

Specifications

Compressed CO2 connection	CGA-320
Maximum inlet pressure	3000 PSI
Weight	4 lbs
Life Expectancy	> 10 years



Sentinel CO2 Regulators offer a **3-year** warranty.

Ask your retailer for details.

Sentinel products are distributed by:

GPS / Global Product Solutions LLC.



www.growgps.com



Instruction Manual

CO2-EXP

CO₂ Expansion Regulator



Introduction

Carbon Dioxide / CO₂ is critical for all plants. Normal atmospheric air around the world averages about 380 Parts-Per-Million (PPM.) When plants are provided higher levels of carbon dioxide, they can grow faster and larger. It is normally agreed by experts that up to 1500 PPM is beneficial to plants. Compressed CO₂ comes in pressurized tanks or cylinders.

The CO₂-EXP works with the CO₂-REG. When used together, more than 1 tank can be coupled together to extend the time between tank changes,

The CO₂-EXP CO₂ expansion regulator assembly comes ready to install. Connect it to the CO₂-REG, connect your second tank and you are ready to go.

- 1) The CO₂-EXP expansion Regulator connects to a second 20 lb or 50 lb CO₂ tank.
- 2) It is then joined together with the CO₂-REG.
- 3) The precision flow-gauge on the CO₂-REG then releases between 1/2 and 15 SCFH of CO₂ per hour (Standard Cubic Feet per Hour) from BOTH connected tanks.

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Determining area and settings

It is highly recommended to use a CO₂ Part Per Million (PPM) controller with the CO₂-REG. If you are not going to use a controller, the CO₂-REG must be used with a timer to regulate how often and how much CO₂ is released into the area.

The chart below is for reference only. In order to determine the proper timer settings and flow-gauge settings, you can find a calculation tool online at www.growgps.com

LENGTH	A	10.0		Enter the enclosed area length
WIDTH (FT)	B	12.0		Enter the enclosed area width
HEIGHT (FT)	C	8.0		Enter the enclosed area height
ROOM CAPACITY (CU FT)	D	960	Multiply A x B x C	This is the total area of the enclosed growing zone.
EXISTING CO ₂ LEVEL (PPM)	E	375		Enter the average background CO ₂ level.
DESIRED CO ₂ LEVEL (PPM)	F	1500		Enter the desired PPM level you want to have
SUPPLEMENT CO ₂ LEVEL (PPM)	G	1125	Subtract E from F	This is the amount of CO ₂ to be added PPM
VOLUME OF CO ₂ REQUIRED (CU FT)	H	1.080	(Multiply G x .000001) x D	Amount of CO ₂ to bring the area to the desired PPM.
INJECT PERIOD (MIN)	I	10.0		The amount time the CO ₂ will be released.
FLOW RATE (CFM) (For CFH, see below)	J	0.108	Divide H by I	Set the flow-gauge to this setting.
FLOW RATE (CFH) (For CFM, see above)	K	6.5	Multiply J x 60	Set the flow-gauge to this setting.

WARNING: Compressed CO₂ tanks have pressures as high as 3000PSI. Do not drop or store tanks where they may fall. Damage to the regulator assembly could result in high-pressure gas released with enormous energy.

Installing CO2-EXP (Expansion Regulator)

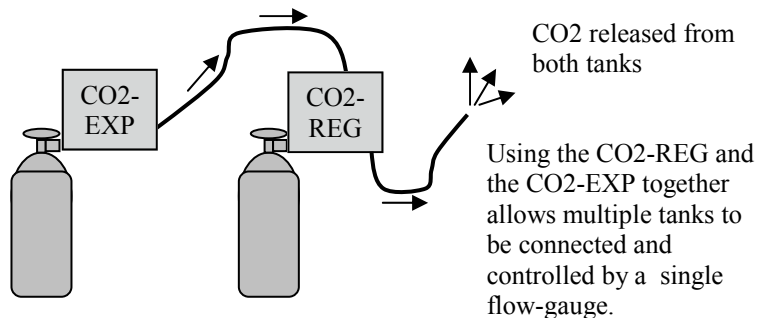
The CO2-EXP Expansion regulator allows multiple compressed tanks to be connected together. That allows an extended amount of time between tank changes. The CO2-EXP consists of a separate regulator to reduce the pressure from 3000PSI down to 30 PSI.



