

VETROSON®

Oxy-Gen™ System

Pressure Swing Adsorber (PSA) Oxygen Generator System

For Veterinary Use Only

This User Guide will acquaint you with the VETROSON® Oxy-Gen System. **Make sure you read and understand all the information contained in this document before you operate your unit.** Should you have any question please phone or fax our company.

An informative Question and Answer brochure is included with this shipment. We strongly suggest you study it before proceeding with the set-up.

(1) INTRODUCTION

This system is straight forward. Air is drawn in to a powerful compressor in the generator. The oxygen is separated from the compressed air by passing through either of the two molecular sieves. There the nitrogen is absorbed at a high pressure and is released at low pressure. The oxygen is delivered to the receiver tank where it is ready to be delivered throughout the hospital. The Oxy-Gen System has the capability of delivering 14,000 liters of oxygen at 20 PSI in a twenty-four hour period.

Note: There is never a danger of depleting the oxygen in a room when you use the Oxy-Gen Generator.

A more detailed explanation is as follows: Air contains 21% oxygen, 78% nitrogen .09% argon and .01% other gases. The VETROSON® Oxy-Gen System separates oxygen from compressed air through a unique Pressure Swing Adsorption process. The PSA process uses molecular sieve (a synthetic zeolite), which attracts (adsorbs) nitrogen from air at high pressure and releases (desorbs) it at low pressure. The VETROSON® Oxy-Gen System uses two vessels filled with a molecular sieve as adsorbers. As compressed feed air flows through one of the vessels, the molecular sieve adsorbs nitrogen. The remaining oxygen passes through the vessel and exits as the product gas. Before the adsorber becomes saturated with nitrogen, the feed air is diverted to the second vessel. At that point, the sieve in the first vessel regenerates by desorbing the nitrogen through depressurization and purging it with oxygen from the second vessel.

The process is then repeated in the second vessel to complete a cycle that allows the oxygen generator to deliver a constant flow of product oxygen at 95% purity. Under normal operating conditions, the molecular sieve is completely regenerative and will last indefinitely.

(2) WARNING

This device manufactures high purity oxygen, which promotes rapid burning. Do not allow smoking or open flames within 5 feet of: (1) this device or (2) any oxygen-carrying accessory. Use no oil,

grease, or petroleum-based products on or near the unit. Disconnect the power cord from the electrical outlet before you clean or service the unit.

(3) REQUIREMENTS

To calculate your usage you must know your maximum use. Total the maximum you use on the flow meter for each anesthesia machine, ICU and any other oxygen consuming items in the clinic. Add the amount of the projected requirement of any new equipment that you plan to add to the clinic. This will give you the maximum liter requirement. A receiver tank within the system will store oxygen to handle bursts such as an oxygen flush.

OXYGEN USAGE ANALYSIS

Equipment type	Number in use	LPM	Max. LPM Flow	Hours used per day	% of total Hrs.Day	Take Max. LPM Machines X % Hrs Day used = Actual use
Anes machines						
ICU						
Ventilators						
Other O2 usage						
New Equipment						
Total						

- **Example:** Two anesthesia machines each using 1 LPM and one ICU using 5 LPM. The maximum usage would be 7 LPM if the machines were continually operated. However, if one anesthesia machine was used at a time, 6.0 LPM would be required during those periods. Your peak usage times need to be adjusted not to exceed 10 LPM.
- Our system is designed to produce 14000 liters of oxygen per day for the “average size” practice. If more than 10 LPM, but less than 20LPM are required, a second **VETROSON®** Oxy-Gen generator may be added to the practice still utilizing the one receiver tank. If more that 20 LPM are required, we can supply larger capacity oxygen generating system to fit your needs.

(4) INSTALLATION

Place the Oxy-Gen generator in a well-ventilated area that is protected from the weather elements and remains between 40 degrees F (4 degrees C) and 100 degrees F (38 degrees C) to prevent damage not covered under the Product Warranty.

Provide proper voltage to the oxygen generator (check the unit’s serial number label, 120 VAC or 220 VAC +/- 10%) Improper voltage to the unit causes damage not covered under the Product Warranty.

The Oxy-Gen Generator

1. Place the Oxy-Gen generator and receiver tank near an electrical outlet close to the practice’s central oxygen supply manifold.
2. Be certain to place the Oxy-Gen generator so that all sides are at least 12 inches away from a wall or other obstruction. Do not place the unit in a confined area.
3. Turn the unit so that the operating controls are within easy reach and the air intake on the back of the unit is not obstructed.

