



SUMMIT HILL LABORATORIES

Tinton Falls Business Center
One Sheila Drive
Tinton Falls, New Jersey 07724

Phone: (732) 933-0800
Fax: (732) 933-0055

E-Mail: Sales@summithilllaboratories.com
www.summithilllaboratories.com

Q&A

VETROSON® ACTIVE & PASSIVE SCAVENGER SYSTEM

QUESTIONS AND ANSWERS

ACTIVE SCAVENGER SECTION

1. **What are the components of the Active System? What does Summit Hill Laboratories supply? What do I supply?**

The **VETROSON ACTIVE ANESTHESIA SCAVENGER** consists of:

- (a) The **Power Unit** (14" x 12" x 8"), which can accommodate one or more anesthesia machines and mounts on the inside of an exterior wall. Included with the 110V Power Unit is a 4" Vent Pipe, an outside weather-tight Vent Hood, 1-1/2" male SCH 40 connector fitting, and 6' of 1-1/2" I.D. flexible heavy duty hose to connect the Power Unit to the veterinarian supplied 1-1/2" SCH 40 PVC plastic pipe.
- (b) The **Scavenging Interface** which attaches directly to the 19mm scavenging pop-off valve outlet nipple at one end and the **"Y" Tee Fitting** at ceiling level. The interface consists of an Air Inlet valve positioned between 9' of 30mm and 1' of 19mm exhalation tubing.
- (c) The **Carrier Air Inlet Valve** which acts in conjunction with the Air Inlet valve(s) to regulate the vacuum pressure of the system.
- (d) An N.R.B. (non-rebreathing) circuit adaptor is also supplied which will connect with the 1/4" I.D. scavenging hose commonly used on Ayres T and Norman Elbow type non-rebreathing systems.

The above are supplied by Summit Hill Laboratories.

The practice supplies 1-1/2" SCH 40 PVC plastic pipe which connects the 1-1/2" SCH 40 Male Hose Connector Fitting at the end of the 6' flexible heavy hose of the Power Unit to the **"Y" Tee Fitting** which, in turn, connects with the end of the 30mm Scavenging Interface. This material is inexpensive and readily available through any plumbing or building material contractor.

The practice also supplies additional Scavenging Interfaces, **"Y" Tee Fittings** and **Carrier Air Inlet Valves** if indicated. Please refer to Questions 5, 11 & 14.

Please refer to Page 2 of the OPERATING INSTRUCTIONS for a diagram showing how the above system is connected.

2. Can I install the system or do I need a contractor?

A 4-1/4" diameter hole must be cut through the wall where the Power Unit is mounted and the PVC plastic pipe must be routed wherever indicated – usually above a drop ceiling. The OPERATING INSTRUCTIONS clearly illustrate how this is done. Some veterinarians install the system, while others use a contractor depending upon each veterinarian's skills and available time.

3. I am in a shopping center and my O.R. is in the middle office. I do not have an outside wall in the O.R. How can I hook up the system?

The Power Unit may be installed on any outside wall, usually in the rear room in the case of a shopping center practice. An "On/Off" remote switch with a light would then be mounted in the O.R. and connected to the Power Unit with electrical wires.

4. May I mount the Power Unit in a closet or attic? If so, how long a 4" vent pipe may be used?

Yes, just make sure the vent pipe is no longer than 20', has no more than two 90-degree elbows and that the exhaust port is adequately protected from the elements. We supply a 10" section. Longer lengths may be purchased at any home supply center.

5. How many "dead ends" may I have in the system?

You may have as many as indicated. Page 7 of the OPERATING INSTRUCTIONS shows several layouts. Remember a Carrier Air Inlet Valve must be inserted at each "dead end".

6. I cannot use straight 1-1/2" PVC pipes in my ceiling. Because of beams I cannot get a straight pass. May I use corrugated tubing?

Yes. Corrugated tubing may be used to go around beams. Do not employ sharp angles.

7. I cannot install the piping over the ceiling. May I install the piping under the floor?

Yes, the piping may be installed under the floor or along the wall if ceiling positioning is not practical.

8. Must I have an electric outlet nearby?

We supply a 6' electrical cord. If the outlet is more than 6" from the installation point, a grounded extension cord should be used.

9. Are there fuses to replace?

The Power Unit has one 1-1/4AMP fuse located above the “On/Off” switch.

10. May I mount the Power Unit upside down or on its side?

Yes. If the Power Unit is mounted “upside down”, the faceplate may be unscrewed and reversed.

