



TechGrow CO₂-generator (Natural gas)



USER MANUAL





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The CO₂ generator is mainly used in greenhouses to maintain the CO₂ on a certain level.

WARNING

The CO₂ generator only operates on natural gas. It is NOT permitted to use other types of gas. Do not change this yourself!!

You are completely responsible for the consequences in case you decide to use different types of gas.

The CO₂ generator has 4 or 8 standard burners, depending on the model.

CO₂ supply 4 burners: Suitable for usage in areas with an volume of (average) 3200 m³.

CO₂ supply 8 burners: Suitable for usage in areas with an volume of (average) 6400 m³.

The CO₂ generator operates with automatic ignition (electric). Automatic ignition also occurs when the flame suddenly goes out. If the ignition does not succeed, the solenoid valve will automatically prevent gas from leaking and an audible alarm will be heard. Use the supplied adapter (12V) for safe and reliable operation.

NAMES OF COMPONENTS

1. CO₂ generator
2. Gas pipe
3. Reductor valve
4. Adapter 230volt/ 2,0 amp
5. Chain with hook
6. 2 closing caps with wrench
7. Sealant

TOP VIEW (PHOTO)

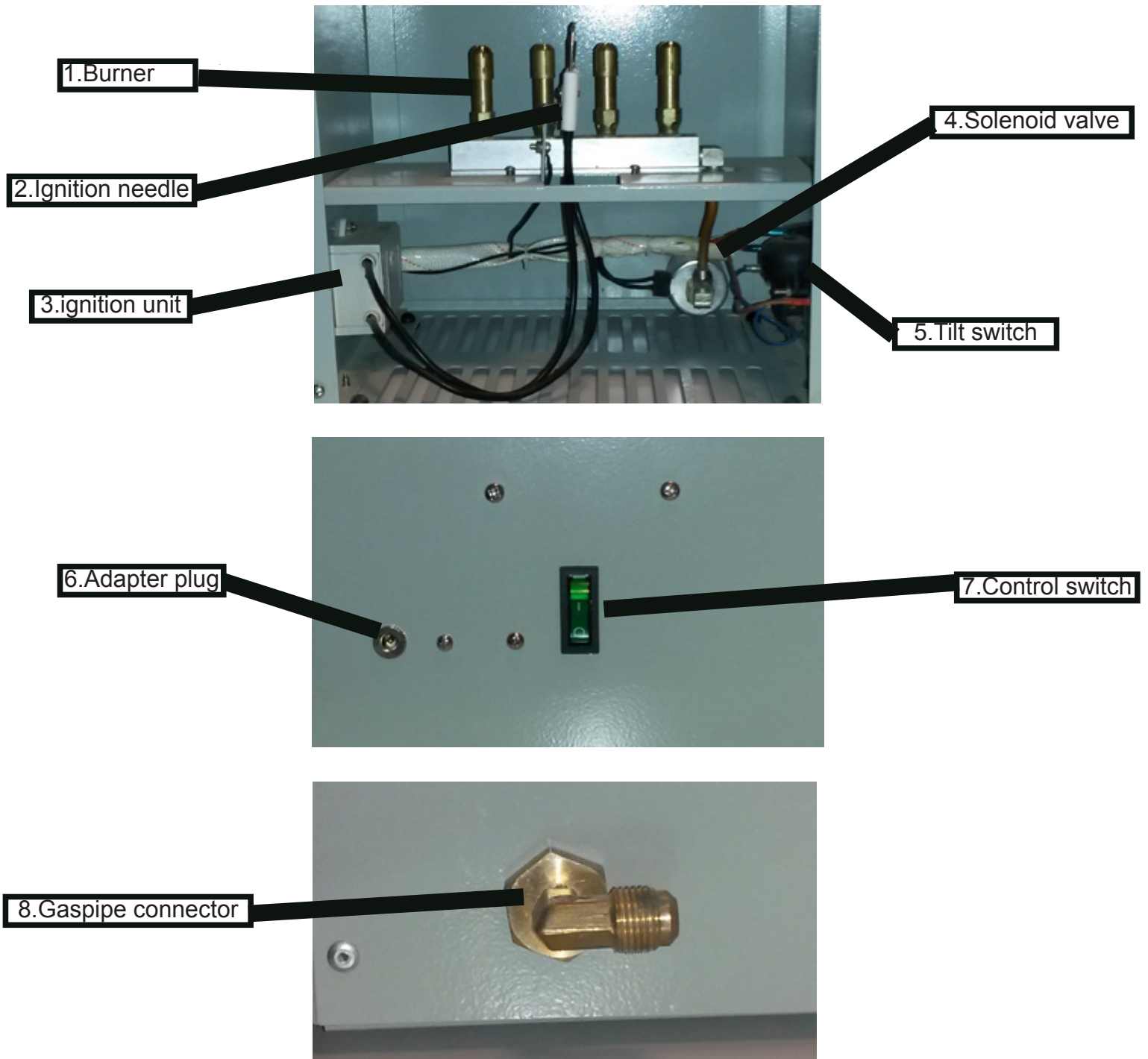
1. Burner
2. Ignition needle.
3. Electronic ignition mode
4. Solenoid valve
5. Tilt switch
6. Adapter plug (12V)
7. Control switch
8. Gas pipe connector



