Installation of a Hallowell Ventilator in a MRI environment with a MRI compatible anesthesia machine

It should be noted that Hallowell EMC ventilators are NOT MRI compatible. The blue controller contains a transformer and magnetic valves. The bellows assembly however is MRI compatible. To use these ventilators in an MRI environment it is recommended that the bellows assembly be separated from the controller. The bellows assembly can then be mounted in the magnet room with a MRI compatible anesthesia machine. The controller is then located outside the magnet room in the control room. This way the operator can change ventilator settings without entering the room.

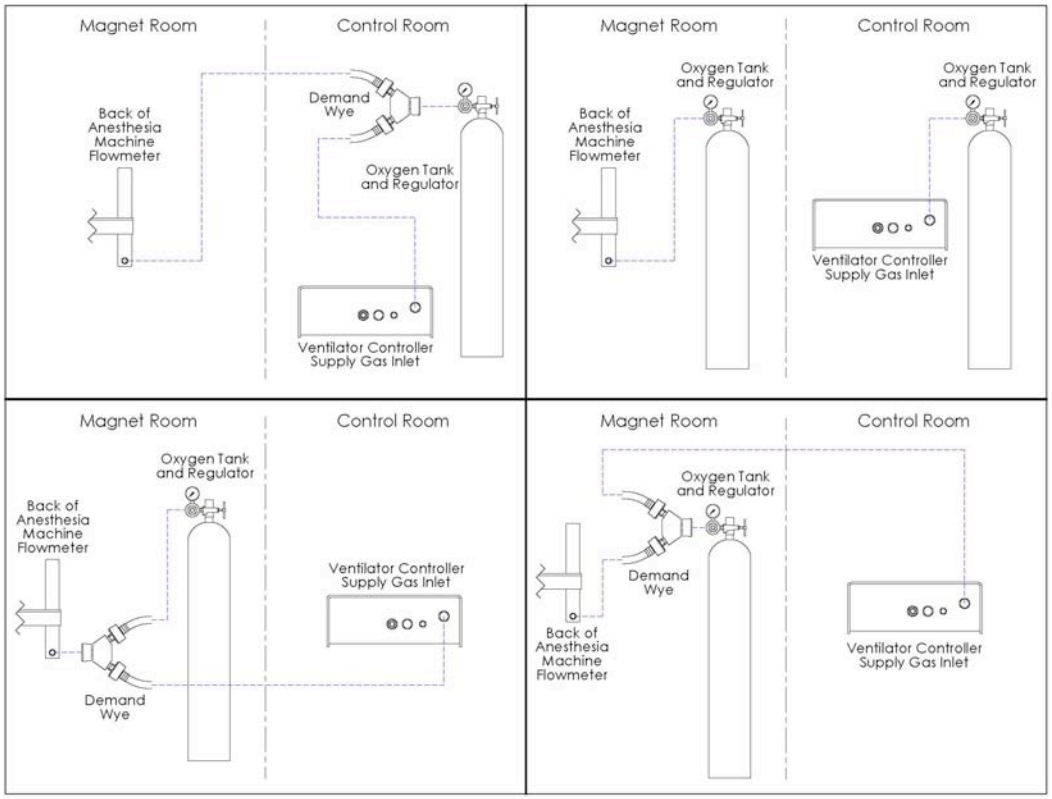
Splitting the ventilator in this way requires that the DRIVE GAS tube, normally 9" long be extended to 20 or 30 ft. In addition oxygen is required in both rooms. This can be done with 2 oxygen cylinders and regulators or by running an oxygen line through the wall with the drive gas tube as you will see below.

1. Locate a suitable port from the control room into the magnet room. Please consult MRI professional to avoid any accidental damage to the chamber, we have used air ducts in previous setups.

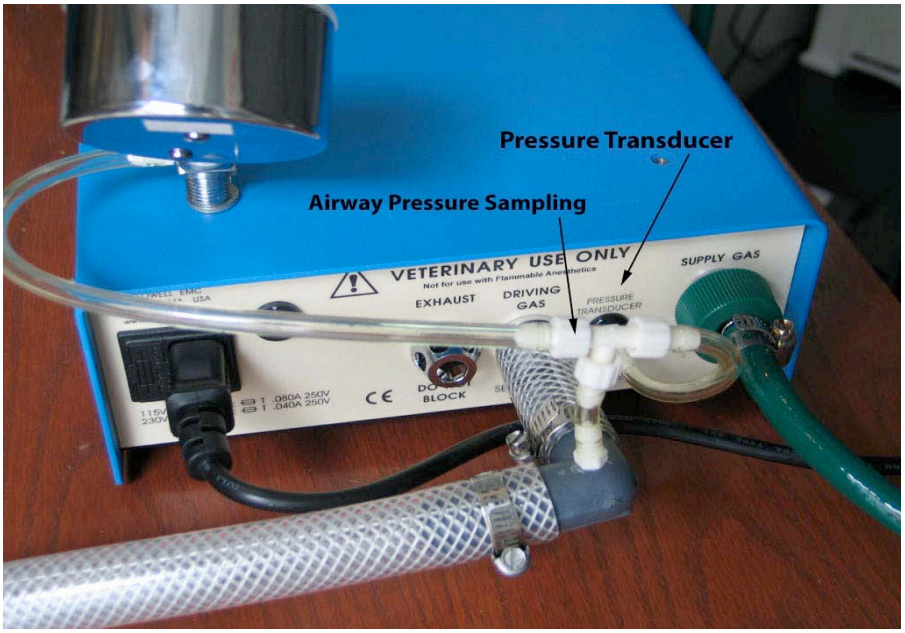
2. Locate positions for both controller unit and bellows assembly.

3. Fasten the bellows assembly to its location using long bolts. The picture shows bellows bolted to the top of the Anesthesia machine.

4. Oxygen at 50psi must be supplied to both the anesthesia machine and the ventilator. Here are a few ways this can be done.



5. Connect manometer tube to elbow in "Driving Gas" hose then to "Pressure Transducer" connecting on the back of the Controller.



6. Connect Bellows outlet marked "Breathing System" to inlet on the Anesthesia machine with supplied clear hose, where the bag would hang.

7. Secure hoses up and out of the way leaving enough extra hose in the magnet room to move Anesthesia machine as desired, cut hose to length.

8. Recheck all connections

9. Connect a breathing bag in place of the patient; inflate using flush button or flowmeter and test that the new setup is in working order prior to your first case.