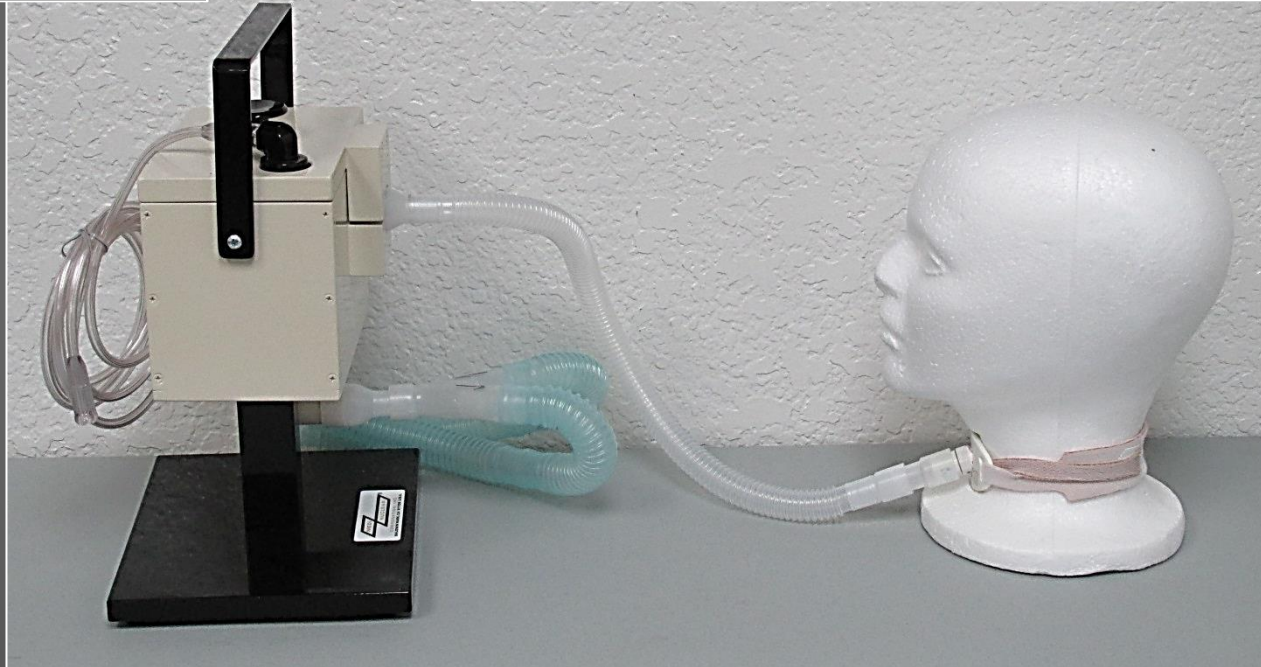




Aero/Vent™ Plus Radioaerosol Lung Imaging System for Ventilator Dependent Patients:

Step by Step Instructions for Use



Aero/Vent™ Radioaerosol Kit Selection

Special Breathing Situation	Radioaerosol Kit to Use
Tracheotomy	Use special kit for ventilator dependent patients (#AV-400+V).
Trach Opening (ventilator not required for breathing)	Cover trach opening and use regular kit with mouthpiece or face mask. <u>Do not</u> use special kit for ventilator dependent patients.
Tracheal Intubation	Use special kit for ventilator dependent patients (#AV-400+V).
Nasotracheal Intubation	Use special kit for ventilator dependent patients (#AV-400+V).
Bi-Pap Machine	If patient can be removed from Bi-Pap machine, use regular kit with face mask (Single Tube System #AV-400+M, Two Tube System #AV-500M).

