

NO LONGER
LET THE
COLD IN



Firefly
heaters

**PATIO
HEATER**





WARNING



- Read the instructions before installation and use;
- This appliance must be installed and the gas cylinder stored in accordance with the regulations in force ;
- Do not obstruct the ventilation holes of the cylinder housing;
- Do not move the appliance when in operation;
- Shut off the valve at the gas cylinder or the regulator before moving the appliance;
- The tubing or the flexible hose must be changed within the prescribed intervals;
- Use only the type of gas and the type of cylinder specified by the manufacturer;
- In case of violent wind particular attention must be taken against tilting;
- Be careful, accessible parts may be very hot. Keep away from young children;
- This appliance requires installation by a competent person;
- For use only in well-ventilated areas. An amply ventilated area must have a minimum of 25% of the surface area open. The surface area is the sum of the walls surface;
- The use of this appliance in enclosed areas can be dangerous and is prohibited .This appliance shall not be used in basements or below ground level;
- This appliance shall be used for space heating only;
- This appliance has no atmospheric sensing device. It shall be used for heating well-ventilated buildings used for animal rearing or for outdoor use only;
- Do not store chemicals or flammable materials or spray aerosols near this appliance.
- Do not operate this appliance in an explosive atmosphere like in areas where gasoline or other flammable liquids or vapors are stored;
- Do not place items on or against this appliance;
- Protect the hot glass tube from rain, water splash or anything that will cause a sudden change in temperature which may lead to cracking or shattering;



WARNING



- Turn off the valve immediately if smell of gas is detected;
- Extinguish any open flame;
- If odour continues, contact your gas supplier immediately.



WARNING



The user assumes all risk in assembly and operation of gas heater. Failure to follow the warnings and instructions in this manual can result in several personal injury, death, property damage. If user can not read or fully understand the instruction manual, please contact your dealer. Manufacturer or supplier will not be responsible for user's negligence.

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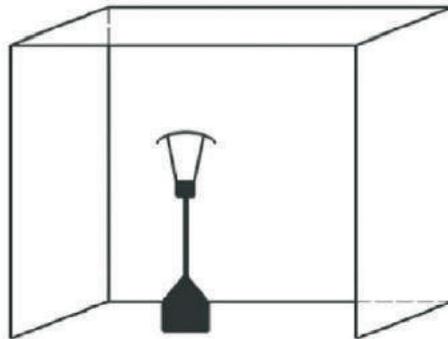
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CAUTION

PLEASE READ CAREFULLY THE FOLLOWING SAFETY GUIDELINES BEFORE OPERATION

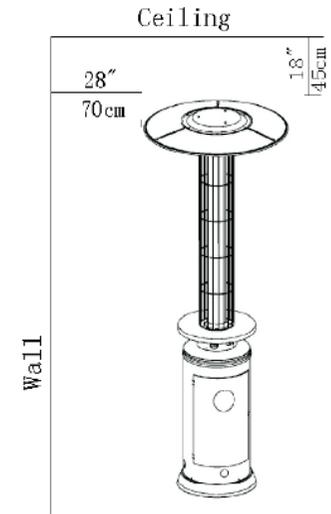
- Installation and repair should be done by a qualified service person.
- Improper installation, adjustment, alteration can cause personal injury or property damage.
- Do not attempt to alter the unit in any manner.
- This appliance must be installed and the gas cylinder stored in accordance with the regulations in force.
- Do not move the appliance when in operation.
- Shut off the valve at the gas cylinder or the regulator before moving the appliance.
- The tubing or the flexible hose must be changed each year.
- In case of violent wind particular attention must be taken against tilting of the appliance.
- Do not store or use gasoline or other flammable vapors or liquids into the heater unit.
- The whole gas system, hose regulator, pilot or burner should be inspected for leaks or damages before use.
- All leak tests should be done with a soap solution. Never use an open flame to check for leaks.
- Do not use the heater until all connections have been leak tested. Turn off immediately the gas valve if smell of gas is detected.
- Do not transport heater while its operating.
- Do not move the heater after it has been turned off until the temperature has cooled down. Keep the ventilation opening of the cylinder enclosure free and clear of debris.
- Do not paint radiant screen, control panel or top canopy reflector.
- Control compartment, burner and circulation air passageways of the heater must be kept clean.
- Frequent cleaning may be required as necessary.
- The LP tank should be turned off when the heater is not in use..
- Check the heater immediately if any of the following exists:
 - The heater does not reach temperature.
 - The burner makes popping noise during use (a slight noise is normal when the burners extinguished).
 - Smell of gas in conjunction with extreme yellow tipping of the burner flames.
- The LP regulator/hose assembly must be located out of pathways where people may trip over it or in area where the hose will not subject to accidental damage.
- Any guard or other protective device removed for servicing the heater must be replaced before operating the heater.

