Installation of a Hallowell Ventilator in an MRI Environment with an 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 base assembly however is MRI compatible. To use these ventilators in an MRI environment it is recommended that the bellows base assembly be separated from the controller. The bellows base assembly can then be mounted in the magnet room with an 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 25ft. 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 base assembly.

3. Fasten the bellows base assembly to its location using long bolts. The picture shows the assembly bolted to the top of the Anesthesia machine. (MRI Conversion Kit 000A6558 comes with optional use rubber feet for base bottom. These may be useful if the unit can’t be secured to 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.

**Installation of the MRI Conversion Kit w/O2 DISS Inline Pressure Gauge to a Hallowell Ventilator**

5. Remove the left side instruction panel from the ventilator. Use the 4 screws to attach the conversion kit.
6. Connect the conversion kit hook-ups to the back of the controller.
   a. Driving Gas Tube Assy. to the “Driving Gas” bulkhead.
   b. Pressure Transducer Line to the “Pressure Transducer” bulkhead luer.
   c. O2 DISS Inline Gauge Supply to the “Supply Gas” bulkhead fitting.

   a. Drive Gas Tube open end to the “Driving Gas” port.
   b. “Breathing System” port to the inlet on the Anesthesia machine using supplied 22 mm corrugated hose, where the bag would hang.
8. Using the diagram on page 2, attach the O2 supply gas lines.

9. 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.

10. Recheck all the connections and run test.

11. 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.