

# Q & A

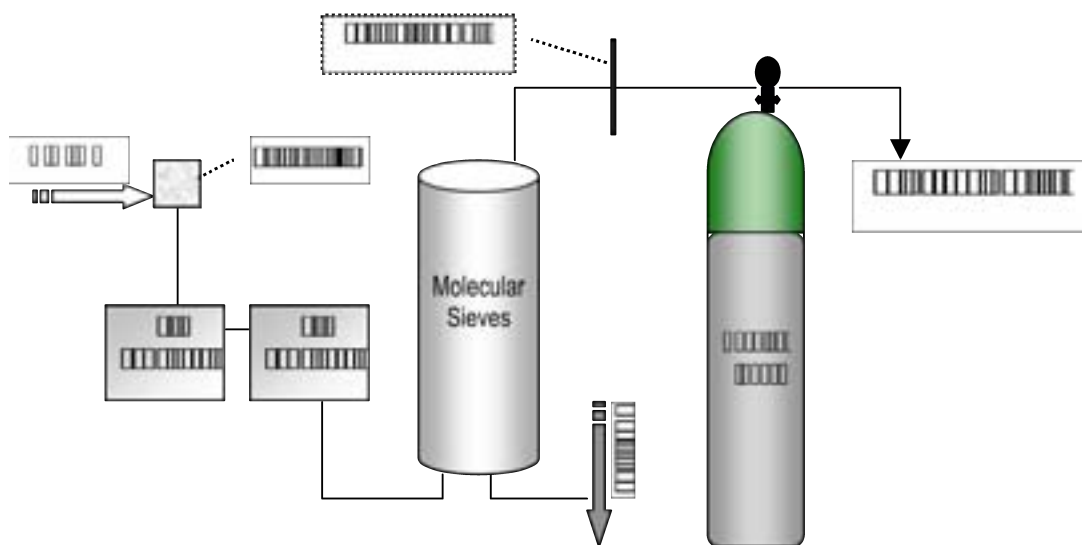
## **VETROSON® OXY-GEN™ SYSTEMS**

### **(Oxygen Generator Systems)**

For Veterinary Use Only

#### 1) **Q. How does the VETROSON® OXY-GEN™ System work?**

A: A simplified explanation is that air (21% oxygen, 78% nitrogen, 0.97% argon and 0.03% other gases) is drawn into a powerful compressor in the generator. The oxygen is separated from the compressed air by passing through the molecular sieve which is zeolite based. Zeolite may be compared to the soda lime in your anesthesia machine which absorbs CO<sub>2</sub>. Zeolite adsorbs the nitrogen and sends it back into the room. The oxygen is delivered to the receiver tank where it is ready to be delivered throughout the hospital. A diagram of this is below.



#### 2) **Q. What is the difference between your oxygen generator system and an oxygen concentrator?**

A. The terms have mistakenly been used interchangeably. Generally, the term oxygen concentrator describes a smaller home medical system used in a 1-to-1 situation producing oxygen at only 5 PSI. Concentrators are placed near a patient's bed. They cannot deliver oxygen any appreciable distance from the unit. Also, the purity of oxygen (%) falls drastically at a LPM flow necessary to supply oxygen for the requirement of a veterinary hospital. If an attempt is made to increase the PSI with an external booster, LPM will be decreased in addition to a decrease in oxygen purity. Oxygen generators are large capacity units. Our OXY-GEN™ SYSTEMS have built-in compressors and are modified to boost the delivery of oxygen to the practice's central oxygen location (i.e. manifold) at 93% +/- 3% oxygen purity. We have 20 PSI models and 50 PSI models.

**3) Q. I don't think I have room for one. Is it big like a refrigerator?**

A: No. We have a wide range of units which are designed to meet any practice's needs. The specifications are:

	20 PSI, 10 LPM*	20 PSI, 15 LPM*	20 PSI, 20 LPM**	50 PSI, 15 LPM**	50 PSI, 30 LPM**
Height	32"	32	32	32	32
Width	24"	24"	24"	24"	24"
Depth	16"	16	16	16	16
Weight	110 lbs	123 lbs	136	126	189

\*120V Units

\*\*230V Units

The oxygen receiver tank for the 20 PSI units is 7 ½" in diameter, weighing 34 lbs. and holds approximately 30 liters of oxygen. Its stand measures 27.5" high x 13" wide x 15" deep. The corresponding figures for the 50 PSI receiver tank are 8" in diameter, weighing 70 lbs and holding approximately 70 liters of oxygen. Its stand measures 36 ½" high x 18" wide x 18" deep.