- Change the gas cylinder in a well ventilated area, away from any inflammation source.
- Check that the regulator seal is fitted and that it is in good condition.
- Do not obstruct the ventilation holes of cylinder housing.
- Adults and children should stay from high temperature surface to avoid burns or clothing ignition.
- Children should be carefully carefully supervised when they are in the area of the heater.
- Clothing or other flammable materials should not be hung on the heater or placed on or near the heater.
- Use may replace the rubber hose by himself and note the length of the hose is 60cm. And the hose must be required by the national conditions.
- LP Characteristics-Flammable, explosive, heavier than air-settles in low areas.
- In its natural state, propane has no odor. For your safety, an odorant is added that smells like rotten cabbage.
- Contact with liquid LP can cause freeze burns to skin.
- This heater is shipped from the factory for LP gas use only
- Use only EEC approved"10KG"Gas cylinders LP gas cylinders(same as commonly used on gas grills) with safety valves. These valves can be quickly identifies by their external and internal threads.
- When heater is not in use, turn Control Valve OFF. Close the valve of the gas cylinder or the regulator after use
- The use of this appliance in enclosed areas can be dangerous and is "PROHIBITED".
 - 1)For use outdoors or in amply ventilated areas.
 - 2)An amply ventilated area must have minimum of 25% of the surface area open.
 - 3)The surface area is the sum of the walls surface.



HEATER STAND AND OCATION

- The heater is primarily for outdoor use only. Always ensure that adequate fresh air ventilation is provided.
- Always maintain proper clearance to combustibile materials, i.e. top 45cm (18") and sides 70cm (28") minimum.
- Heater must be placed on level firm ground.
- Never operate heater in an explosive atmosphere like areas where gasoline or other flammable liquids or vapors are stored.



GAS REQUIREMENTS

- Use LPG, propane and butane only.
- Maximum inlet pressure of propane regulator must not exceed 100 PSI.
- The pressure regulator and hose assembly to be used must conform to local standard codes.
- The installation must conform to local codes, or in the absence of codes, with the standard for storage and handling of liquid petroleum gases.
- A dented, rusted or damaged propane tank may be hazardous and should be checked by your tank supplier.
- Never use a propane tank with a damaged valve connection.
- The propane tank must be arranged to provide for vapor withdrawal from the operating cylinder.
- Never connect an unregulated propane tank to the heater.

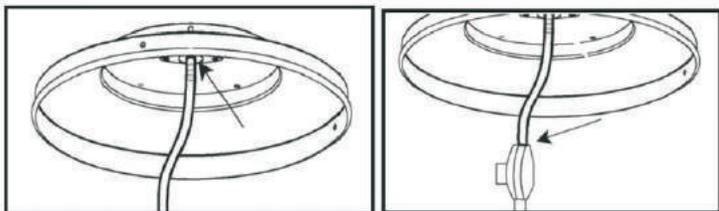
LEAKAGE TEST

Gas connections on the heater are leak tested at the factory prior to shipment. A complete gas tightness check must be performed at the installation site due to possible mishandling in shipment or excessive pressure being applied to the heater.

