



INFINITE O2

Oxygen Generator System

10L & 20L Models

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. While it can be handled and used very safely, it can easily be mishandled or applied incorrectly causing a dangerous situation.

Oxygen is a fire hazard. Oxygen can be very dangerous as it vigorously accelerates the burning of combustible materials. To avoid fire and / or the possibility of an explosion, oil, grease or any other easily combustible materials must not be used on or near the oxygen system.

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 the facility.

In case of a power failure, **Engler strongly recommends** that the clinic maintain a backup supply of oxygen. The generator does not come with a reserve storage tank and requires electricity to operate. ***During a power outage, oxygen will not be produced.***

Engler Engineering strongly recommends connecting the Infinite O2 generator and concentrator to a **DEDICATED** 20 amp circuit.

High energy appliances such as air conditioners, refrigerators, and washing machines are normally required to have a dedicated outlet and this is normal.

Not having sufficient power available to run both the Infinite O2 Generator and concentrator will affect the performance of the equipment, may cause stalling and other deleterious effects and void the warranty.

Do not use an extension cord to power the generator or concentrator. The current drawn by the unit is high and could overheat an extension cord. It is also critically important to use only a properly grounded outlet.

Why a dedicated 20 amp circuit is recommended:

Electric motors like those found in the O2 concentrator and Infinite O2 Generator, normally require two to three times normal operating current to start properly. The starting current for both devices may be higher than 15 amps for a few seconds, thus overwhelming the maximum available in a typical outlet, so for this reason, only the concentrator / Generator should be connected to that specific 20 amp outlet. Contact a qualified electrician for more information.

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 can embed itself in the material and one spark or hot ash from a cigarette could ignite the clothing vigorously.

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 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 / electrosurge / 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,

Infinite O2 10 Liter Oxygen Generator System,

Infinite O2 20 Liter Oxygen Storage System, whole clinic O2 system,

Sonus V, ultrasonic dental unit for the human market

Engler manufactures all of the inserts and tips used in the Engler products as well as many others on the market today in the 18K and 25K 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

Thank you for purchasing the Engler **Infinite O2 10L / 20L Oxygen Generator System**.

The design of the Engler **Infinite O2 Oxygen Generator System** uses an integrated pressure booster and temporary O2 storage buffer. The pressure booster increases pressure to nominal working pressure, like the regulator output on gas cylinders. The temporary O2 storage buffer handles peak gas surges, for example, the flush mode on positive pressure ventilators and other short duration, high flow requirements. This combination produces a powerful and potent tool to satisfy your oxygen needs. A reinforced solid aluminum chassis surrounds the internal components providing a very durable and reliable unit.

This device is equipped with a internal automatic control system that works without any further intervention from the user. Simply turn on your system ON as you need it and it will be ready in minutes.

PLEASE READ VERY CAREFULLY

Engler Engineering Corporation makes every effort to verify that all parts for the device along with any optional accessories ordered, were included in this shipment from our facility in Hialeah, Florida. It is imperative that the shipment be inspected immediately upon arrival. Should any parts be missing or damaged, Engler Engineering must be notified immediately. All claims submitted after fifteen days of receipt will not be valid.

All devices manufactured and / or sold by Engler Engineering Corporation are built and tested to approved standards. Any modification to the device, cables, hoses, or changes 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 of the device. Engler Engineering Corp's liability will not exceed the purchase price of the unit.

The information contained herein is intended only as a guide.