**4) Q: How much noise does it make?**

A: About 50 decibels. It may be compared with a new window air conditioner.

**5) Q: How can I calculate the LPM of oxygen required for my clinic?**

A: To calculate your usage you must know your maximum oxygen use. Total the LPM you use on the flow meter for each anesthesia machine, ICU and any other oxygen consuming items in the clinic (1 for Anesthesia machines, 10 to fill Snyder or Cage Door ICU and 5 for maintenance and 4 as an average for ventilators). Add the amount of the projected use of any new equipment that you plan to add to the clinic. This will give you the maximum LPM requirement. This figure plus 50% more LPM will show you the model which will be best for most practices.

We would suggest that veterinarians with very large facilities that require more than 30 LPM contact Summit Hill Laboratories. We recommend "zoning" in such cases..

**6) Q: You haven't mentioned using your VETROSON® Oxy-Gen™ System to supply oxygen for the equine anesthesia. What's the situation?**

A: Our 2020 model would handle an equine anesthesia machine, which we calculate would have the flowmeter set to deliver between 5-8 LPM. If a ventilator were used, add another 5 LPM and purchase a 5015 unit. We use the larger receiver tank that holds approximately 70 liters of oxygen for the equine systems. A 5030 would be recommended if two equine anesthesia machines were being used at the same time.

**7) Q: You have machines at 20 PSI & 50 PSI that deliver oxygen at 93% +/- 3% purity. Which machine should I buy?**

A: For a practice with only anesthesia machines and/or ICU units, a 20 PSI unit would be perfect. For practices with ventilators, the 50 PSI unit is recommended, as ventilators require 50 PSI to handle the mechanical side.

**8) Q: How quickly would the VETROSON® OXY-GEN™ SYSTEM pay for itself?**

A: For example, if you purchase the 20-15 VETROSON® OXY-GEN™ SYSTEM, the leasing price would be about \$137.00/month for five years. Compare this figure to the cost to your monthly oxygen bill. The difference between a monthly leasing price of \$137.00 and your monthly oxygen cost is your monthly savings. On the average, your monthly oxygen bill will be 2-3 times the leasing amount. In addition, you will have an endless supply of oxygen at pennies per day. Remember, if you lease, you will own the system after five years for \$1.00. Also, you can review your oxygen purchases for the past year and divide the figure into the cost of the system to determine the number of months it would take to pay for the system. Either way, you will note the dollar savings and convenience using the VETROSON® OXY-GEN™ SYSTEM.

**9) Q: Is 50 PSI required to operate a veterinary anesthesia machine or an intensive care unit?**

A: No. Flow rate (i.e. LPM) is the most important factor in an oxygen delivery system. Our 20 PSI VETROSON® Oxy-Gen™ System will supply the needs of veterinary practices that do not have ventilators. When our 20 PSI units are installed in an existing practice, a drop of about 10% will be noted on the flowmeters. Adjust the flow to where it was previously and oxygen will be supplied at the rate that it had been receiving at 50 PSI from the tank prior to our machines's installation. We have units that will supply either 10, 15 or 20 LPM.

**10) Q: You make reference to ventilators in your oxygen usage chart. I understand ventilators will only run at 50 PSI – no lower. What's the answer here?**

A: Most anesthesia machines with ventilators have dual inlets. One is directly to the line that supplies oxygen to the patient, the other is to power the bellows. A 20 PSI Oxy-Gen System can easily supply the needs of the animal side; however, the bellows requires 50 PSI. Therefore, a 50 PSI unit should be purchased if a ventilator is being employed. The LPM is determined by the weight of the animal. If a practice has our 20 PSI generator and adds a ventilator, an air compressor set at 50 PSI may be used to run the mechanical side only.

*\* PLEASE NOTE: The use of a ventilator (requiring 50 PSI) with a 20 PSI System will over-tax the molecular sieve beds by asking for a higher pressure than the system is capable of producing. This will result in contamination of the molecular sieve beds and a possible machine breakdown.*

**11) Q: Your literature says your units produce 93% +/- 3% oxygen. What does the remaining % consist of?**

A: Nitrogen and Argon, both gases harmless to the patients.

