



INFINITE 02

## Storage System with Compressor



### Installation and operation Manual

**Engler Engineering Corporation**  
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## SAFETY PRECAUTIONS



It is very important that you read the precautions below and make yourself familiar with the hazards of oxygen in general. While it can be handled and used very safely, it can also be mishandled or applied incorrectly causing dangerous situations.



**Oxygen is a fire hazard.** It can be very dangerous as it vigorously accelerates the burning of combustible materials. To avoid fire and / or the possibilities of an explosion, oil, grease or any other easily combustible materials must not be used on or near the oxygen generator. **DO NOT SMOKE NEAR THE UNIT.** The unit should be kept away from heat and flames. Individuals who have experience handling oxygen systems should become the designated operators of the oxygen generator within your facility.



In sensitive applications, it is important to have a backup supply of oxygen since the generator does not come with any reserve storage tank and requires electrical power to operate. **Therefore, during power outages, oxygen will not be produced.**

**Do not use extension cords to bring power to the generator or storage system.** The current drawn into the unit is high and could overheat some extension cords. It is also critically important to use only a properly grounded outlet.

**High pressure oxygen may present a hazard.** Always follow proper operating procedures, and **open valves slowly.** Rapid pressurization may result in personal injury. Safety glasses and hearing protection are required when venting oxygen under high pressure.

**Ensure that the oxygen outlet stream is not directed toward anyone's clothing.** Oxygen will embed itself in the material and one spark or hot ash from a cigarette could ignite the clothing vigorously.

Do not modify power plug!

# READ BEFORE YOU START

## For Veterinary Use Only

**Each unit must be connected to its own, separate, dedicated 115V - 60 Hz 20 Amp circuit.**

The Infinite O2 system is designed for indoor use only. The system should be located in a well ventilated area, between 50 F (10 C) and 100 F (38 C). Placing the O2 generator outdoors or in damp, dusty or dirty environments may cause the unit to fail, cause injury, and will void the Warranty.

There should be a distance of at least 8 in (20 cm) between the unit and any side wall in the room. This ensures proper airflow into the generator and minimizes any restriction.

If the unit is going to be set up in a room that is small, (less than 2000 ft<sup>3</sup> or 56.6 m<sup>3</sup>), that room should be **well ventilated** (at least 8 air changes in the room per hour). The generator separates nitrogen from oxygen and will be discharging nitrogen into the room. Nitrogen build up could be dangerous to people entering the room.

**Do not install the generator in a small closet.** The air in that closet will become enriched with nitrogen, making it more and more difficult for the machine to extract oxygen from the (room) atmosphere.

Air filters must be kept clean. Filters must be changed periodically. Refer to the manual for further instructions. Failure to keep the filters clean may cause failure and will void the warranty.

Fan must always be operating when compressor is operating. If the fan is not working while the compressor is operating they system will overheat and shut down. The fan will not operate when the system is on standby.

Do not open control box. If service is needed, remove control box and send it to EEC for service.

Do not unscrew quick disconnect fitting when tank is pressurized. Relieve tank pressure by opening the manual relief valve on the right side of the tank. Tank pressure gauge will show 0 psi when the tank is not pressurized.

Initial Inspection:

The crates should be opened and inspected immediately upon delivery.

Unpack at once and perform a visual inspection to determine if the generator or storage system have been damaged.

Also check to make sure the power cord is attached and that the control panel & displays (generator) has not been damaged in any way during shipment.

Confirm that the storage system has not been damaged and all fittings and gauges appear in order.

At Engler Engineering Corp. (EEC), we are committed to using shipping companies with good reputations for taking care in the handling of freight and providing excellent service in the event of damage. If damage is discovered, notify shipper and / or refuse delivery. **Document and photograph all damage for the claims process.**

Please note: The generator and storage system's appearance and hardware are subject to change without notice.

All devices manufactured and / or sold by Engler Engineering Corporation are built and tested to approved standards. Any modification to the device, cables or hoses, initiated by others nullifies all warranty statements. Engler Engineering Corporation will not be held liable for any loss, damage, injury or death due to non-authorized service and / or improper installation and / or improper use or misuse of the device.

## COMPANY PROFILE

Engler Engineering Corporation has been in business since 1964 and occupies an 8000 square foot facility in Hialeah, Florida (USA). We manufacture ultrasonic dental scalers, polishers and combination units including electro surgery equipment and ultrasonic instruments for the veterinary market as well as a microprocessor controlled anesthesia delivery system and a respiratory monitor for veterinary use only.

We also manufacture dental equipment for the human market. Please visit our website [www.englerusa.com](http://www.englerusa.com) for more detailed information or call us at the numbers shown below.