4. Unwind the power cord completely and insert the end into an electrical outlet.
5. Locate the power switch on the front of the unit, and switch it to the I (ON) position. The alarm will sound until the oxygen has exceeded 90% purity. This is about 30 seconds.
6. Wait five minutes to allow the oxygen purity to stabilize and for the oxygen alarm to shut off. The flowmeter will read 100% production on the scale until the oxygen receiver has reached 20 PSI.
7. After the initial charging of the system (#6)– You can use the system as soon as the purity alarm stops sounding.

Note: The black ball in the flowmeter will center on the line corresponding to the output. This is a constant flow system and the output should exceed 25% regardless of the use demand.

Note: The oxygen purity alarm will activate if the purity drops below 90% due to an excessive high flow rate or if there is a system problem. If the purity alarm persists more than two minutes while the flowmeter demand is less than 90%, turn off the generator and turn on your system back up oxygen supply. Call technical support for assistance.
8. To turn the generator off, press the I/O switch to the O (OFF) position.

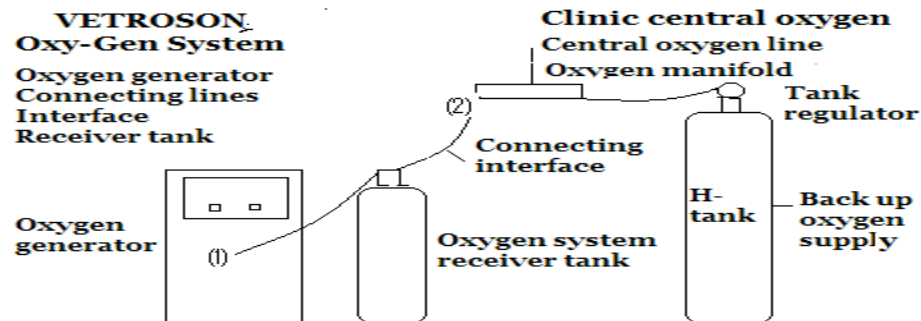
The Oxy-Gen Receiver Tank installation for a low pressure manifold system:

1. A low pressure manifold has the regulators on the oxygen tanks. Turn off the practice’s oxygen tanks that are attached to the practice’s central oxygen supply manifold.
2. Place the receiver tank in the tank stand next to the generator. An optional wall mount is available to stack the system.
3. The unidirectional interface is attached to the tank. The oxygen lines included with the interface will connect the Oxy-Gen Generator to the practice’s central oxygen supply manifold.
4. The short (three foot) oxygen line marked “Attach to the Generator” attaches to the front of the Oxy-Gen Generator (1).
5. The long (six foot) oxygen line marked “Attach to the manifold” attaches to the practice’s central oxygen manifold. To do this, remove the oxygen regulator and oxygen line on one side of the practice’s manifold (2). This should expose a male DISS fitting. Attach the end of the long line to the manifold and tighten. Adapter fittings are available on request.

Note: Leave the second regulator attached to one of the large tanks of the practice’s central oxygen system as a back-up oxygen supply. This tank will remain off and should only be turned on in the case of an emergency such as power failure.

6. Turn on the Oxy-Gen generator and allow time for the system to become charged.
7. The system is ready to use when the pressure gauge reaches 20 PSI.

Note: A high pressure manifold has the regulator built into the manifold with high pressure lines to the manifold from the tank. This manifold will need to be replaced with a low pressure manifold.



(5) OPERATION

The Oxy-Gen System is designed to run 24/7. The Oxy-Gen System has the capability of delivering 14,000 liters of oxygen at 20 PSI in a twenty- four hour period. To conserve energy and warranty hours, it is suggested to turn the generator off when not in use.

Note: Some oxygen systems have a preset low pressure oxygen alarm. This alarm will have to be turned off or set to a pressure below 20 PSI.

When the generator is turned on the purity alarm will sound until the system is producing in excess of 90% purity. This is approximately one minute. The receiver tank blends the oxygen to maintain a continuous supply of highly concentrated oxygen.

Should the purity alarm sound while the generator is in service, check the flow rate on the front of the generator. If the indicator ball is at the top of the scale, reduce the usage of oxygen within the clinic to a flow rate that the ball is below the 75% level on the flowmeter. The system should self-adjust within five minutes and the alarm will stop. You can then increase your demand to the 100% demand.

(6) MAINTENANCE

The Oxy-Gen System is virtually maintenance free. The particulate air intake filter must be cleaned at least every two weeks according to the instructions within this manual. Improper filter maintenance causes damage not covered under the Product Warranty. Clean the enclosure when needed.