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PICTORIAL DIAGRAM

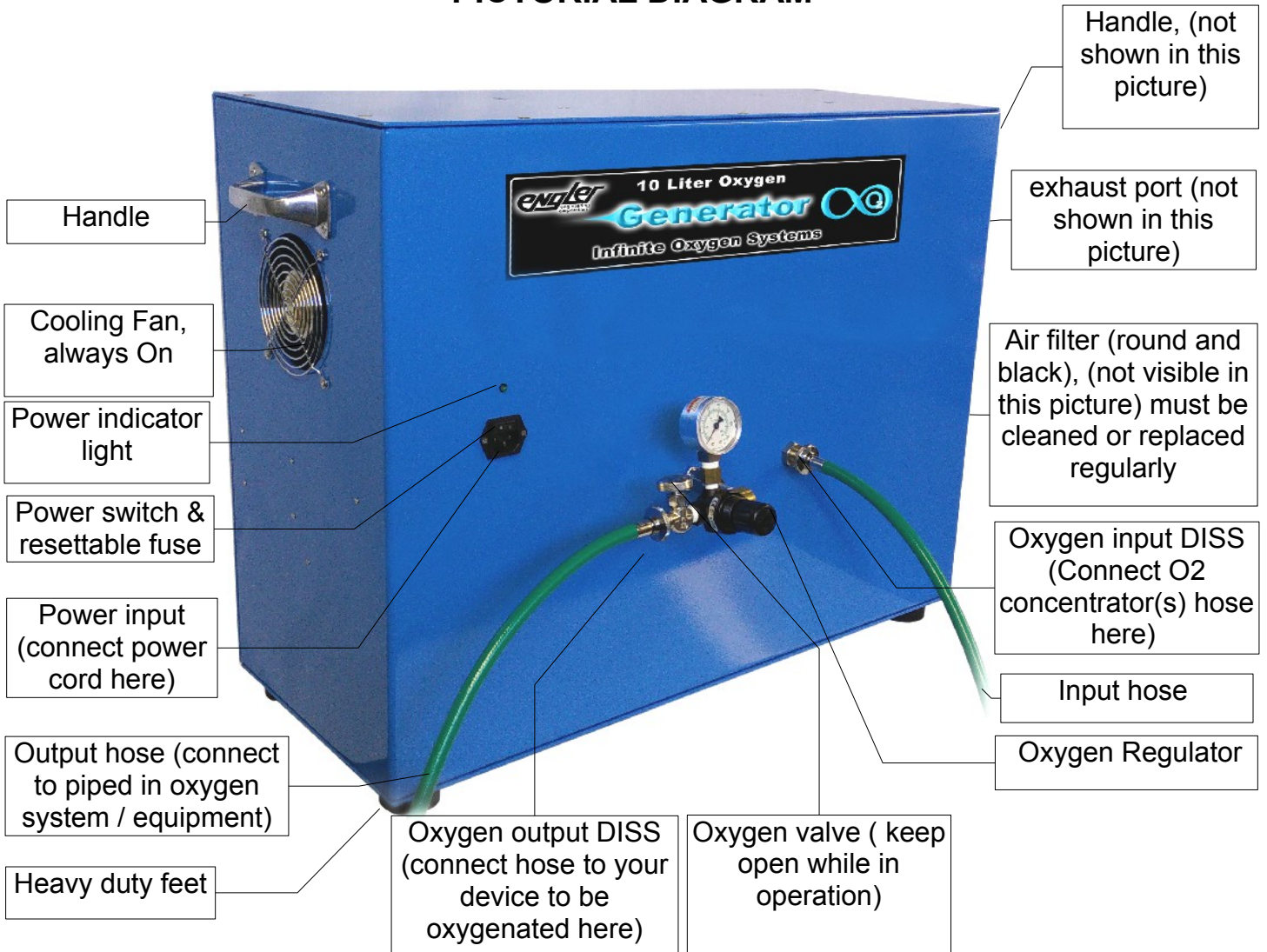


Photo is for illustrative purposes only. Aspects of the Oxygen Generator such as it's color, hardware, and connections, or accessories may change without notice. Example of 10L Generator shown.

INSTALLATION WARNINGS

Do not block air filter intake, cooling fan exhaust or exhaust port, doing so will cause the unit to overheat and possibly malfunction.

This device was designed to work upright. Operating this device on it's back or sides may cause unwanted vibration, noise, and damage.

This unit should be installed on a solid, sturdy surface.

The Infinite O2 Oxygen Generator should be installed indoors, in a cool, clean, well ventilated, and dry environment.

INITIAL SETUP

Install the oxygen concentrator to the **Infinite O2 Oxygen Generator** :

All connection points are clearly labeled

1. Follow all oxygen safety procedures when handling, installing and operating this device.
2. When installing system components ensure that they are properly fastened and there are no leaks.
3. If the O2 regulator was not factory installed, install the oxygen regulator to the **Output Port** (front and center) on the Infinite O2 Oxygen Generator.
4. Connect the green oxygen hose to the DISS Oxygen fitting located on the regulator.