- The heater must be checked with a full cylinder.
- Make sure the safety control valve is in the OFF position.
- Make a soap solution of one part liquid detergent and one part water. The soap solution can be applied with a spray bottle, brush or rag.
- Soap bubbles will appear in case of a leak.
- Leakage test points. See pictures below.
- Turn the gas supply ON.

In case of a leak, turn off the gas supply. Tighten any leaking fittings, then turn the gas supply on and recheck. Contact your dealer for assistance if bubbles continue to appear.

- Never leak test while smoking.



FUEL GAS ODOR

LP gas and natural gas have manmade odorants added specifically for detection of fuel gas leaks. If a gas leak occurs you should be able to smell the fuel gas. Since Propane (LP) is heavier than air you should smell for the gas odor low to the floor.

ANY GAS ODOR IS YOUR SIGNAL TO GO INTO IMMEDIATE ACTION.

- Do not take any action that could ignite the fuel gas. Do not operate any electrical switches. Do not pull any power supply or extension cords. Do not light matches or any other source of flame. Do not use your telephone.
- Get everyone out of the building and away from the area immediately.
- Propane (LP) gas is heavier than air and may settle in low area. When you have reason to suspect a propane leak, keep out of all low area.
- Use your neighbor's phone and call your fuel gas supplier and your fire department. Do not reenter the building or area.
- Stay out of the building and away from the area until declared safe by the firefighters and your fuel gas supplier.
- Finally, let the fuel gas service person and the firefighters check for escaped gas. Have them air out the building and area before you return. Properly trained service people must repair any leaks, check for further leakages, and then relight the appliance for you.

OPERATION AND STORAGE

TO TURN ON THE HEATER

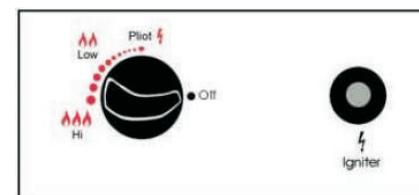
1. Turn on the valve on the gas supply cylinder completely.
2. Push the control knob in it and turn it the "pilot" position.
3. Press the "igniter" button several times to light the burner. Hold it for 30 seconds.

Note:

- If a new tank has just been connected, please allow at least one minute for the air in the gas pipeline to purge out through the pilot hole.
- When lighting the pilot flame make sure that the variable control knob is continuously pressed down while pressing the igniter button. Variable control knob can be released after the pilot flame lights.
- Pilot flame can be watched and checked from the small round window with sliding lid located at the bottom of the flame screen (to the left or right side of the controller).
- If the pilot flame does not light or it goes out, REPEAT STEP 3.
- A 5-minute complete shut off period is necessary before relighting.
- Turn the knob to "LOW" position for small flame. See picture of "▲▲".
- Turn the knob to "HI" position for big flame. See picture of "▲▲▲".

TO TURN OFF THE HEATER

1. Press and turn the variable control knob to OFF position.
2. Turn off the valve on the gas supply cylinder completely.



Variable control knob

Igniter

STORAGE

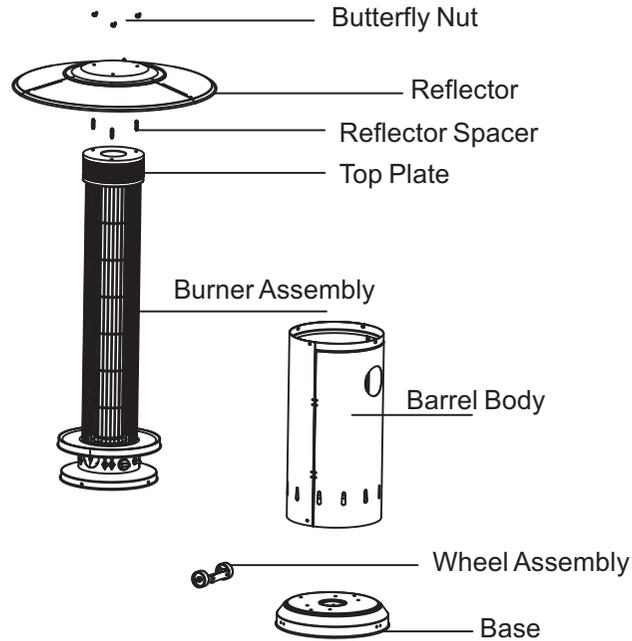
1. Always close the gas valve of the gas cylinder after use or in case of a disturbance.
2. Remove the pressure controller and the hose.
3. Check the tightness of the gas valve and for damage. If you suspect a damage, have it changed by your gas dealer.
4. Never store liquid gas cylinder in a sub-terrain, or at places without adequate air ventilation.

