight, no cracks. Replace if required
	Fuel Nozzle clogged	Clean nozzle by blowing compressed air or replace if required
	Fuel viscosity increased at low temperature	Blend diesel with kerosene
<b>Flame comes out of body</b>	Insufficient air flow into combustion chamber	Check air pump, air inlet, fan & motor
	Air pressure too high	Check air pump pressure
<b>Heater stops during operation</b>	The room temperature set has been achieved	Adjust the thermostat control knob clockwise for higher setting
	Flame failure	Check & remove the cause(s) of the malfunction Reset, turn the ON/OFF switch to 0 and then again to I.
	Bad combustion	
	Reduced air flow	
Overheating		

# 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](mailto: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.



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N11664  
MADE IN CHINA