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IMAGES

CO₂ generator with use of natural gas
(image)





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INSTALLATION

1. Open the package and check if it contains all components.
2. Hang the generator (horizontal) on a suitable place in the desired area. The CO₂ generator must be placed more than 50 cm away from ceiling, wall or other objects. Make sure that the CO₂ generator is levelled correctly!! If it is not hanged properly and tilted for more than 30 °C, the generator will not work due to tilt switch protection.
3. Do not place flammable goods near the CO₂ generator.
4. Connecting the CO₂ generator. For this, use the enclosed sealant or ask advice.
5. Connect the enclosed tubes to the reductor valve. Connect one end to the CO₂ generator and the other end of the tube to the gas bottle.
6. Open the gas supply. By coating the tube with soapy water, you will be able to check the tube for any leakage. In case of a leakage, you will see air bubbles. Repair the leakage as soon as possible and repeat the procedure. Ventilate the area.
7. Connect the supplied adapter to the CO₂ generator and a wall socket. Connect the adapters output to the panel of the generator. Turn on the control switch and check if the indicator light is turned on and if the ignition has an pilot light (if so, then the CO₂ generator operates as it should). Turn off the control switch.
8. If the above steps went well you can turn on the control switch to start up the generator.
NOTE: Because the generator will be ignited for the first time, air will be blown from the tube. That is why it can sometimes take a while before the ignition is successful.

START UP

If the CO₂ generator is installed successfully, start ignition by turning on the control switch. The CO₂ generator operates according the following steps:

1. Turn on the control switch. Ignition will start automatically and sparks can be seen between the contacts.
2. The solenoid valve opens and gas will flow from the burner.
3. The gas will ignite and all burners are turned on. The gas supply to the CO₂ generator is now successful.

SAFETY

If the burner does not ignite within 10-15 seconds, the solenoid valve will close and the gas supply will be cut off. An alarm will go off. Reset the CO₂ generator by turning the control switch off and on. If the ignition is successful, the generator will operate normally. If not, the ignition mode will close the solenoid valve and an audible alarm will be heard again.



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SHUTTING DOWN

1. Turn of the control switch.
2. Close the gas bottle.
3. Remove the adapter from the wall socket.

WARNING

1. The ideal CO₂ value for you area is dependent on your type of crops.
Start with a low CO₂ value and increase slowly. Usually, a value higher than 1500 ppm is a waste. Human beings who inhale too much CO₂ will suffer from headache and dizziness. A CO₂ value higher than 5000 ppm is dangerous for humans and animals. That is why we advise you to use a suitable CO₂ controller when you are using a CO₂ generator so that it is possible to adjust the correct value to control the CO₂ generator automatically.
Do not ventilate the area too much so the CO₂ value can maintain in good condition.
2. The CO₂ generator must be operational during the day. Therefore, it is rather pointless to add CO₂ during the night. For this reason, use a CO₂ controller with light sensor.
3. Do not touch the CO₂ generator when operational because the exterior will get very hot, especially the bottom.



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NOTES

1. Check if the CO₂ generator is not damaged. If so, DO NOT use it.
2. Do not make any adjustments when the CO₂ generator is burning.
3. The colour of the flame must be blue.
4. Use the hook with chain to hang the CO₂ generator. Make sure that part is strong enough to carry the CO₂ generator.
5. Make sure that the CO₂ generator is levelled correctly (horizontal) and is not tilted for more than 30 °, otherwise the generator will not operate.
6. Use natural gas.
7. Make sure that the air supply is sufficient. The flame MUST be blue. Insufficient air supply will lead to a less effective CO₂ production.
8. If you detect a deviant smell, please take the following steps immediately:
 - Close the gas bottle.
 - Open all possible doors and windows or increase the volume of the extractor(s).
 - Do not use electricity or control switch. Do not use a lighter, match or phone in the area. Otherwise, an explosion may be the result.
9. If you detect a gas leak, stop using the CO₂ generator immediately until the generator is repaired and close gas bottle. Or check all couplings and connections.
10. Use the CO₂ generator according to this manual to prevent accidents from happening such as: fire, explosion, carbon monoxide poisoning or burning.

MAINTANANCE

1. When you stop using the CO₂ generator, cut off power and close the gas bottle. If you do not use the generator for a longer period of time, remove the adapter and make sure that the CO₂ generator and gas source are separated from each other.
2. Check the flame regularly. The flame must be blue. Lack of oxygen may cause the flame to become yellow which causes toxic substances to be released. Therefore, make sure there is sufficient oxygen in the area.
3. When the CO₂ generator does not ignite normally, check if the generator is levelled correctly (horizontal). Check if the adapter is damaged and if the valve is open.



- Compact and accurate portable handmeter
- Measures CO₂ value and temperature
- CO₂ warning alarm
- Calibration function for CO₂

Portable CO₂ Meter HS-1



- Placeable in any room
- Works using standard text messages
- Manageable by up to 3 different people
- Up to 8 different contacts for alarms

Alarm detector AM-1



- Plug & Play
- Extremely accurate CO₂-sensor
- Smallest of its kind
- Easy to use

CO₂ Controller T-Micro



- Back-up for up to 24 hours
- Works with any 12 Volt car battery
- Installed in a couple of minutes
- Optional: Mobile phone feedback module

Powerbox PB-600