**12) Q: Can your VETROSON® OXY-GEN™ SYSTEM handle the O2 supply for an ICU?**

A: Yes. Our 20-15 system has been tested supplying O2 to the Snyder Mfg. Co. ICU 2000 H double cage. This is a 6' model.\*

To attain 35% O2 concentration, the flow meter on the Snyder unit was set at 8-10 LPM (no higher). It reached the 35% level in less than 25 minutes. The flow meter was then set at 4-5 LPM for maintenance. Our 2015 VETROSON®OXY-GEN™ SYSTEM can easily handle the ICU requirements plus 3-4 anesthesia machines simultaneously at the cost of the electricity consumed by one light bulb.

*\* Please note: We have found that there is no "stop" on these ICU flow meters. By turning the flow meter knob all the way up, as much as 70 LPM may be delivered. Therefore, setting the flow meter on an ICU higher than 10 LPM may result in exceeding the capacity of the model. This, of course, depends on the LPM of your model and how high above 10 LPM the knob on the flowmeter is turned. If the capacity is exceeded, our fail safe system will take over and a drop in flow rate on the anesthesia machine flowmeters will be noted.*

**13) Q: How difficult is it to connect the VETROSON® OXY-GEN™ SYSTEM to the VETROSON® Receiver Tank?**

A: It's rather simple. The receiver tank and generator will be packed in separate boxes. The large box contains the generator. It will be shipped on a pallet, strapped in an upright position. Lay the box down flat. Open the box and remove all of the packing. Snap-on wheels are packed in a bag on the underside of the generator. Push the snap-on wheels into the brackets on the bottom of the generator. Lift the generator, which is still in the box, to an upright position and roll it out of the box. Place it where it will be located. Open the smaller box with the receiver tank. It will also have the additional components (pressure gauge, O2 equalizer valve and 3ft hose) packed separately. This should be screwed on the top of the tank. Attach the standard oxygen female DISS fitting on the 3' hose to the male DISS fitting on the receiver tank. The 9' hose has a female DISS fitting, which attaches to the practice's central oxygen system manifold.

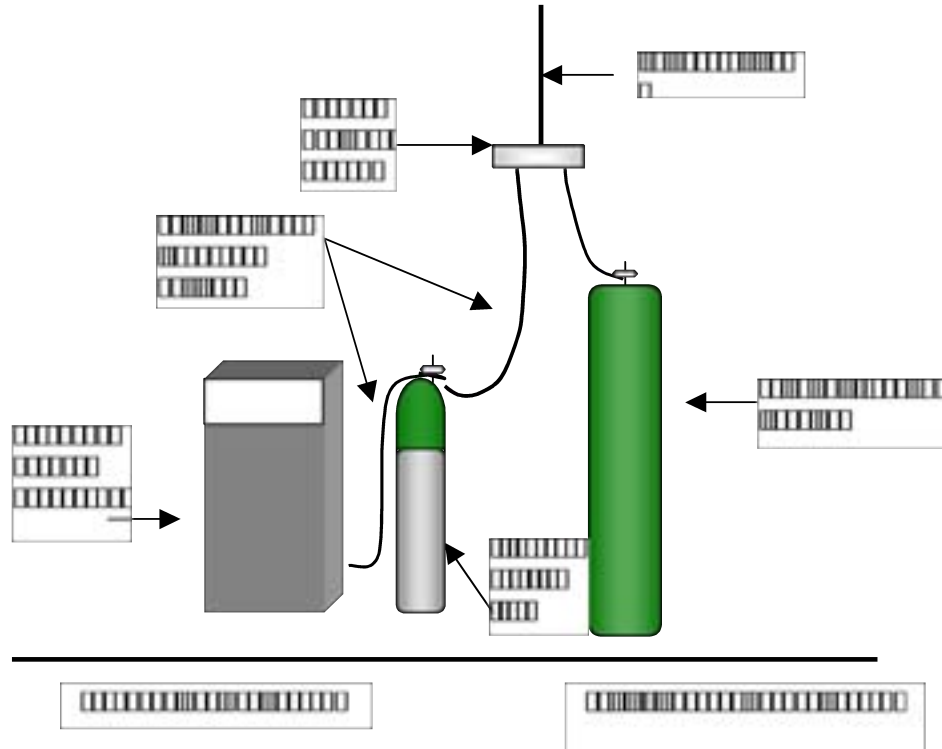
**14) Q: Once the system is connected, what will it look like?**

A: The OXY-GEN™ SYSTEM consists of the oxygen generator and a receiver tank. The generator has an Off/On switch, a flow meter, pre-set at the model's specific LPM, an hour meter, an oxygen pressure gauge to show the line pressure produced. Please consult the "How To Set Up Your VETROSON® OXY-GEN™ SYSTEM" sheet for the details.

