



# Grow Smart CO<sub>2</sub> Generator Series

V1.4 April 2010

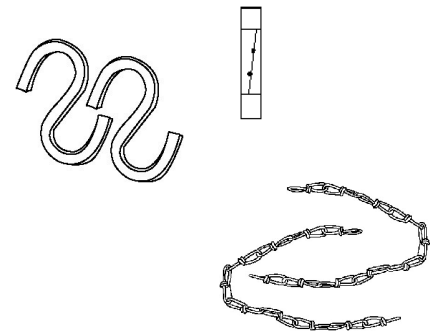
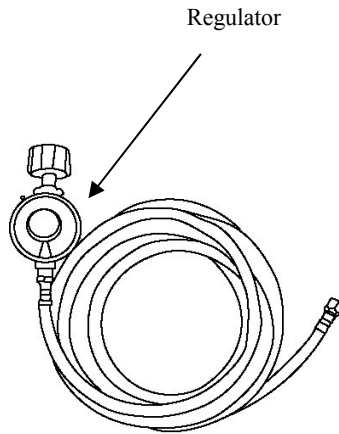
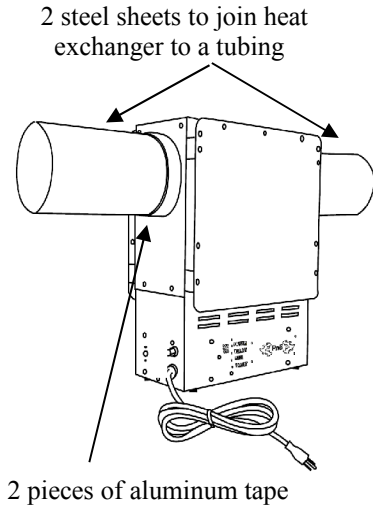
<p>This user guide covers the installation and operating instructions of the four following <b>Smart CO<sub>2</sub> Generators</b> :</p>	<p>iGS-LP4X, 12 000 BTU Propane with heat exchanger  iGS-LP8X, 24 000 BTU Propane with heat exchanger  iGS-NG4X, 12 000 BTU Natural Gas with heat exchanger  iGS-NG8X, 24 000 BTU Natural Gas with heat exchanger</p>
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## The following parts are included in the box

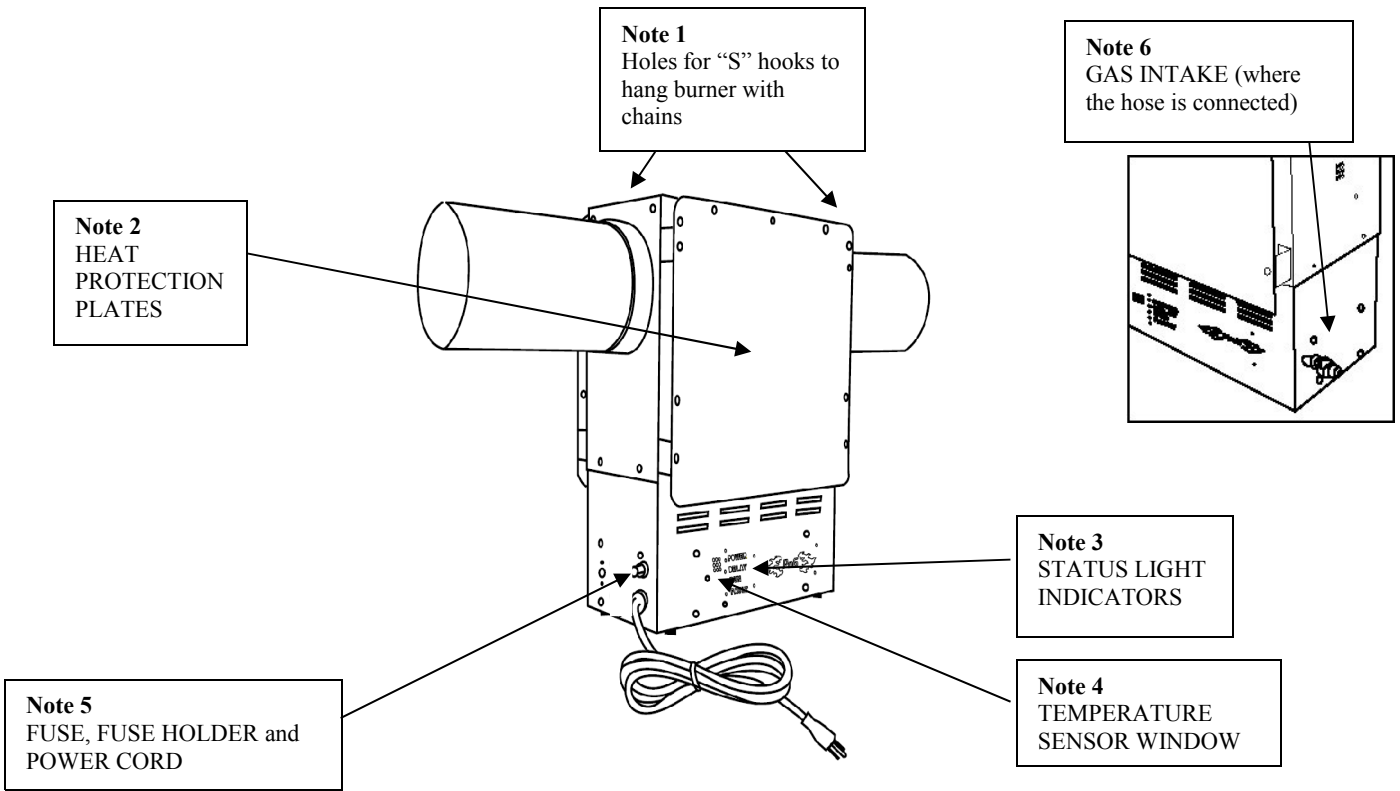
The CO<sub>2</sub> Generator (Gas Burner) itself :

