

INSTA/VENT™ PLUS

*Step by Step Instructions
For Use*



Insta/Vent™ Plus
Radioaerosol Delivery System
#IV-600P



BETTER DELIVERY = BETTER RESULTS

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(800) 321-5981, (626) 960-9822
info@medinuclear.com
www.medinuclear.com
4610 Littlejohn Street, Baldwin Park, CA 91706

Insta/Vent™ Plus Overview

Insta/Vent™ Plus features Medi/Nuclear's proprietary Neb 3A+ fine particle nebulizer to deliver fine and ultra-fine particles (MMAD 0.28 μ), to the patient. These particles are considerably smaller than those delivered by competitive systems, resulting in excellent image quality.

Insta/Vent™ Plus's internal airflow control mechanism and reservoir bag conserves medication and improves the speed of delivery, allowing dosing in approximately two minutes.

Unidirectional airflow prevents particle growth so fine and ultra-fine particles are immediately available upon inhalation.

The combination of very fine particles, unidirectional airflow and tidal breathing, rather than a breath hold, supports shallow breathers and provides superior image quality with SPECT and Planar.



Potential Uses for Insta/Vent™ Plus & Related Products

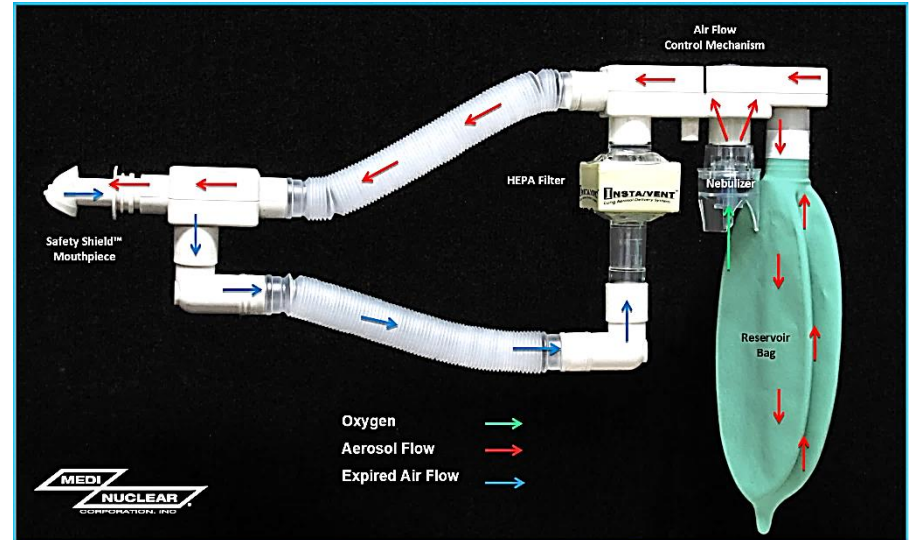
- Ventilation Studies
 - SPECT
 - Planar
- Theranostics
 - Ventilation Lung Imaging
 - Radioaerosol Lung Therapeutics
- Radiopharmaceuticals
 - Radioaerosol Lung Therapeutics
 - Radioaerosol Systemic Therapeutics
- Pulmonary Aerosol Therapeutics
 - Targeted Delivery for Deep Lung/Systemic Applications
 - Targeted Delivery for Upper/Mid Lung Applications



Insta/Vent™ Plus Airflow

As a patient inhales, medicated aerosol from the nebulizer moves through the upper tube, and into the mouthpiece.

When the patient exhales an internal airflow control mechanism closes, and exhalation is directed through the lower tube and into a proprietary HEPA filter.



At the same time, medicated aerosol continues to flow through the nebulizer into a breathing bag, which acts as a reservoir to store aerosol that would normally be wasted during exhalation.

When the next breath is taken, the patient immediately inhales the aerosol mist from the breathing bag and the mist from the upper tube, allowing very rapid dosing.



Insta/Vent™ Plus Assembly

- Radioaerosol kits go through an extensive inspection prior to packing and shipping. To ensure they have arrived safely, remove the following components from the bag and inspect.
 - Insta/Vent™ Plus Assembly (kit body with attached nebulizer, HEPA filter, reservoir bag, and breathing tubes).
 - Small bag containing scuba style Safety Shield™ Mouthpiece, nose clip, and “Caution Radioactive Material” label.

NOTE: Retain the resealable bag for disposal of kit after the study.