5. Connect the green oxygen hose from the oxygen concentrator to the **Oxygen Input** (DISS fitting) located to the right of the O2 regulator on the front of the **Infinite O2 Oxygen Generator** system. When using more than two concentrators, an oxygen DISS “T” fitting is necessary. (see “connecting two concentrators to the Infinite O2 Generator” on this manual).
6. Connect the oxygen concentrator power cord to the concentrator power jack and then to a DEDICATED 115 Volt, 60 Hz, 20 Amp outlet.
7. Connect the **Infinite O2 Oxygen Generator** power cord to a DEDICATED 115 Volt, 60 Hz, 20 Amp outlet.
8. Turn the generator ON by pressing the power switch to the On [I] position. The generator will begin operating and the power indicator light will turn ON.
9. Turn the oxygen concentrator ON by pressing the power switch to the On [I] position.
10. The **Infinite O2 Generator** will begin pressurizing and may be ready to flush as soon the desired pressure (usually 50 PSI) on the oxygen regulator is reached. This process usually takes several minutes depending on the oxygen concentrator(s) capacity and settings.
11. Flush the **Infinite O2 generator's** internal tank for 5 minutes by opening the output valve. This is to ensure oxygen purity.
12. After flushing, close the output valve.
13. Re-connect the output hose to the oxygen regulator and open the output valve. The output hose can now be connected to your desired application, the clinic's plumbing or an anesthesia machine.
14. This unit will pressurize and self regulate automatically until it is turned OFF.
15. Initial set up complete.

NOTE: Foot height may be adjusted to compensate for uneven surfaces by rotating them. Rotating the foot pad, counterclockwise will increase the height of that foot pad.

SHUT-DOWN AND RESTART

Shut-down:

1. Turn OFF the **Infinite O2 Oxygen Generator** System.
2. Turn OFF the oxygen concentrator.
3. Shut down complete.

Restart:

If the unit has already been setup and turned OFF, do the following to restart the system.

1. Check that the power cord, hoses and the device has not been damaged or disconnected.
2. Verify that the air filter is clean, otherwise clean or replace the filter as per maintenance instructions.
3. Turn the oxygen concentrator ON by pressing the power switch to the On [I] position. If the highest O2 concentration is desired wait for a few minutes to allow the oxygen concentrator to reach high purity and then proceed to the next step.
4. Turn the **Infinite O2 Oxygen Generator** ON by pressing the power switch to the On [I] position. The **Infinite Oxygen Generator** will begin operating and the power indicator light will turn ON.
5. The **Infinite O2 Oxygen Generator** will begin pressurizing and can be used as soon the desired pressure (usually 50 PSI) on the oxygen regulator is reached. This process usually takes several minutes depending on the oxygen concentrator(s) capacity and settings.
6. Restart complete.

Additional Information

Oxygen produced by commercial concentrators is typically in the 92 +/-4% range. This concentration is more than sufficient for most if not all anesthesia procedures. If a higher concentration of O2 is desired, lower the concentrator's flow rate (output).

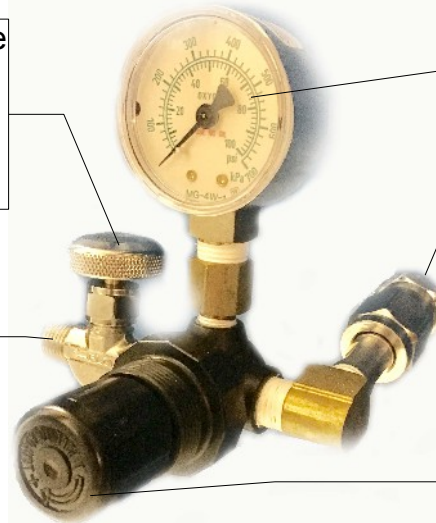
As the **Infinite O2 Generator** draws oxygen from the concentrator, the flow rate may vary. This is normal.

It is recommended that the concentrator output should be set to no more than 10 LPM. If the concentrator's alarm sounds and / or the warning light comes on, reduce the flow rate setting by 3 LPM, then restart the concentrator.