11. I have one anesthesia machine and use it in the surgery room, dental area and in the X-ray department. How many interfaces do I need?

Three. (Two additional) An Interface must be in position to accept the anesthesia machine whenever the machine is moved to that work area. Interfaces are permanently cemented into the “Y” Tee Piece and do not function until affixed to the nipple of the Scavenging Pop-Off Valve.

12. Your diagram shows the interface connected to the ceiling. May an interface be connected to a wall outlet rather than one at the ceiling?

There is no problem. Nothing has to be added. Use a 90 degree elbow where you want to come out of the wall and connect the interface to it.

If the anesthesia machine is wall-mounted this would work very well.

If the anesthesia machine is mobile and positioned in locations around a wet-table a ceiling drop would be advisable, the reason being is that an interface coming out of a wall outlet, and extending several feet to an anesthesia machine that may be moved would create an obstruction. The hospital personnel would have to duck under it or step over it.

13. Will scavengers fit any manufacturer’s machine?

Yes, as long as it has a Scavenging Pop-Off Valve.

14. How can I connect a Scavenger Interface to an old anesthesia machine that does not have a scavenging Pop-Off Valve?

Replace your old Pop-Off Valve with a new VETROSON. The following seven models of the VETROSON Pop-Off Valves are available for the listed small animal veterinary anesthesia machines:

#SPA1000 for Summit Hill & Snyder Machines (This valve cannot be retrofitted in the field)

#SPA1100 for Ohio, Bickford and Pitman Moore 960, 970 & 980 Machines

#SPA1300 for Drager Machines

#SPA1400 for Dupaco Machines

#SPA1500 for Foregger Machines

#SPA1805 for Ohio Heidebring Machines

If your practice has a “human” anesthesia machine – and none of the above Pop-Off Valves match – send your Pop-Off valve to Summit Hill Laboratories and we will see if we have a threaded adapter which will compare with yours.

15. How many machines can I connect with the VETROSON Active Anesthesia Scavenger System? How many feet apart can they be?

We have successfully connected 25 anesthesia machines with our system using up to 200’ of PVC piping. Remember an additional Scavenging Interface and “Y” Tee Piece will be required for the second, third, fourth, etc anesthesia machine or machine location.

16. With a 100 C.F.M. pull from the Power Unit, why doesn’t this pull my Pop-Off Valve down?

We have three valve positions in the Active system which adjust for air pressure and the animal’s breathing.

17. How noisy is the Active?

The unit is barely audible when running.

18. Must the scavenger system be “tight”?

To remove all true gases from the environment to the outside, the entire scavenger system, as well as the anesthesia machine itself, must have no leaks. The scavenger system is completely sealed from the Scavenging Pop-Off Valve to the outside. The practice must double check the anesthesia machine for leaks and correct any if they occur. Endotracheal tubes also should be checked for the proper fit.

19. Is there any (maintenance) service required after installation?

The motor/blower assembly is sealed and self-lubricating and requires no service. However, check the three valves in the “criss-cross” (where the 30mm and 19mm hoses are joined). Animal hair and debris may enter these ports causing inflation or depression of the breathing bag depending in which valve the blockage is.

20. Can I add on the system in the future?

Yes. Cut into the PVC piping, add a “T” or any other fitting indicated, and lay more piping to the desired location, add a “Y” Tee Fitting, Scavenging Interface and Carrier Air-Inlet Valve if indicated.

21. What can the problem be if the bag on the anesthesia machine over inflates, or if the bag is completely deflated?

FIRST LOOK FOR PROBLEMS RELATED TO THE ANESTHESIA MACHINE. This is where most of the problems will be – especially on a recently installed VETROSON® Active Anesthesia Scavenger System.

Unhook the Scavenger Interface from the pop-off valve on the anesthesia machine. If this corrects the problem, we must look to the scavenging system for the cause. If it doesn’t, checkout the problem as follows:

- a) If the pop-off valve is closed or stuck, the bag will over inflate. Keep 5-7 cm H₂O on the gauge when testing.
- b) If the pop-off valve is open or stuck, the bag will be deflated. Correct this.
- c) If there is a leak within the re-breathing system (hole in the bag, cracked hoses, loose jars etc.) the bag will be deflated.

Note: some bags will appear to be fuller than others because of the tensile strength of the latex or rubber compound used in the making of the bag. Use the pressure gauge to determine the fullness of the bag.