At the lower right side of the cabinet is a circuit breaker to protect the generator in case of power overload.

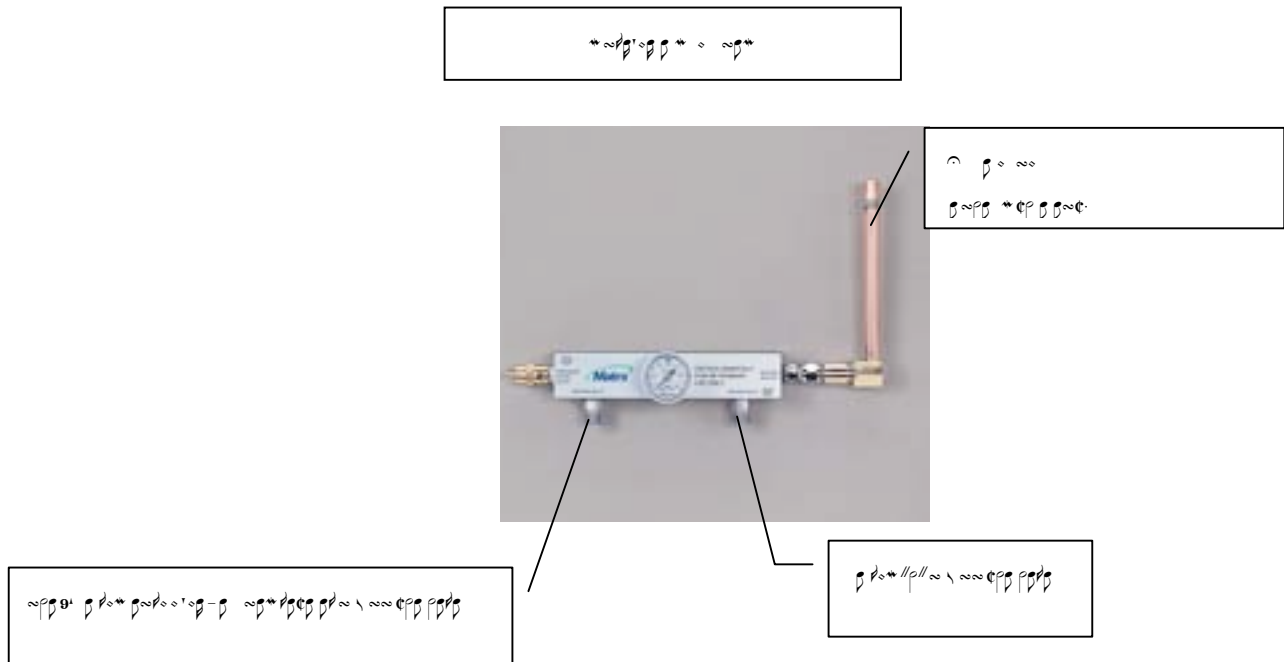
The receiver tank has two oxygen hoses: the 3' one connects to the generator, and the 9' one connects to the central oxygen system manifold. The receiving tank also has a 0-100 PSI

gauge. The oxygen hoses have a series of check-valves to prevent back flow from the manifold to the OXY-GEN™ SYSTEM.



- 15) **Q: My present oxygen manifold system has a low pressure alarm. It sounds if the pressure drops. Will your 20 PSI unit work with this system?**
- A: The low pressure alarm must be adjusted to 15 PSI or be turned off when a 20 PSI VETROSON® System is being used. The 50 PSI System should not affect the alarm.
- 16) **Q: I have a high pressure manifold for my present oxygen system. How can I hook up the VETROSON® OXY-GEN™ SYSTEM?**
- A: A high pressure manifold has a built in pressure regulator. Our systems cannot be connected into the high pressure manifold in this situation. It should be connected into the supply line exiting the manifold or be plugged into any of the quick-release outlets within the central oxygen line using a special connector.
- 17) **Q: How do I connect the VETROSON® OXY-GEN™ SYSTEM to my anesthesia machine if my practice does not have a central oxygen system with a manifold?**
- A: Just connect the 9 ft oxygen line from the receiver tank directly to the machine requiring oxygen. A "Y" can be used to supply a second unit.
- 18) **Q: I have "E" tanks on all of my anesthesia machines and no central system. What do I have to do to connect my anesthesia machines to your VETROSON® OXY-GEN™ SYSTEM?**