Engler Engineering Corp. acquired the exclusive manufacturing and marketing rights of **Dynax** products, including stretchers, animal restraint devices, comfort cots, heating pads, and other products. We also acquired the Alpha-Sonic, Ora-Sonic, and Pro-Sonic line of piezo scalers.

Engler Engineering Corporation's brand name veterinary products proudly include:

**Excelsior**, high speed dental air unit with vacuum / electro-surge / ultrasonic scaler / low speed / high speed / air / water syringe,  
**Son-Mate II**, ultrasonic scaler / polisher,  
**Sonus II**, ultrasonic dental scaler,  
**Poli -X**, micromotor variable speed polisher,  
**Drill – Aire**, high speed dental air unit, high speed, air / water syringe,  
**Drill – Aire Plus**, high speed dental air unit, high speed, low speed, air / water syringe,  
**Scale - Aire Mini**, high speed dental air unit with ultrasonic scaler / high speed / low speed / air / water syringe,  
**Scale - Aire**, high speed dental air unit with ultrasonic scaler / high speed / low speed / air / water syringe and compressor / tank,  
**Tri - Mate**, ultrasonic scaler / micromotor polisher / electro-surge,  
**A.D.S. 2000**, microprocessor controlled anesthesia delivery system / ventilator,  
**Sentinel V.R.M.**, respiratory monitor.

Engler manufactures the **Sonus V** ultrasonic dental unit for the human market

We manufacture all of the inserts and tips used in the Engler products as well as many others on the market today in the 18K, 25K, and 30K frequency range.

Our repair department has the technical knowledge to repair and maintain most dental devices manufactured by other companies including Shorline.

**Engler Engineering Corporation's foreign sales are handled through a large and growing network of dental and veterinary distributors. At the present time we are represented throughout Europe, South and Central America, Canada, Asia, New Zealand, Australia, the Middle East, and most other countries.**

**If you have any questions or comments, please contact:**

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# INTRODUCTION

Engler Engineering Corp is proud to bring you the Infinite Oxygen System. The Infinite Oxygen System extracts and stores oxygen from the environment. The system allows the customer to generate oxygen on demand.

Engler's Infinite Oxygen System incorporates an oxygen generator and storage system. It is very easy to setup and operate. The output pressure can be set to from 1 to 100 psi.

Upon start-up, the system automatically filters and stores oxygen from ambient air. When the tank is full the system goes on standby and restarts automatically as the tank empties. The Infinite O2 System completely eliminates the need for bulky and cumbersome cylinders.

The installation is clean and simple. There are two components, a 20 plus\* liter per minute oxygen generator and a storage system. Just plug in two power cords and attach the oxygen hose. \*Engler's Infinite O2 Generator can actually provide up to 25 liters of oxygen per minute.

The system's 30 gallon storage tank can provide very high flow rates which is necessary for many anesthesia machines and devices requiring oxygen. Flow rates that a generator alone does not normally provide.

Engler's Infinite O2 System is easy to maintain. Periodic maintenance requires only replacing the dust filters once or twice a year depending on environmental conditions.

The Infinite O2 System can be expanded by adding another Engler Infinite O2, 20 lpm generator without the need of additional control boxes, effectively doubling the output. Call Engler for details.

The system needs no further operator intervention after initial setup.

The advanced design of the Infinite O2 Generator and Storage System has been custom designed to prevent the compressor from stalling due to power interruptions.

Other features of the generator and storage system:

Our compressor and storage system is modular, if it becomes necessary to service the compressor, simply disconnect the easily accessible hose disconnect system and four wing nuts.

The generator is equipped with Bacteria filters.

The system incorporates a safety valve and breaker for additional protection.

A high quality, high flow regulator keeps the output pressure stable.

A spigot valve is installed before the regulator just like in the high pressure oxygen cylinders. This allows the output to be closed without changing the set oxygen pressure on the regulator. It also makes it easy to exchange the regulator without losing pressure. The spigot valve output is CGA 540 just like the large oxygen cylinder output.

The tank features an easily accessible drain valve.

Proudly made in the USA.

# PICTORIAL DIAGRAM



# INITIAL SETUP

To connect the Generator to the tank system:

1. Connect the green oxygen hose from the Generator O2 outlet (front side) to the Oxygen input (DISS fitting) located on the back of the blue control box on the tank.



2. Connect the cable from the Infinite O2 Generator unit to a DEDICATED (independent) 120 Volt, 20 Amp outlet.
3. Connect the Infinite O2 Storage System to a SEPARATE (independent), DEDICATED 120 Volt, 20 Amp outlet.

**THIS MEANS TWO SEPARATE, DEDICATED 20 AMP CIRCUITS  
ONE FOR THE GENERATOR AND ONE FOR THE STORAGE SYSTEM**

4. Flip the Power Switch ON (Toggle up) on the Infinite O2 Generator unit. The generator will begin operating, and after about one minute the O2 outlet open and start producing oxygen.
5. Wait about a minute, and then turn ON the power switch on the storage system (back of blue control unit). The green light will turn ON. After a few seconds a click will be heard, initiating the cycle. Setup complete.