1. Locate the power switch on the front of the unit, and switch it to the O (OFF) position.
2. At least every two weeks, carefully remove (pull) the black, rectangular particulate air filter from its receptacle on the back of the unit.
3. Wash the filter in warm solution of dish or hand soap and water.
4. Rinse the filter thoroughly and remove excess water with a soft absorbent towel.
5. Reinsert the filter pad into the unit.
6. If the unit's enclosure requires cleaning, disconnect the unit's power cord from the electrical outlet.
7. Use a mild industrial cleaner applied with a damp cloth or sponge to remove any dirt, then wipe dry. Do not use liquid directly on your unit or use any petroleum-based solvents or cleaning agents.

Note: Do not operate the unit without the air intake filter in place.

(7) WARRANTY

The PSA oxygen generator is warranted to be free from defect in parts and workmanship for three years from the date of start-up, not to exceed thirty-six (36) months or 300 hours from the date of shipment to the original purchaser, under normal use, maintenance and operation. TO THE EXTENT PERMITTED UNDER APPLICABLE LAW, ALL WARRANTIES WITH RESPECT TO SUCH UNIT SHALL ONLY EXTEND TO AND BE FOR THE BENEFIT OF THE ORIGINAL PURCHASER AND SHALL NOT BE ASSIGNABLE TO, EXTEND TO OR BE FOR THE BENEFIT OF ANY OTHER PARTY. Summit Hill Laboratories' obligations under this warranty are limited, at the manufacturer's option, to the repair, replacement or refunding the purchase price of any such unit of equipment (or part thereof) found to be defective in parts or workmanship; provided, however, that Summit Hill Laboratories shall have no obligation hereunder with respect to a defective part unless it receives written notice of such defect prior to the expiration of the applicable warranty period as referenced above.

Each unit of equipment for which a warranty claim is asserted shall, at the request of Summit Hill Laboratories, be returned on a prepaid basis with proof of purchase date to the manufacturer at the expense of the purchaser. Replacement parts shall be warranted as stated above for the un-expired portion of the original warranty. This warranty does not extend to any unit or part subjected to misuse (1), accident, improper maintenance (2) or application of which has been repaired or altered.

Notwithstanding anything to the contrary contained herein, during the applicable warranty period, as specified above, the manufacturer will pay the cost of return freight charges to the purchaser, provided Summit Hill Laboratories approved return of the unit or parts, for any equipment found by the manufacturer to be defective. For warranty repairs performed during the first 90 days from the date of invoice, the manufacturer will pay freight both ways. After the applicable parts warranty period has expired, the purchaser is responsible for freight both ways.

(8) LIMITS OF LIABILITY

THE FOREGOING WARRANTY IS THE ONLY WARRANTY MADE WITH RESPECT TO THE EQUIPMENT (OR ANY PART THEREOF) AND IS IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IN FACT OR IN LAW, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. IT IS EXPRESSLY UNDERSTOOD THAT THE SOLE AND EXCLUSIVE REMEDY FOR ANY DEFECT IN PARTS OR WORKMANSHIP IS LIMITED TO ENFORCEMENT OF THE MANUFACTURER'S AND SUMMIT HILL LABORATORIES' OBLIGATIONS AS SET FORTH ABOVE, AND NEITHER SHALL BE LIABLE TO PURCHASER OR ANY OTHER PARTY FOR LOSS OF USE OF THE EQUIPMENT, LOST PROFITS, OR FOR ANY OTHER SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (EVEN IF THE MANUFACTURER AND SUMMIT HILL LABORATORIES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES).

(9) PROCEDURES FOR RETURNING THE UNIT FOR SERVICE

Adhere to the following procedures if you must return the generator or a component for service or credit:

1. Obtain a Return Goods Authorization (RGA) Number from Summit Hill Laboratories. Before you call for service assistance, have the Serial Number of the unit and invoice date available.

Note: Summit Hill Laboratories will not issue credit for any warranted item(s) until the serial number of the generator is provided.

2. Write the RGA Number clearly on the outside of the shipping container. Summit Hill Laboratories will not accept any item(s) for service or credit unless prior authorization was issued.
3. Return the item(s) in the original packaging material. Be sure merchandise is packed for a safe return.
4. Summit Hill Laboratories is not responsible for damage that occurs in transit.
5. Any damage that occurs to the generator or component because of failure to follow this procedure is the sole responsibility of the customer.
6. Item(s) must be returned freight prepaid.

(10) IMPORTANT SAFETY RULES

Warning: Electrical Shock Hazard: Do not remove covers while the unit is plugged in.

Warning: Do not use extension cords with this unit.

Caution: Set I/O power switch to the O (OFF) position when the Oxygen Generator is not in use.

(11) TROUBLE SHOOTING

For Technical Questions contact Summit Hill Laboratories at 800 922-0722.

In most cases, with your assistance Summit Hill Laboratories can diagnose the problem you are experiencing and have a plan of action and an ultimate solution for you in a matter of minutes.

For Repairs/Breakdowns contact CRM Services at 800 551-2067.