EXTERNAL PRESSURE REGULATOR INSTALLATION

Output valve. Turn clockwise all the way to open. Please note several turns are necessary. Not opening all the way will restrict flow.

Regulator output DISS Oxygen fitting. Connect to the clinic's O2 plumbing or anesthesia system.



Pressure gauge

Generator Output DISS fitting. Connect to Regulator Input.

Pressure Adjustment knob. Pull to unlock and modify calibration. Push to lock calibration. The knob will click when locking and unlocking.

INSTALLATION

1. Install O2 regulator to The **Infinite O2 Generator** via the DISS fitting.



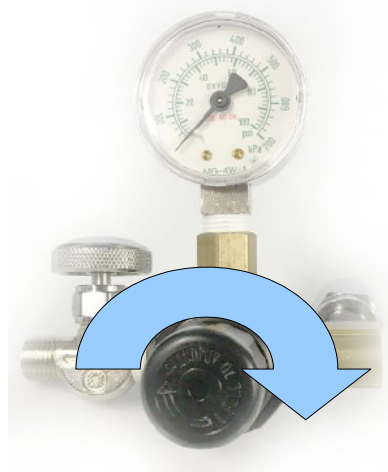
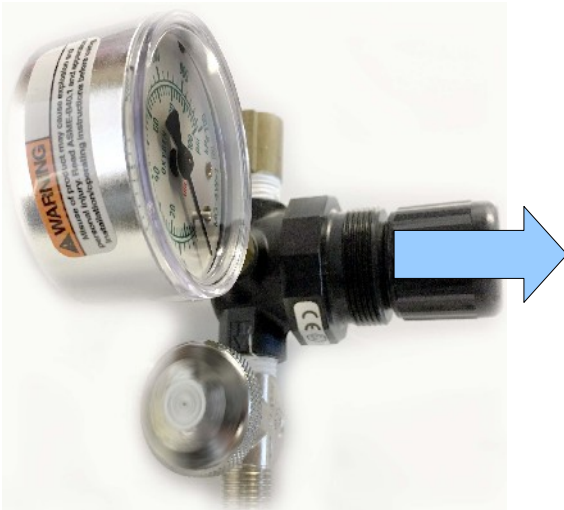
2. Using a 7/8 wrench, secure the regulator to the **Infinite O2 Generator**.

Output valve. Turn clockwise all the way. Please note, several turns are necessary. Not opening all the way will restrict flow.



EXTERNAL PRESSURE REGULATOR ADJUSTMENT

1. Your Engler regulator has been calibrated to 50 PSI before shipping, should you need to adjust the calibration, follow these instructions.
2. Turn the system ON. Allow time for system to fully pressurize.



Unlocking

Increasing pressure

3. Pull adjustment knob to unlock, turn adjustment clockwise to increase and counterclockwise to decrease pressure setting. Note that pressure will not go down until output pressure is relieved.



Please note that the inner numbers indicate pressure in PSI and the outer numbers indicate pressure in kPa. The regulator is calibrated to 50 pounds per square inch (PSI) = 344.7 kilopascal (kPa).

4. Always approach the desired pressure from a lower pressure. When reducing from a higher PSI to a lower PSI, first reduce pressure in the hose, then bring PSI up to the desired pressure.