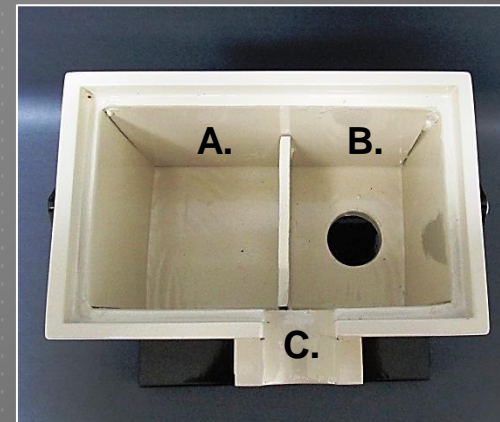


Assembly

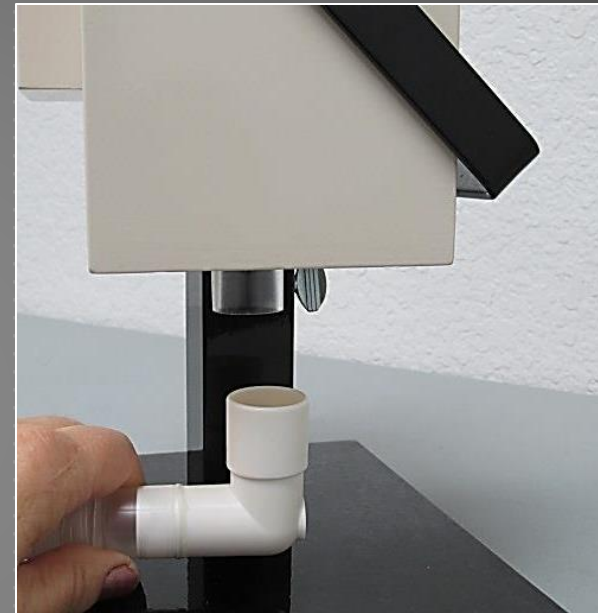
- Remove components from plastic bag. Components include:
 - Aero/Vent™ Plus manifold with attached HEPA filter
 - Flex tube with 15mm airway connector on one end and 22mm connector on the other
 - Elbow/reducing adapter (22mm-15mm)
 - “Caution Radioactive Material” label
 - Disposal plastic bag (retain re-sealable packaging bag for this purpose)



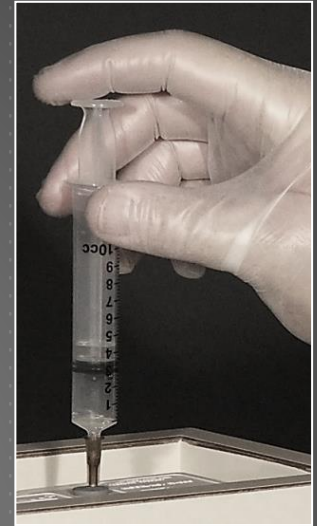
- Attach 22mm end of flex tube to manifold assembly port.
- Open lid of shield and insert manifold assembly.
 - A. The rectangular section will fit in the side without a bottom opening.
 - B. The HEPA filter will extend through the exhaust opening at the bottom.
 - C. The tube will rest comfortably on the rounded opening at the front of the shield.
- Press down firmly to ensure the manifold is seated completely.



- Attach the provided 22mm-15mm reducing adapter to the elbow.
- While holding down the manifold assembly, attach the elbow/adapter to the HEPA filter. The HEPA filter can be reached through the exhaust opening in the underside of the shield.
- Recheck the seating of the manifold in the shield.



- Prepare ^{99m}Tc -DTPA , or an equivalent alternative, in accordance with the manufacturer's instructions.
- Clinical studies have shown the following protocol to be effective for pre-perfusion ventilation studies:
 - A. Air Flow Rate: 8-12 L/minute
 - B. Concentration: 15-20 mCi/mL ^{99m}Tc -DTPA
 - C. Dose: 30-40 mCi
 - D. Volume: Minimum of 2 mL
 - E. Aerosol Inhalation Period: 3-5 minutes
- Using a shielded syringe and needle, inject 40 mCi/2 mL of ^{99m}Tc -DTPA solution through the center of the grey stopper in the top of the manifold assembly and into the nebulizer.



- Place lid on shield making sure it seals securely.
- Attach one end of the provided oxygen tube to the oxygen/air source, and the other to the lead lined oxygen tube adapter (#AV-1010) on top of the shield. Give the adapter 1/4 turn, allowing it to grab the air inlet tip of the manifold, inside the shield.

Note: Oxygen tube adapter is required. Its lead lined base reduces the possibility of contamination and the barbed oxygen tube fitting provides secure oxygen tube connection.

Note: Use only the provided oxygen tube (#IV-605). Other oxygen tubes may be slightly over-sized and could cause oxygen leakage.

