



VETROSON® Oxy-Gen™ Systems

Installation, Operation & Maintenance Manual



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Freight Damage Claims & Initial Inspection

The Receiver Tank and Generator will be packed in separate boxes. Both boxes should be opened and inspected immediately upon delivery. The large box contains the Generator. It will be shipped on a pallet, strapped in an upright position. Open the box and roll out the Generator. The second box contains the Receiver Tank and other components. If the exterior of the box is noticeably damaged at the time of delivery, make a note on the freight bill before signing it. Unpack the unit at once and perform a visual inspection to determine if it is dented, bent or scratched. Also check to make sure that the power cord is attached (for US units) and that the control panel has not been damaged in any way during shipment.

Please retain the shipping box. If for any reason the unit should need to be serviced, this box is the best way to ship it back to **Summit Hill Laboratories**.

If any damage is discovered during the initial visual inspection, call the freight company immediately. ***This must usually be done within 24 hours of delivery.*** Claims of damage due to freight handling can only be filed by you, the consignee, as *our* shipping terms are Free On Board (FOB), Clayton, IN USA. **Summit Hill Laboratories** has no legal claim against any shipping company for damage.

Safety Precautions

It is very important that you read the precautions below and make yourself and others operating the **VETROSON® Oxy-Gen™ System** aware of the hazards of oxygen in general. While oxygen can be handled and used very safely, it can be dangerous if mishandled.

1. ***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 possibility of an explosion, oil, grease or any other easily combustible materials must not be used on or near the **VETROSON® Oxy-Gen™ System**. Smoking, heat and open flames are prohibited near the unit. Individuals who have experience handling oxygen systems should become the designated operators of the **VETROSON® Oxy-Gen™ System** within your facility.
2. ***Ensure that the oxygen outlet stream is not directed toward anyone's clothing*** when bleeding a tank or line. Oxygen could embed itself in the material and one spark or hot ash from a cigarette could ignite the clothing.
3. It is important to have a backup supply of oxygen, as the receiver tank component of the **VETROSON® Oxy-Gen™ System** holds only 10-20 minutes of reserve oxygen. ***During power outages, oxygen will not be produced.***
4. ***Do not use extension cords to power the VETROSON® Oxy-Gen™ System.*** The draw into the unit is high and could overheat some extension cords. It is also important to use only a properly grounded outlet.

Setup & Installation Instructions

Although every **VETROSON® Oxy-Gen™ System** is thoroughly tested and checked before it is shipped from our factory, the following checks are necessary to ensure that none of the internal components has been damaged in shipment.

1. Make a visual inspection of the machine, receiver tank unit and stand.
2. Before installing the **VETROSON® Oxy-Gen™ System**, it is necessary to determine the location, necessary space and power supply for the **VETROSON® Oxy-Gen™ System**. **Failure to follow the below requirements will void the Summit Hill Laboratories Warranty.**
 - a. Positioning the **VETROSON® Oxy-Gen™ System**:
 - i. The **VETROSON® Oxy-Gen™ System** must be located in an area that is indoors and remains between 40°F (5°C) and 100°F (38°C). Placing the **VETROSON® Oxy-Gen™ System** outdoors or in an area that is not continuously within this temperature range will void the **Summit Hill Laboratories Warranty**.
 - ii. The **VETROSON® Oxy-Gen™ System** must be operated in an upright position only and at least 8 inches (20 cm) from any wall or obstruction to ensure that airflow into the machine is not restricted. Placing the **VETROSON® Oxy-Gen™ System** too close to walls or obstructions will void the **Summit Hill Laboratories Warranty**.
 - b. Space necessary for the **VETROSON® Oxy-Gen™ System**:
 - i. The **VETROSON® Oxy-Gen™ System** should be located in a well ventilated, air conditioned room that is free from toxic gases and high concentrations of hydrocarbons and is at least 1000 cubic feet or 25 cubic meters in size with a 100cfm exhaust fan to prevent the build up of nitrogen in the space. If the **VETROSON® Oxy-Gen™ System** is going to be located in a room that is smaller than recommended, that room must be well ventilated (at least 5 air changes in the room per hour) to prevent the build up of nitrogen in the space. Hot, humid, dirty, oily air deteriorates and degrades the performance of the molecular sieve. In order to preserve the effectiveness and extend the useful life of the **VETROSON® Oxy-Gen™ System**, all precautions should be taken to ensure that cool, dry, clean, oil-free air is provided to it. Failure to meet minimum requirements will void the **Summit Hill Laboratories Warranty**.
 - c. Power supply for the **VETROSON® Oxy-Gen™ System**:
 - i. The **VETROSON® Oxy-Gen™ System** must be positioned within 8 feet (2.2 meters) of a grounded electrical outlet that will power it. It must have a dedicated line. **It is very important NOT to use any extension cords with the unit**, as these cords could overheat and melt, possibly causing a fire. Failure to comply with the electrical requirements will void the **Summit Hill Laboratories Warranty**.