One 15-ft hose with pressure regulator (with propane gas model only) :

The hardware accessories :  
2 x "S" Hooks  
2 x 2-ft chain sections  
1 x additional fuse



## Burner Description : see Notes on reverse for further details



Instructions on reverse

## Quick Start in five easy Steps

- 1 Form a cylinder with each steel sheet and insert one in each heat exchanger extremity of the burner. Use aluminum tape to seal up the juncture. Join each steel cylinder to an intake and an exhaust vent holes with tubing to eject the excess heat outside or to another room for heating. Use a fan and an insulated exit tubing for a better heat reduction.
- 2 Connect the hose to the generator gas intake with a key. See note 6 below to get safe and leakage free connection.
- 3 Connect the other end of the hose into your propane gas tank or your natural gas output. **Open the gas valve.**
- 4 You need to bleed the hose off by connecting the unit 4 to 6 times into any power outlet for about 30 sec each time, until the burner lights. It may be required to bleed off the line again if the burner is not used for a long period of time.
- 5 You are now ready to connect the power cord into any CO<sub>2</sub> controllers such as **iGS-061** (single output), **iGS-100** (dual output), or **iGS-220** (dual output, Temp and RH sensors also).

**WARNING : Maintain at least an 18 inches (45 cm) distance between the top of the generator and the ceiling or any other combustible material to avoid causing fire**

- Note 1 : The four rubber feet at the base of your CO<sub>2</sub> generator avoid scratching the floor when moving the unit around the grow room. For those willing to raise their generator at a more appropriate level, we provide two “S” hooks and two 2-ft chain sections to hang the generator from the ceiling at a safe distance (at least 18 inches (45 cm) between the top of burner and the ceiling or any other combustible material).
- Note 2 : The heat plates may avoid serious burning when touching the generator accidentally while active. At any time, it is not recommended to touch these plates, especially near the top where the hot air is exhausted due to the natural convection from the (cold) bottom to the (hot) top.
- Note 3 : The CO<sub>2</sub> generator comprises four light indicators displaying the Operating Status of the unit.
1. **POWER** light, green: ON when 120Vac power is supplied to the generator, from a power outlet or CO<sub>2</sub> controller. OFF when power is removed or alarm condition is met. See **FAULT** light below.
  2. **DELAY** light, red: ON when the electronic pilot is waiting during its ignition smart sequence. OFF when the pilot is trying to ignite the burner or when burner is already ignited.
  3. **RUN** light, orange: ON when the main valve is opened and the burner is ignited and generates CO<sub>2</sub>.
  4. **FAULT** light, red: ON only when an over temperature condition is reached (70°C). During a fault condition, the burner is deactivated until the high temperature condition is removed (65°C or less).
- Note 4 : The temperature sensor is located on the electronic board behind the 9-hole grid. See **FAULT** light condition above.
- Note 5 : We recommend using a **1A fuse - slow blow** type. The fuse is provided to cut power from the internal electronic controller and valve when an overload or malfunctioning condition is met.
- Note 6 : The hose must be connected here. Use a key in order to tighten the female flare connector adequately. Safe gas connection can be checked by applying a soap water around the connector: if bubbles appear, you will need to tighten the hose connector a bit more until the gas leakage is fixed. Do not tighten excessively because the internal valve could move and create leakage around the pilot.

## Regular Maintenance Required

It is recommended to clean up the nozzle jets at least twice (2) a year to maintain clean and safe gas combustion. This required maintenance is not covered by the warranty. A local shop servicing gas barbecues or gas combustion equipment may provide the service.

### Cleaning procedure

- Remove the heat protection plate on the side opposite to light indicators to access the burner nozzle jets
- Unscrew the nozzle jets tip caps
- Insert a thin rod or drill rod of proper diameter in the orifice inside and at the bottom of the jet body to remove dirt and soot.
- Put and screw back in place the nozzle jets tip caps

Proper cleaning rod diameter

Propane – LP Gas: #76 = 0.020"

Natural Gas: #71 = 0.026"

## WARRANTY

Nova Biomatique, Inc. (hereafter NBI) warrants their PLUG'n'GROW CO<sub>2</sub> generators to be free of defects in material and workmanship for a period of one (1) year from the date of original purchase by the end-user (proof of purchase required). The warranty only applies to the original purchaser of the product from an authorised store. The warranty is limited to the repair or replacement, upon NBI's appraisal, of any defective part of the product covered by warranty.

**Toll free technical support: 1-888-577-6274 or visit [novabiomatique.com](http://novabiomatique.com)**