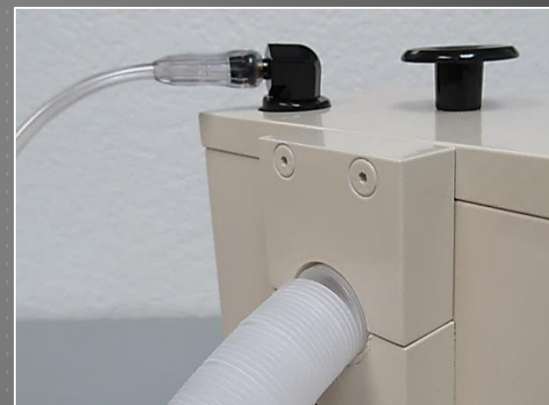
Caution: Do not use a humidifier in oxygen/airline.



#AV-1010 Lead Lined
Oxygen Tube Adapter



Air Inlet Tip of Manifold



Patient Connection and Operation

- Disconnect ventilator “Y” from patient’s endotracheal or tracheotomy tube and connect the 15mm end of the flex tube to the patient’s endotracheal or tracheotomy tube.
- A removable 22mm x 15mm adapter is provided for connecting the “Y” tube. Connect ventilator “Y” to the elbow/adapter extending from the HEPA filter exhaust opening.



A Note to the Respiratory Therapist

In simple terms, dosing for a lung scan on a ventilator dependent patient is basically the same as performing a nebulizer treatment. Therefore, Respiratory Therapists are recommended to be present during the exchange and connection of tubing from the ventilator to the Aero/Vent™ Radioaerosol System should ventilator related questions arise.



A Note to the Respiratory Therapist (Continued)

The main differences between a nebulizer treatment and radioaerosol delivery are:

1. The oxygen flow rate delivered to the Aero/Vent™ Radioaerosol System must be 8-12L/minute to allow the liquid radioisotope in the nebulizer to create a mist. Dosing requires approximately 3-5 minutes, which is less than most nebulizer treatments.
2. Because a radioisotope is being nebulized, the Aero/Vent™ nebulizer kit is housed in a lead lined shield to provide personal protection, and includes a HEPA filter for exhalation to protect the ventilator from contamination. Please note: The radioisotope has been deemed medically safe for healthcare workers to continue caring for their patients.



A Note to the Respiratory Therapist (Continued)



1. Airflow will always take the path of least resistance. Air will always move from areas of high pressure to areas of low pressure.
2. If for any reason there is excess airflow, all ventilators have an expiratory relief valve to prevent over ventilation and to avoid Volutrauma/Barotrauma.



Dosing the Patient

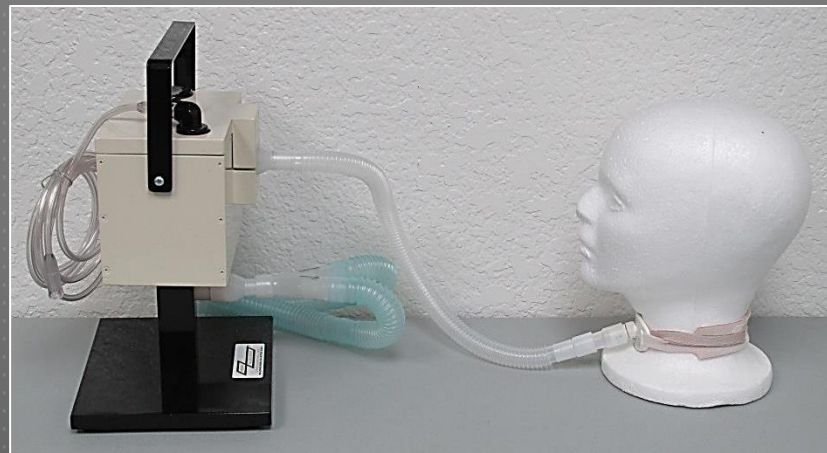
- Gradually turn on the oxygen, setting the flow rate at 8-10 liters/minute.

Caution: At the normal 50 PSI pressure for the oxygen supply, an abrupt increase of flow rate from 0 to 10 liters/minute may detach the airline from the shield.