3. Once you have positioned the **VETROSON® Oxy-Gen™ System** in accordance with the above criteria, plug the unit into a properly grounded, dedicated electrical outlet. A receptacle plug of local configuration will need to be attached if the machine has been shipped outside North America. The receiver tank should not be attached at this time.
 - a) Turn the On/Off switch to the On position.
 - b) Listen for the sound of the compressor to start running. If you do not hear it within a few seconds, shut the machine down immediately and call **Summit Hill Laboratories** customer service for assistance.
4. You should be able to feel oxygen being discharged from the lower left oxygen outlet port. If you do not feel oxygen, call **Summit Hill Laboratories** customer service for assistance.
5. Turn the machine off. One end of the 3' oxygen hose is already connected to the receiver tank at the factory. Connect the other end to the oxygen outlet on the generator. Also included, as part of the receiver tank assembly, is a 9' oxygen hose that is connected to the pressure gauge. Connect the pressure gauge to the receiver tank and connect the other end of the 9' hose to the manifold. Leave the H tank connected to the manifold, but turn it off.
6. Turn the **VETROSON® Oxy-Gen™ System** on.
7. Wait five minutes for the unit to come up to maximum specifications. The gauge on the receiver tank should read 20 or 50, depending on the model. The flowmeter on the cabinet does not have an adjustment knob and is set to reflect the LPM being produced. After the initial set up, the **VETROSON® Oxy-Gen™ System** will come up to specifications in about one minute after being turned on.

Shutdown Procedures

To shut the machine off, press the On/Off button to Off. The compressor noise should quickly die out. Please wait for approximately two minutes after turning the machine off to restart it.

Warranty

Summit Hill Laboratories (hereinafter **SHL**) provides a warranty on its products against defects in material and workmanship, under normal use and operation, and in accordance with the specifications set forth in the **Installation, Operation & Maintenance Manual**, as applicable in the statements below.

The **SHL** Warranty provides the following:

- i. Free repair or replacement (at the discretion of SHL) of the product when defects in the material and/or workmanship are evident at the time of delivery, **exclusive of shipping damages**. If the product is received from the shipper and is obviously damaged, accept the product and phone the shipping company immediately to file a claim. Then contact Summit Hill Laboratories for further instructions.
- ii. If the product is received from the shipping company apparently undamaged, follow The Safety Procedures and Set Up & Installation Procedures. If there is hidden damage, phone the shipping company immediately to file a claim and phone Summit Hill Laboratories for instructions on how to continue. Free repair or replacement (at the discretion of SHL).
- iii. When defects in workmanship become evident between the date of shipment and three (3) years or 3000 hours (whichever comes first), free repair or replacement of the product at the discretion of SHL (excluding the molecular sieve elements) will be effected. The practice will pay shipping and insurance charges to Summit Hill Laboratories. Summit Hill Laboratories will pay shipping charges back to the practice.

