Introduction

Installation and Operation Manual

Electronic Infrared Multi-Fuel
Air Cooled Thermal Sink
Carbon Dioxide Generator

FIVE YEAR LIMITED WARRANTY

Green Air Products guarantees that the equipment will perform as specified for the purpose it is intended. Green Air Products warrants the original purchaser of this equipment against defects in materials and workmanship for a period of 5 years and electric parts for 90 days. At our option we will repair or replace defective equipment. Warranty service is only performed at the factory or authorized service center. Any use contrary to proper application or alterations of original construction will void warranty obligations. For further warranty information contact your dealer or Green Air Products service department.

For professional use by qualified personnel in a facility suited for proper operation in compliance with local, state and federal laws.
Generator Installation

Use chain, eyebolts and ceiling hooks found in hardware pack. Hang the generator from a sturdy overhead location at least 16 inches from ceiling. The unit must operate in level upright position. “CAUTION” Should unit fail during operation fire may result.

1. For propane applications use a propane tank that has been filled to only 80% of its capacity. This is very important. An overfilled tank can release fuel from the pressure release valve when placed in a warm room. It is recommended to keep the tank outside the growing enclosure. Failure to observe this common rule could be hazardous and may make your generator hard to ignite.

2. Carefully thread the regulator flange nut in the tank valve counterclockwise with your fingers until you feel the flange seat. Tighten firmly with adjustable end wrench. DO NOT USE PLIERS! Fasten hose between regulator and generator gas inlet in same fashion.

3. Turn the propane tank valve half open in the “ON” position.

4. Check for gas leaks. A solution of 25% hand dish soap and 75% water in a spray bottle will work well for detecting gas leaks. Apply solution to all previously connected fittings. Bubbles will occur around loose connections. Always use two wrenches when tightening multiple fittings.

NATURAL GAS USE

This model of the IG generator has an adjustable nozzle which enables it to be used for propane (LP) or natural gas (NG). For NG a simple adjustment is necessary. Place generator on a table or floor. With the cooling tubes removed, use the tube holes to get to the orifices. Turn the orifice 1/2 turn right (clockwise). Turn only the red orifice tip not the fitting itself. Use the wrench provided or any 1/2” or 13mm wrench. Make similar adjustment to each of the burners. After the initial setting turn ON the generator and inspect the flame. An ideal flame will be a low profile even burn that ignites quickly and transfers ignition to the adjacent burners within approx. 30 seconds. The flame should be an clean blue and the ceramic will turn red after a minute or two. If further adjustment is necessary, very slight corrections are required. Once it is lit you can make subtle adjustments while running. Be careful, it’s hot.

There is no regulator necessary for NG when used with a typical household utility. Normal household appliance pressure is 4 to 7 water columns. Set aside the LP tank regulator and use the 1/2 inch pipe fitting (included) to connect to your gas source. If a pipe compound when connecting to gas pipes. DO NOT use teflon tape. DO NOT use anything on brass to brass hose connections.

Igniting Burners

1. Plug the transformer into a 110 volt outlet, timer, CO2 controller, or other power source. Make certain power is on.

2. Turn gas supply on. Push the red on-off switch to the “ON” position. The igniter will begin to spark. It may take a moment to clear the air from the hose. Fuel will pass through the solenoid valve and the burners will ignited.

3. The spark igniter will automatically cycle three attempts to light the burners. If a flame is not present it will cease to spark. Check for fuel, wait 60 seconds for excess fuel to clear from housing and reset on-off switch to cycle igniter electrode again. You will see a rapid visible spark between the igniter electrodes or to the burner tube itself.

TROUBLE SHOOTING TIPS

BURNER FAILS TO IGNITE:

Make sure propane tank has fuel and valve is open. For natural gas generators make sure gas supply is “ON” and your gas supply shut off valve is open. Make sure propane tank has not been overfilled. If no, take tank outdoors and open valve to release gas for a few seconds and reconnect. Be sure all air has bled from the hose and gas is present. Check that transformer is plugged into a working power source. Make sure power switch is in “ON” position. Check to see that nothing is interfering with igniter probe. It may be necessary to adjust location or angle of igniter probe. The spark probe should be no more than 1/8 inch above the burner ceramic surface. Spark wire shorting to housing. Spark module faulty. Air blowing on burner disrupting fuel.

BURNER WON’T STAY LIT:


FLAME BURNS IRREGULAR:

Div or residue could contaminate burner orifice. Low fuel pressure due to depleted or contaminated fuel supply. Lack of oxygen content in room due to inadequate fresh air intake. Excessive air movement or gust from fan or ventilation. Generator not setting level. The flame should be a strong blue color about 1/2 inch high. Flickers of yellow are normal however constant yellow tips indicate improper burn. Contact Green Air Products service department for solutions.

AUTOMATIC PROPANE CHANGEOVER VALVE - LPCV (optional accessory)

Main Tank

Standby Tank

This handy valve will keep you from running out of fuel and interrupting CO2 enrichment. When fuel is depleted in main tank the valve switches to the alternate tank and indicator shows red. Disconnect spent tank and refill at your convenience.

The Ultimate CO2 Control System

This system is the ultimate in precise automated CO2 control. The SPC-1 CO2 Set Point Controller continuously determines atmospheric CO2 values. The controller interprets these values and provides flexible set point adjustments to sequence CO2 equipment functions. The SPC-1 has a built in photo sensor to disable CO2 production during darkness. The CT-DH-3 temperature and humidity controller defeats CO2 production during darkness. The CO2 generator (or emitter system) and the monitor are plugged into the CT-DH-3 as shown. The power to the generator will be interrupted whenever the temperature or humidity conditions constitute an exhaust function. CO2 production will resume immediately after exhaust cycle is completed. CO2 levels will be maintained precisely and automatically.

Also see our website for information on the CDOM-6 Carbon Dioxide Monitor Controller for highly specialized enrichment control.

Air Cooled Operation

Highly recommended optional accessory

One of the most innovative special features of the new Electra Air Generator is the highly efficient internal fin aluminum heat exchanger tube. When installed over the burner it absorbs the heat from the IG tank before it can become aggressive. Effective enough to remove over 25% of the heat depending on varying installation characteristics. Brought to you by the same people who invented the air cooled lamp canopy the principle is the same. Brings in outside air through cycles. Brings in air to remove the generated heat and vents the hot air at an adjoining area where the heat can be utilized for beneficial advantage. Use at least a 400 cfm duct fan for cooling tube air flow.