CLEANING AND CARE

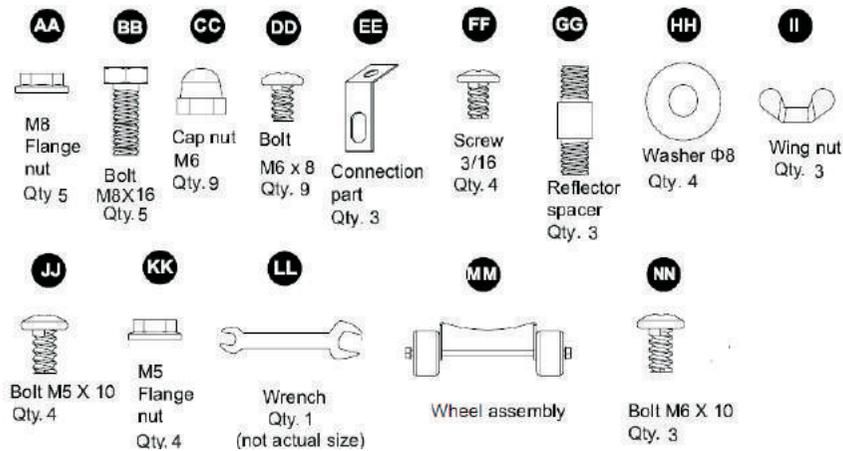
- Wipe off powder coated surfaces with soft, moist rag. For lacquer surface, use suitable cleaners. Do not clean heater with cleaners that are combustible or corrosive.
- Remove debris from the burner to keep it clean and safe for use.

ASSEMBLY INSTRUCTION

Components



HARDWARE CONTENTS (shown actual size)



A.Construction and characteristics:

- Transportable terrace/garden heater with tank housing
- Casing in steel with powder-coating or stainless steel
- Soluble gas connections are equipped with metal clamp
- Stainless steel flame screen
- Heat emission from reflector

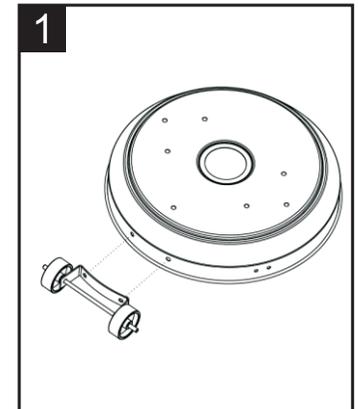
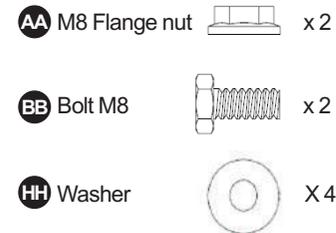
B.Specifications

- For outdoor use only
- Uses propane or butane gas only
- Weight: Stainless steel model G.W. 20 kgs
- Powder coating model G.W. 22 kgs Height: 2150 mm including stand With CE certificate

ASSEMBLY INSTRUCTIONS

1. Attach wheel assembly (PP) to base . Line up holes in wheel bracket with corresponding holes in base, insert M8x16 (BB) through holes, and finger tighten two M8 flange nuts (AA)and 4 washer(HH). Be sure that the wheel assembly is parallel to the base, and fully tighten bolts.