A: You must plumb in oxygen lines to all of your anesthesia machines using an oxygen manifold system. The plumbing, connectors etc. for each oxygen location would cost approximately \$600.00 plus \$600.00 to connect to the oxygen manifold. Therefore, if you have four oxygen locations, the cost would be about \$3000.00. The "E" tanks should remain in place in the event of a power failure or one "H" tank could be purchased and tied into the central oxygen manifold for backup. The saving in using the VETROSON® OXY-GEN™ SYSTEM in this case would be significant and pay for the plumbing.



19) **Q: I have four anesthesia machines and they all have ventilators connected to them. What is your recommendation?**

A: Purchase a 50-30 VETROSON® OXY-GEN™ machine which will produce 30 LPM at 50 PSI. You will have more than enough LPM to run the practice.

20) **Q. Where should I place my VETROSON®OXY-GEN™ System?**

A: We would prefer that our unit be placed in the room where your oxygen tanks and manifold are located. However, the room must be climate controlled, ventilated with a 100cfm exhaust fan, clean and have the dimensions of 1000 cubic feet. If the room is smaller than that, it should be well ventilated (at least 5 air changes/hour).

If the practice has Chemtron or Ohio quick-disconnects, place the unit where any quick-disconnect is positioned. The following explains how this may be accomplished:

**Connecting the VETROSON® Oxy-Gen™ System to the Chemtron & Ohio oxygen quick-disconnects**



Photo #1



Photo #2

Photo #1 - You are looking at Ohio and Chemtron oxygen Quick Disconnects as they come from a wall attachment. Our 9' oxygen hose should be attached to the 3/8" DISS Oxygen fitting on the "T" between the wall plate and face plate. This makes it possible to connect our VETROSON® Oxy-Gen System at any location in the hospital that has either oxygen quick disconnect.

Photo #2 - Shows a side view of both oxygen quick disconnects with the face plate to the left and the wall plate to the right. Our 3/8" DISS oxygen fitting on the "T" is positioned between the two. The 9' oxygen hose attaches to the "T".

Please read the Set Up & Installation Instructions in our Installation, Operation & Maintenance manual before installing our VETROSON® Oxy-Gen™ System. It is required that a 20 amp circuit be dedicated to both our 110V and 230V systems. The 110V units are supplied 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.

The unit should never be placed in or around where animal hair is being clipped. Our machine has a strong pull that will bring an abundance of hair into the unit, blocking the filters.

**21) Q: What are the electrical requirements for your various models?**

A:

Model	Delivers	Volts	Starting Amps	Running Amps	Power Watts
VGS2010	20 PSI, 10 LPM	110	30	10	1060
VGS2015	20 PSI, 15 LPM	110	30	10	1060
VGS2020	20 PSI, 20 LPM	230	16	6	1325
VGS5015	50 PSI, 15 LPM	230	15	6	1275
VGS5030	50 PSI, 50 LPM	230	20	11	1830

The 230V units are supplied with a 20 amp-250V slotted plug- type# 6-20P. This requires a 6-20R receptacle. Please remember that our units require a dedicated line.

**22) Q: What maintenance is required for the VETROSON® OXY-GEN™ SYSTEMS and when?**

A: Depending upon the model, one or two pleated HEPA Air Intake Filters (VGS1500) are used. VGS1500 consists of 2 parts: the HEPA Filter component and a foam filter which caps it. They fit into the round holes at the rear of the unit. These filters should be replaced every 6 months. 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.

*Note: The generators provide the best performance at temperatures between 40° & 80° F. and when the feed air has a dew point of 40°F or less.*

**23) Q: What is the warranty?**

A: The VETROSON® OXY-GEN™ SYSTEMS are warranted for three (3) years or 3000 hours of use, whichever comes first.

**24) Q: If I have a technical question or a breakdown, how should I handle these?**

A: For technical questions, contact Summit Hill Laboratories at 1-800-922-0722.  
For repairs/breakdowns – contact:

David Pierce, Director of Specialty Products- Cell: 1-317-607-5012

Or:

Summit Hill Laboratories. Customer Service: 1-800-922-0722

E-mail: [sales@summithilllaboratories.com](mailto:sales@summithilllaboratories.com)