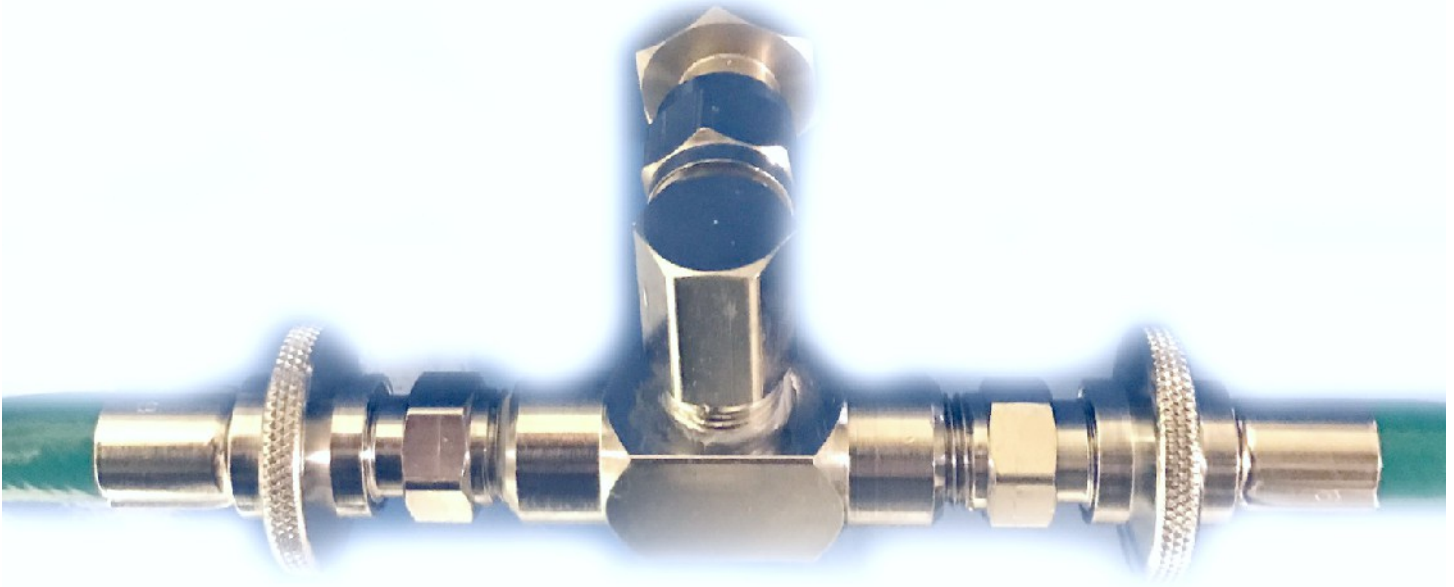


5. Push adjusting knob in to lock pressure setting.

Warning: Do not use these products where pressures and temperatures can exceed those listed under *Technical Data*.

Note: The gauge may be calibrated during use if needed.

CONNECTING TWO CONCENTRATORS TO THE INFINITE O2 GENERATOR



Always disconnect a concentrator that is not working. Leaving a non functioning concentrator connected will reduce the purity of the oxygen running through the system.. The Infinite O2 Generator will continue to pull room air through the non functioning concentrator, thus reducing the purity of the oxygen.

This setup must only be used when two concentrators will be used at the same time and both concentrators must be ON. If one concentrator is OFF or removed, then the “T” fitting must also be removed. Connect the remaining concentrator **directly** to the generator.

Setup:

1. Connect the oxygen DISS “T” fitting to the oxygen Input Port located on the front of the **Infinite O2 Oxygen Generator**.
2. Connect a green O2 hose to each O2 concentrator.
3. Connect the two green oxygen hoses from each O2 concentrator to the oxygen DISS “T” fitting on the **Infinite O2 Generator**.

Warning: Both concentrators must be ON when generator is ON to maintain O2 purity.

MAINTENANCE

Infinite O2 Oxygen Generator System is designed to give you years of trouble free performance when the air filter is kept clean.

The following is required for proper performance;

Air filter must be kept clean, it can be washed or replaced. The filter should be replaced at least once per year or when damaged.

Filter must be changed periodically depending on environmental conditions.

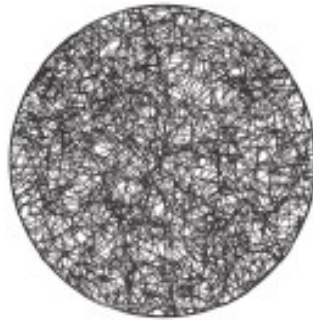
Failure to keep the filter clean may cause failure and will void the warranty.

CLEANING INSTRUCTIONS

Retainer



Filter



Guard



The guard is permanently mounted to the **Infinite O2 Generator**, the retainer and the filter are removable.

Warning: It is important to unplug the device before any maintenance or cleaning is performed.

Cleaning and Changing the Air Inlet Filter

Cleaning the air inlet filter is the most important maintenance activity that you will perform and should be done at least once a week.