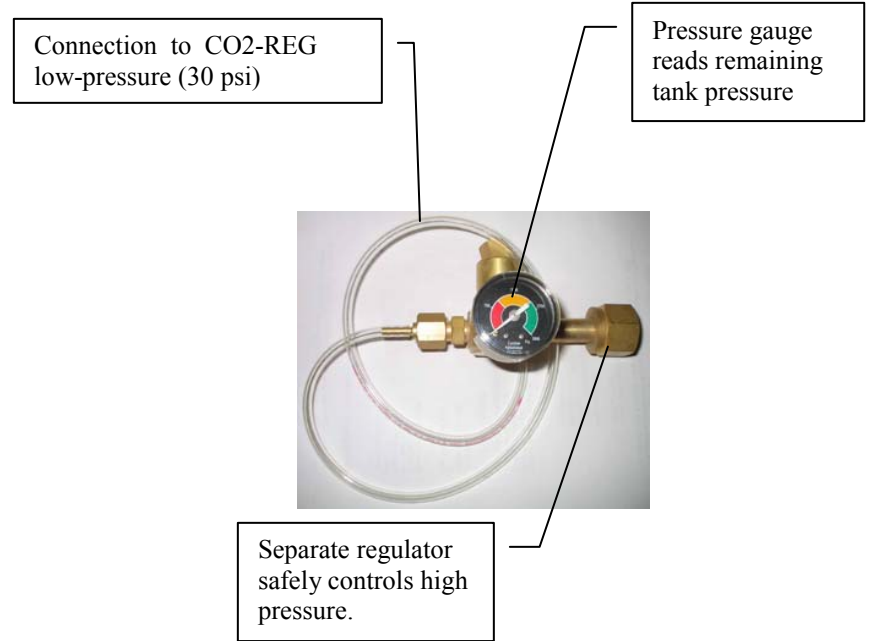
A 1/4" flexible line connects from the CO2-EXP to the back of the CO2-REG. Each tank has its own regulator and gauge. To install the CO2-EXP, follow the steps below.

- 1) Turn OFF the compressed CO2 tanks to be used.
- 2) Locate the pipe-cap on the back of the CO2-REG between the regulator body and the flow-gauge. Loosen and remove the cap.
- 3) Connect the flexible hose from the CO2-EXP to the open connector on the back of the CO2-REG. Tighten securely.
- 4) Secure the CO2-REG and CO2-EXP to the compressed CO2 tanks.
- 5) Open the access valves on the compressed tanks and check for leaks.
- 6) Activate the solenoid by plugging the 120-volt cable into a power source. Verify the flow-gauge is set correctly.

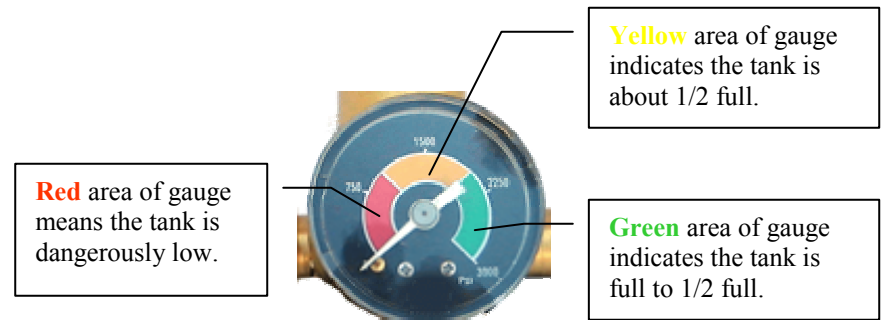
Each tank will provide CO2 to the flow-gauge. If one tank runs empty before the other one, the second tank will continue to provide CO2.



A quick look at the CO2-EXP...



The tank pressure gauge on the CO2-REG and the CO2-EXP is simple to read and understand.



NOTE: CO2 tanks / cylinders are under extremely high pressures and frostbite can occur if exposed to escaping CO2 gas. Always use caution while handling pressurized gas.