IF THE PROBLEM IS NOT THE ANESTHESIA MACHINE AND THE BAG ON THE ANESTHESIA MACHINE IS DEFLATED, PROCEED AS FOLLOWS:

- a) If the bag is deflated first check the two uni-directional valves on either side of the “criss-cross” which connects the 30mm (larger) hose coming from the ceiling to the 19mm (smaller,shorter) hose that connects with the pop-off valve of the anesthesia machine. The two side valves may be visually inspected. If clogged with hair, remove using tweezers.
- b) Also for a deflated bag check the carrier air inlet valve(s) at each “dead end” above the ceiling. These may also be cleaned out by using tweezers.

IF THE PROBLEM IS NOT THE ANESTHESIA MACHINE AND THE BAG ON THE ANESTHESIA MACHINE OVER INFLATES, PROCEED AS FOLLOWS:

- a) One valve is hidden in the “criss-cross” at the end of the 19mm hose. Blockage here would cause the bag to over inflate. To check it disconnect the interface from the anesthesia machine’s pop-off valve and blow into the 19mm hose to determine if there is partial or complete valve blockage. This valve in the “criss-cross” may become clogged with hair or other debris. If it is clogged, disconnect the 19mm hose from the “criss-cross” and clean out the internal valve using tweezers. The hose may easily be re-positioned with minimal pressure.
- b) Also, if the grey air restriction valve (that plugs into the “Y” tee at the ceiling level) is clogged, the result will be an inflated bag. To correct this disconnect the 30mm hose from the valve, remove the debris from the inlet hole and replace the 30mm hose.

If there is no blockage in the valve system, then the problem definitely lies with the anesthesia machine. Re-check the points listed above.

Although very unlikely to happen, if a strong air current (such as exhaust from an A/C unit) blows into the exhaust vent, the bag would over inflate.

22. What are the benefits of having a VETROSON ACTIVE ANESTHESIA SCAVENGER?

- (a) It PREVENTS UNLOADING OF THE BREATHING CIRCUIT. The vacuum pressure generated by the power unit is continuously regulated by the Air-Inlet Valves in the scavenging interface system.

- (b) It OFFERS NO RESISTANCE TO THE POP-OFF VALVE. The tube diameters of the system are designed so that there will be no increase in pop-off exhaust pressure during surgery.
- (c) It ELIMINATES THE NEED FOR CHARCOAL FILTERS. Forget about charcoal-filled canisters that become saturated (and ineffective) after a short period of time!
- (d) It is EFFECTIVE FOR ALL ANESTHETIC AGENTS INCLUDING NITROUS OXIDE. Charcoal-filled canisters do not absorb nitrous oxide.
- (e) It DOES NOT INHIBIT MACHINE MOBILITY. Ten feet of flexible exhalation tubing assure mobility of the anesthesia machine.
- (f) It is SUITABLE FOR CLINICS THAT HAVE ONE OR MORE MACHINES. The VETROSON ACTIVE SCAVENGER may be designed for hospitals with multiple machines and/or machines not located in rooms adjacent to an outside wall.
- (g) It is DESIGNED TO FIT MOST ANESTHESIA CIRCUITS. The VETROSON ACTIVE ANESTHESIA SCAVENGER may be directly connected to the Scavenging Pop-Off Valve outlet nipple on all commonly used Anesthesia Machines.
- (h) The system is “flexible”. Additional anesthesia machines may easily be added at a later date without unbalancing the system.

PASSIVE SCAVENGER SECTION

23. When would a VETROSON Passive Anesthesia Scavenger be indicated?

A passive system is indicated when only one or two anesthesia machine locations are used. If more than two locations are used – or if the practice plans to add another anesthesia machine or two, the active system is more economical.

24. Must I specify the thickness of the wall for using a passive system?

The thru-the-wall vent assembly is designed to fit walls up to 12”. If the practice has a thicker wall, a special order should be placed for a longer vent assembly. Please note that the vent assembly must be located below the level of the pop-off valve as gravity is employed and the gases must flow downward from the anesthesia machine.

25. How far from the outside wall can a passive system be employed?

Our exhalation tubing is 9’ long. Therefore, the anesthesia machine must be used within 9’ of the outside wall.

26. In what circumstances shouldn’t a passive system be used?

Since the passive system is dependent upon gravity, it cannot be used in a basement situation where the outside level is above the anesthesia machine; it cannot be used where the operation room is in an “inside” location as more than 9’ for exhalation tubing would have to be used. In the above two situations our Active System would have to be employed.