1. Remove the filter retainer.
2. Remove the filter from the guard.
3. Visually inspect the filter for damage, such as holes or tears.
4. If damaged, replace with a new filter. Contact Engler Engineering for a new filter if necessary.
5. Wash and rinse the filter in warm water. A mild detergent may be used, rinse thoroughly.
6. Squeeze out the excess water and allow the filter to air dry. The filter should be completely dry before using again. Excess moisture may impair the proper operation of the device.
7. Visually inspect the filter after cleaning. Make sure it is not damaged or clogged.
8. Reinsert the filter on the guard and then snap-in the retainer on the guard.

It is best to buy a pack of filters and replace them as needed. They can be ordered from Engler Engineering Corporation, 800-445-8581 or visit engler411.com

Follow the O2 concentrator manufacturer's recommendations for replacing the O2 concentrator filters.

Cleaning the Generator

The exterior of the oxygen generator should be kept clean of dust and debris. You may use a damp cloth to wipe down the exterior case.

Warning: Use only oxygen compatible cleaning agents to clean this unit.

DO NOT USE OIL BASED CLEANERS

TROUBLESHOOTING

- Unit will not start or Green power indicator is not ON..
 - Verify power cord is plugged in the wall outlet.
 - Verify that the power cord plug is plugged all the way into the power cord jack.
 - Turn the generator ON by pressing the power switch to the On [I] position.
- Unit is overheating.
 - Verify the air filter is clean. Replace when needed.
 - Verify the fan is working.
- No pressure in the output.
 - Ensure that the output valve is open.
 - Ensure the regulator has been set to the desired pressure, typically 50 PSI.
 - Ensure hoses are not kinked.

Do not attempt to repair this unit. Using a non-Engler authorized and trained source will void your warranty and may cause injury. Please contact Engler Engineering Corporation if further assistance is needed:

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TECHNICAL DATA

To be able to provide enough starting power, the O2 concentrator(s) and O2 generator must have a 115 Volt, 60 Hz, 20 Amp dedicated circuit.

10 LITER SYSTEM

Input Voltage	115 VAC nominal
Input Frequency	60 Hz
Running Current (Amperes)	4 Amps
Starting Current (Amperes)	6 Amps
phase	single
Plug type	Nema 5-15P
Trip current	20 Amps
Maximum air temperature	100 F (38 C).
Minimum air temperature	50 F (10 C)
Maximum stable regulator output	60 PSI (0.4 MPa)
Regulator Output	DISS Oxygen
Stable Adjustable regulator, output pressure:	1 to 420 Kpa (60 PSI)
Sustained flow rate @50 PSI:	10 LPM (21.2 SCFH)
Internal tank capacity:	11.35 L (3 GAL)
Sustained burst @ 50 PSI & 60 LPM	39 seconds

20 LITER SYSTEM

Input Voltage	115 VAC nominal
Input Frequency	60 Hz
Running Current (Amperes)	4.9 Amps
Starting Current (Amperes)	12 Amps
phase	single
Plug type	Nema 5-15P
Trip current	20 Amps
Maximum air temperature	100 F (38 C).
Minimum air temperature	50 F (10 C)
Maximum stable regulator output	60 PSI (0.4 MPa)
Regulator Output	DISS Oxygen
Stable Adjustable regulator, output pressure:	1 to 420 Kpa (60 PSI)
Sustained flow rate @50 PSI:	20 LPM (42.4 SCFH)
Internal tank capacity:	11.35 L (3 GAL)
Sustained burst @ 50 PSI & 60 LPM	39 seconds

DIMENSIONS

NET WEIGHT: 30 Lbs. (14 Kg.)

CHASSIS DIMENSION:

Depth 14" (36 cm)

Width 37" (94 cm)

Height 24" (61 cm)

**CHASSIS MINIMUM SUGGESTED
CLEARANCE:**

Depth 26" (66 cm)

Width 50" (127 cm)

Height 25" (64 cm)

CABLE & HOSES LENGTH:

Power Cord 96" (244 cm)

Oxygen Hoses 36" (91 cm)

SHIPPING WEIGHT: 40 Lbs. (18 Kg.)

For information on Engler Engineering Corporation's warranty, repair, loaner, or product brochures, please visit engler411.com.

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