- Ventilate the patient until the desired amount of radioactive DTPA, or an equivalent alternative, has deposited in the lungs for imaging purposes. This will normally be in the order of 3-5 minutes.



- After radioactive DTPA delivery, turn off the oxygen and continue the patient ventilation process for four or five breaths to clear the system of radioaerosol.
- Quickly disconnect the aerosol system from the patient and reattach the ventilator “Y” piece to the patient’s tracheotomy or endotracheal tube.
- Optionally, if the patient has a tracheotomy, the disposable inner cannula (if so equipped) may be replaced after radioaerosol delivery to reduce the tracheal hot spot caused by accumulation of radioactivity in the trach tube.
- The patient imaging procedure may be started as soon as convenient.

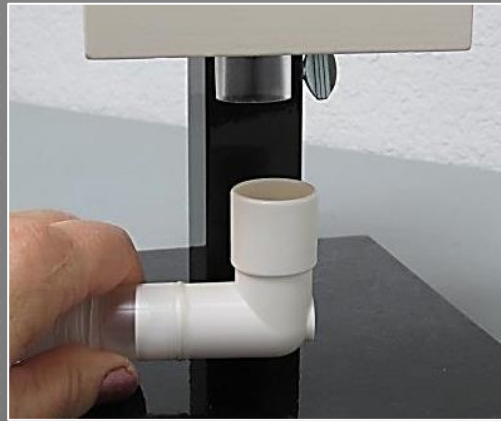
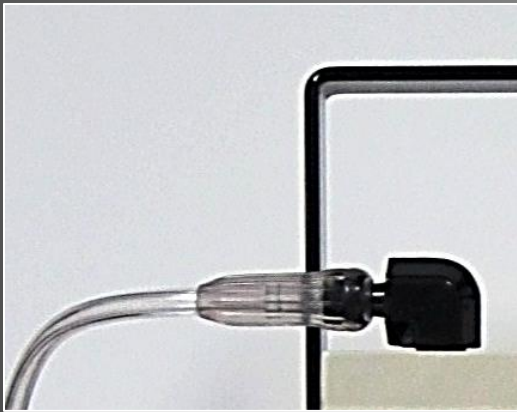


Disposal

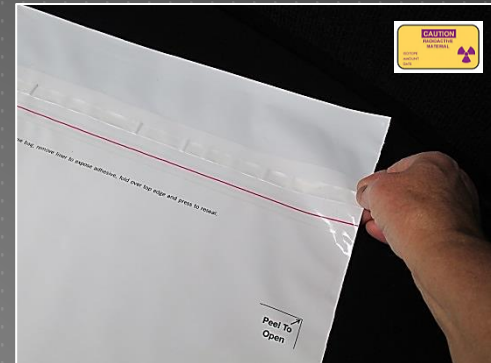
- Give oxygen inlet adapter 1/4 turn to release it from manifold inside shield.

Note: Take care not to lose oxygen inlet adapter during or after kit disposal, as it is lead lined and will be needed for future studies.

- Remove elbow/adapter from HEPA filter extension.
- Open shield lid. Remove used manifold from the shield.



- Place all used items in disposal bag provided. Remove seal strip from the bag to expose the unused tape. Seal the bag securely.
- Quickly attach the “caution” label, and place the unit in a shielded disposal area to allow for radioactive decay.
- Discard decayed waste according to the radioactive waste procedures established by your facility.



Aero/Vent™ Plus and Aero/Vent™ Max Ordering Information

Catalog No.	Product Description	Qty/Units
AV-400+	Aero/Vent™ Plus Radioaerosol Kit Single Tube System	24/cs
AV-400+M	Aero/Vent™ Plus Radioaerosol Kit with Mask Single Tube System	24/cs
AV-500	Aero/Vent™ Max Radioaerosol Kit Two Tube System	24/cs
AV-500M	Aero/Vent™ Max Radioaerosol Kit with Mask Two Tube System	24/cs
AV-400+V	Aero/Vent™ Plus Ventilator Kit for Ventilator Dependent Patients	6/cs
IV-605	Oxygen Supply Tubing, Secure-Fit connectors, 7 ft.	3/pk
AV-501A	Aero/Vent™ Max Lead Shield, Aluminum	Each



For additional information, please contact:



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We're here to be of assistance!