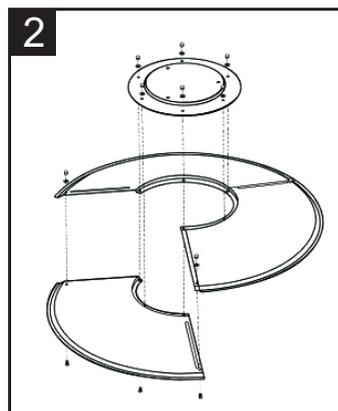
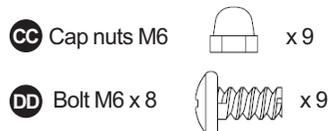
Hardware Used



2. Remove the protective film from the reflector and fasten the reflector together using 9 small screws (DD) and 9 cap nuts (CC)

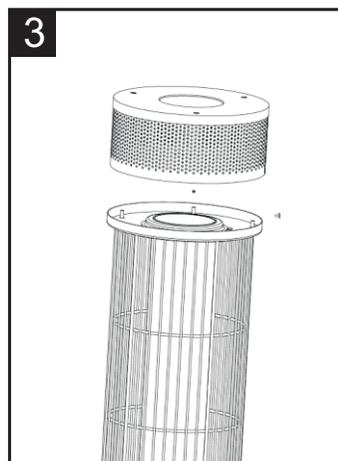
Important Note: To aid with assembly, please align the reflector sections and attach the screws loosely before finally tightening together

Hardware Used



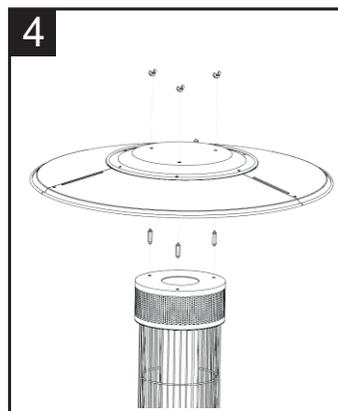
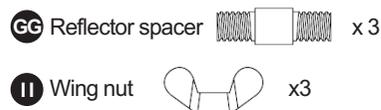
3. Attach flame screen to the groupware of burner unit. Line up the holes in screen bracket with corresponding holes in burner unit. Insert bolt 3/16" (FF) through holes and finger tighten. Be sure that the screen assembly is parallel to the burner unit and fully tighten bolts.

Hardware Used



4. Insert 3 reflector spacers (GG) and hand tighten. Put the reflector onto the 3 reflector spacers. Make sure each screw is inserted well. Then put 3 wing nut (II) to the spacer and tighten.

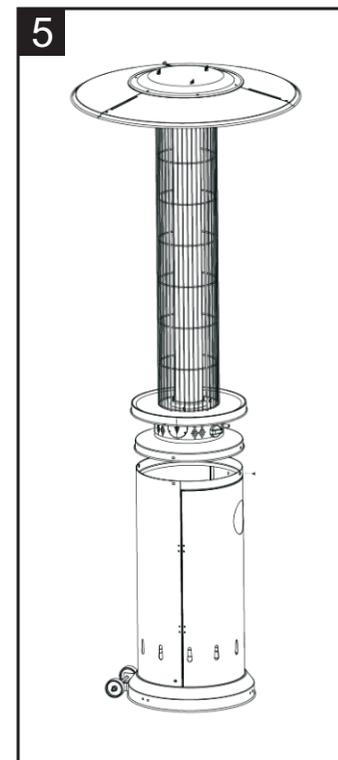
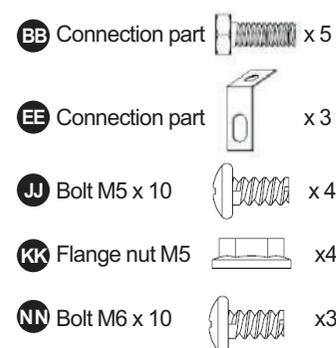
Hardware Used



5. Attach cylinder housing to base using 3 connection part (EE) and 3 M8X16 bolts (BB). Attach cylinder housing loosely to base with 3 M6x10 screws (NN).