The system will now continue to work automatically and nothing further is required (except for occasional filter cleaning). The system will now cycle, starting @ nominal 110 PSI and automatically shut off @ nominal 140 PSI. When the cycle stops, the generator will continue to operate and build pressure to about 80-100 Kpa and after five minutes go on standby.

Note1: The oxygen purity will increase as the tank fills.

Note2: The pressure gauge on the generator will be at near zero when the tank is filling and it will increase to about 80 - 100 Kpa when on standby.

When the generator cycle restarts, each of the three subsystems will cycle on and the indicators below each system will change from "<90%" to System OK as it is coming up to purity. As each of the subsystems reach purity the associated "<90%" will be replaced by: "System (A/B/C) OK" will be illuminated. Once you have flow established, the digital display will indicate the purity of the output oxygen and the flow meter will indicate the amount of Oxygen flowing to the output.

## SHUT-DOWN AND RESTART

Shut-down:

To shut down the system:

1. Turn the power Switch OFF on the Infinite O2 Storage System (tank).
2. Flip the toggle switch down on the Infinite O2 Generator unit. The Generator will make a hissing noise as pressure is relived.
3. Shut down complete.

Restart:

If the unit has already been setup and it was turned OFF completely, Do the following to restart the unit.

1. Flip the Power Switch ON (Toggle up) on the Infinite O2 Generator unit, the generator will begin operating, and after about one minute the O2 outlet open and start producing oxygen.
2. Wait about one minute, and then turn ON the power switch on the storage system (back of blue control unit). The green light will turn ON. After a few seconds a click will heard, initiating the cycle.
3. Restart complete.

Note: For safety, EEC recommends that the blue tank should be bolted to the floor and the generator's wheels should be locked.

## MAINTENANCE / REMOVAL / REPLACEMENT

The Infinite O2 generator should be kept in a clean, preferably air conditioned, well ventilated room.

The only maintenance to be performed on the generator is cleaning / replacement of the filter for the fan on the blue box.



To send the control box (blue) back to EEC for repair or replacement,

Shut the entire system down.

Empty the O2 tank completely by turning the drain valve one quarter turn. Use proper precautions as the oxygen is being vented.



Once all of the O2 has been vented from the tank, the gauge should read 0. Disconnect the hose underneath the control box leading to the tank.



**Maintenance** continued

Next, locate and remove the four wing-nuts underneath the blue control box.



Carefully lift the blue control box off of the tank and place in a well padded box for return to EEC. Pay special attention to prevent damage to the screws at the bottom of the blue box.



Ship to:  
Engler Engineering Corp.  
1099 East 47 Street  
Hialeah, Florida 33013

Attention: Repair Dept.

## TECHNICAL DATA

Control Box	
Input Voltage:	115 VAC nominal
Input Frequency:	60 Hz
Running Current (Amperes)	5 Amps
Starting Current (Amperes)	15 Amps
phase	single
Maximum air temperature	100 F (38 C).
Minimum air temperature	50 F (10 C)
Plug type	Nema 5-20P
Overcurrent protection trip current	20 Amps
Input fitting	Oxygen DISS

Tank	
Maximum tank pressure	200 PSI
Relief valve pressure	165 PSI
Output Valve fitting	CGA540
Regulator pressure	1-100 PSI / 1-700 Kpa (Adjustable)
Regulator fitting	Oxygen DISS
Regulator Oxygen Volume/Pressure (continuous flow rate after tank capacity is determined by the generator output. (typically 20 LPM)	423 SCFH @ 50 PSI 200 LPM or @ 0.344 Mpa
Regulator output fitting	Oxygen DISS
Tank capacity (empty)	30 gallons (may be upgraded)

## DIMENSIONS

### INFINITE O2 STORAGE SYSTEM

<b>CHASSIS DIMENSION:</b>	Length: 25" (64 cm) Depth: 18" (46 cm) Height: 51" (130 cm)
<b>CABLE LENGTH:</b>	8' (244cm)
<b>OXYGEN HOSE:</b>	6' (183 cm) (may be customized to different lengths)
<b>ESTIMATED NET WEIGHT</b>	200 Lbs. ( 91 Kg.)
<b>ESTIMATED SHIPPING WEIGHT:</b>	250 Lbs. (114 Kg.)



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[www.dynaxusa.com](http://www.dynaxusa.com), [www.ez-stretcher.com](http://www.ez-stretcher.com) for brochures, manuals  
and "how to" pages please visit [www.engler411.com](http://www.engler411.com)

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