This Warranty shall also become null, void and not binding on **SHL** if a defect or malfunction occurs in the product or any part of the product as a result of:

- i. A failure to operate the **VETROSON® Oxy-Gen™ System** in accordance with the **Set Up & Installation Instructions**;
- ii. Repair, attempted repair, attempted adjustment, modification, enhancement or attempted modification or enhancement, or servicing by anyone other than an authorized representative of **SHL**;
- iii. External causes; or
- iv. A demand upon the **VETROSON® Oxy-Gen™ System** in excess of the LPM or PSI model specifications. For example: Do not connect machines totaling 18 LPM to a 10 LPM system. Do not connect a ventilator or any electronically controlled anesthesia machine (i.e. a Vetland Anesthesia EX3000 or an Engler ADS1000) to a 20 PSI system.

Molecular Sieve Replacement

The breakdown of the molecular sieve inside the **VETROSON® Oxy-Gen™ System** occurs if excess heat, water (i.e. humidity) or oil are introduced in the feed air stream or if the LPM capacity of the model is exceeded by connecting more oxygen consuming machines to the system than its capacity. Under no circumstances is the molecular sieve covered under warranty by **SHL**.

Transfer

This Warranty may be transferred to subsequent owners of the **VETROSON® Oxy-Gen™ System** only with the prior written approval of **SHL**. The warranties above are given expressly in lieu of any other warranty stated or implied and constitute the only warranties made by **SHL**.

Limits of Liability

Summit Hill Laboratories shall not be liable for any special, indirect, incidental, or consequential damages resulting from the use or malfunction of **Summit Hill Laboratories VETROSON® Oxy-Gen™ System** or any components thereof.

Problem Symptoms

Before checking below, verify power to unit.

Low oxygen pressure and/or purity has not yet been reached

This may be the result of a leak in the external system. Test the oxygen hoses connected to and from the receiving tank using a leak testing solution to locate and repair any air leaks. Low pressure may also be the result of exceeding the LPM the unit is designed to produce.

Oxygen purity has fallen below acceptable limits after the machine has been running for a length of time without problems

This may be an indication of a leak within the system. If this is the case, call **Summit Hill Laboratories** customer service for assistance.

This may also indicate that you are asking the unit to supply more than the LPM specified for your **VETROSON® Oxy-Gen™ System**.

Also on an older machine this may be an indication that the compressor has expanded its useful life.

The ball on the external flowmeter is swinging up and down

This may be an indication of one of the compressors malfunctioning. Call Summit Hill Laboratories for assistance.

The PSI gauge on the receiver tank shows a lower reading than is expected.

The pressure gauge is not precise. The readings may read 3+ PSI and still be performing within specs.

The system will not start up immediately after it was turned off.

The unit was not turned off long enough to release the compressor pressure. When the unit is turned off, wait two minutes before turning it back on.

Asking the system to provide more LPM than its specs call for

This will cause low oxygen pressure; the receiver tank will drop in pressure. Reduce your oxygen demand by turning any of the machines off that are causing the problem.

VETROSON® Oxy-Gen™ System

External Components Description

Generator

Vent Ports-	Rectangular vent ports are positioned at various locations on the five models to accept large particle filters.
Oxygen (O₂) Outlet-	This fitting is at the lower left-hand side. The 3' oxygen hose from the receiver tank connects to it.
On/Off Switch-	Controls power to machine.
Hours Meter-	The hours meter tracks time while the unit is running. It provides an indication as to when service intervals are due.
Hepa Air Inlet Filter Ports-	Located on the back panel. Number varies by model.
Power Cord-	The power cord is designed for use on 110 vac/60 Hz electrical systems and comes with a 3-pronged ground fault protected plug. The 230V 60Hz(US) units are supplied with a 20 amp, 250V slotted plug, Type #6-20P. This requires a 6-20R receptacle. For foreign shipments the plug will be removed and a plug of local configuration will need to be installed. The green wire is the Earth Ground and the black and white wires are for the AC Supply.