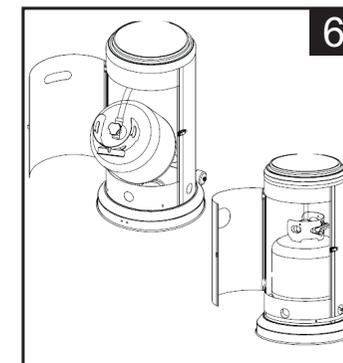
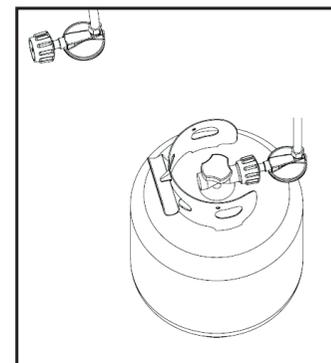
Assembly of groupware of burner unit. Attach the housing lid onto the top of tank housing. Make sure the holes on the lid are corresponded to the holes on the housing. Insert 4 bolt M5x10 (JJ) to the holes and hand tighten by 4 flange nut M5 (KK) make sure the lid assembly is parallel to the base, and fully tighten bolts.

Hardware Used



6. Attach regulator to gas line and tank.

- Fit the gas regulator rubber hose with the end thread of inlet gas steel pipe and tighten the nut.
- Connect the regulator with the LPG gas tank in counter-clockwise direction and tighten it by adjustable wrench.
- Put LPG gas tank into stand.



- Do not store a spare LP-gas cylinder under or near this appliance;
- Never fill the cylinder beyond 80 percent full;
- Place the dust cap on the cylinder valve outlet whenever the cylinder is not in use. only install the type of dust cap on the cylinder valve that is provided with the cylinder valve. Other type of caps or plugs may result in leakage of propane.

PROBLEMS CHECK LIST

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Pilot will not light	Gas valve may be FF	Turn the gas valve ON
	Tank fuel empty	Refill LPG tank
	Opening blocked	Clean or replace opening
	Air in supply system	Purge air from lines
	Loose connection	Check all fittings
Pilot will not stay on	Debris around pilot	Clean dirty area
	Loose connections	Tighten connections
	Thermocouple bad	Replace thermocouple
	Gas leak in line	Check connections
	Lack of fuel pressure	Tank near empty. Refill LPG tank.
Burner will not light	Pressure is low	Tank near empty. Refill LPG tank.
	Opening blocked	Remove and clean
	Control not on	Turn valve to ON
	Thermocouple bad	Replace thermocouple
	Pilot light assembly bent	Place pilot properly
	Not in correct location	Position properly and retry

Service and Maintenance Information

If the pilot heater fails to operate correctly, contact place of purchase or their authorised service agent for advice and service.

DO NOT ATTEMPT REPAIRS YOURSELF.

Periodic maintenance should performed at intervals not exceeding 6 months or when obvious faults exist. (i.e.) flame burning abnormality or burner discolouration. Flame abnormality or burner discolouration is generally a sign of gas supply blockage or blocked burner ports.

To clean the burner ports, remove the reflector assembly by removing the three nuts at the top of the reflector. The mesh screen may then be extracted by removing the four retention screws at the base of the mesh screen and four screws at the top of the screen. Remove the two screws retaining the burner assembly, Rotate the burner assembly slightly then remove the burner assembly upwards.

Care should always be taken to avoid damage to the gas piping and Piezo ignition lead. The burner and mesh screen may then be cleaned by compressed air. Assembly is a reversal of the above procedure.

If the pilot is blocked by debris, spider webs etc. the pilot flame may be small and the flame failure device may have not heated up enough for the main burner to come on. If this happens it will be necessary to clean the pilot and its gas tube.

To clean the pilot, remove the burner and pilot cover as detailed above, Inspect the pilot injector and tubing for blockage. If obstructed clean with compressed air. Clean the flame failure device. Assembly is a reversal of the above procedure.