Receiver Tank Components

Tank-	<p>20 psi units: Holds approximately 30 liters of oxygen.</p> <p>50 psi units: Holds approximately 70 liters of oxygen.</p> <p>This allows the system to function without interruption when the flush is used, when an ICU cage is being filled or when ventilators are in use (with the 50 PSI models). The 20-10 system can produce 14,000 liters of oxygen in a 24 hour period. Our larger LPM systems can produce greater quantities of oxygen directly proportionate to the increase of the LPM.</p>
Hoses-	The 3' hose carries oxygen from the generator to the receiver tank. The 9' hose takes the oxygen from the receiving tank to the practice's central manifold. The system is equipped with check valves to prevent back flow from the manifold to the VETROSON® Oxy-Gen™ System .
Tank Safe-Guard Valve-	Allows continuous flow of oxygen when the VETROSON® Oxy-Gen™ System is in operation.

VETROSON® Oxy-Gen™ Generator Specifications

Model	Delivers	Volts	Starting Amps	Running Amps	Power Watts	Weight (Lbs.)	Width (Inches)	Depth (Inches)	Height (Inches)
VGS2010	20 PSI, 10 LPM	110	30	10	1060	110	24	16	32
VGS2015	20 PSI, 15 LPM	110	30	10	1060	123	24	16	32
VGS2020	20 PSI, 20 LPM	220	16	6	1325	136	24	16	32
VGS5015	50 PSI, 15 LPM	220	15	6	1275	126	24	16	32
VGS5030	50 PSI, 30 LPM	220	20	11	1830	189	24	16	32

Routine Maintenance Instructions

Filter Replacement

Depending upon the model, one or two pleated HEPA Air Intake Filters (VGS1500) are used. VGS1500 consists of two parts: the HEPA Filter component and a foam filter which caps it. They fit into the round holes at the rear of the unit. The HEPA filter should be replaced every 6 months. The Large Particle Foam Filters (VGS1600) are located in various locations, depending upon the model. The Large Particle Filters and the foam filter that is part of VGS1500 should be brushed off and washed as indicated and replaced once a year..

Failure to replace the filters on schedule will result in the Warranty becoming invalid.

Cabinet & Power Cord

The cabinet and power cord should occasionally be washed down with a clean sponge or clean rag and some soapy water. Do not use ammonia or other strong chemical based cleaning solvents. Avoid a build up of dust and dirt on the machine.

Long Term Maintenance

Air Compressor

Air compressors are an important part of the **VETROSON® Oxy-Gen™ System**. The fans at the inside rear should remain free of debris/dust.

A compressor may last from 5-10 years depending on use and hospital conditions. After years of use low oxygen purity and flow rate may be indicators that the air compressor has expended its useful life. Contact **Summit Hill Laboratories** customer service for repair or replacement.

Valve Replacements

Contact **Summit Hill Laboratories** customer service for repair.

Technical Service and Assistance

Technical service personnel are available at **Summit Hill Laboratories** from 9:00 A.M. through 5:00 P.M. Eastern Standard Time:

- By Telephone from within the United States

For Immediate Assistance:

(317) 607-5012 - Cell# Director of Specialty Products

(800) 922-0722 Summit Hill Laboratories Main Office

(732) 933-0800 Summit Hill Laboratories Main Office

- By Telephone from outside the United States

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- By Fax

(732) 933-0055

- By E-Mail

sales@summithilllaboratories.com

- By Mail, UPS, FEDEX or Common Carrier at:

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Tinton Falls, NJ 07724 USA

Shipping Units for Repairs:

A sturdy box must be used. "Bubbly" packing material is mandatory. "Peanuts", shredded paper and such loose and dusty material should not be used as they will migrate into the working parts of the generator.

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