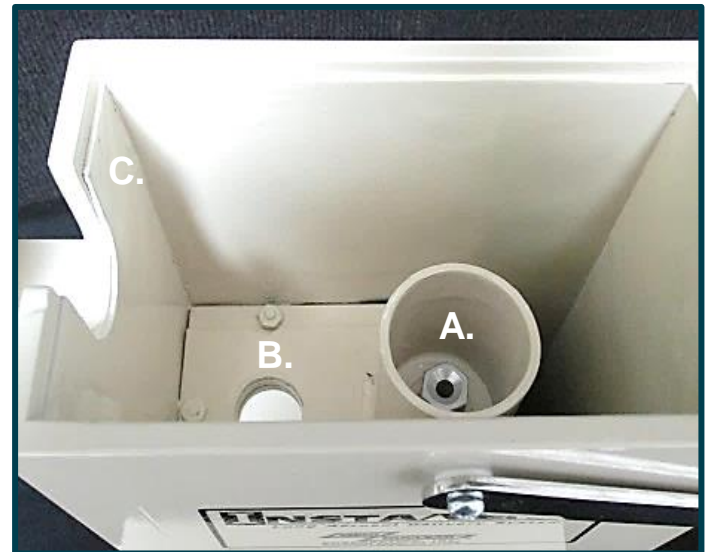
CAUTION: Standard Insta/Vent™ convenience kits may not be used for patients on a ventilator.



- Unfold the reservoir bag.
 - A. Holding the kit level, gently lower it into the shield, placing the tip of the nebulizer into the silver pressure port. Using both hands, press down on top of the kit to secure the nebulizer.

CAUTION: Excessive force or aggressively wiggling the kit may damage the nebulizer tip, preventing the proper seating of the kit and adequate mist production.

- B. The HEPA filter will extend through the exhaust opening at the bottom of the shield.
- C. The upper tube will rest on the shield opening behind the lead-lined “L Bracket”.



- While holding down the top of the kit body, attach the elbow on the free end of the lower breathing tube, to the HEPA filter.

NOTE: The HEPA filter can be reached through the exhaust opening in the underside of the Insta/Vent™ shield.

- Using both hands, press down on the top of the kit to make sure nebulizer is still seated securely.

NOTE: A properly seated kit will sit below the lid line, rather than at the lid line.

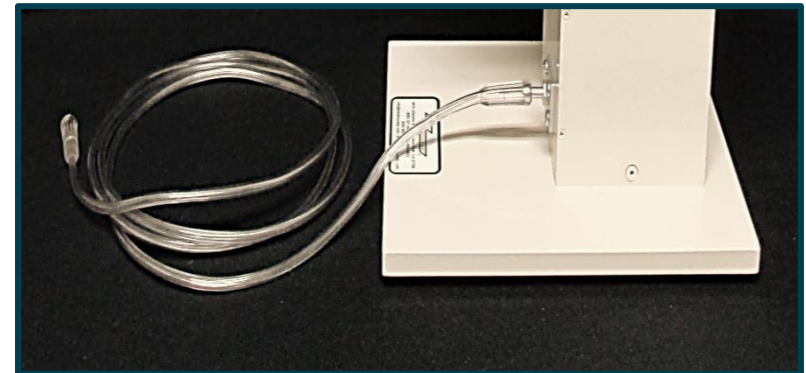
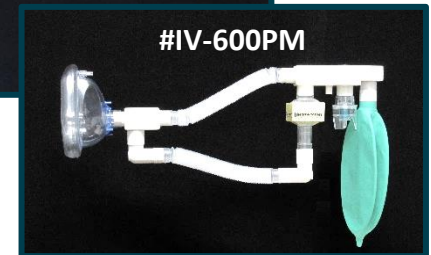
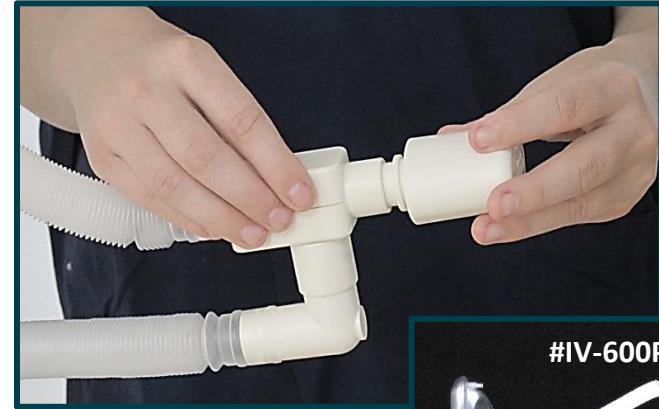


- Attach the proprietary Safety Shield™ Mouthpiece to the mouthpiece port. If desired, convenience kits with air cushioned face mask may be ordered, using part #IV-600PM.

NOTE: Air cushioned face masks may also be ordered separately, using model #MN5045.

- Connect the oxygen tube to the oxygen inlet connection on the front of the Insta/Vent™ lead shield.

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



- Prepare ^{99m}Tc -DTPA, or an equivalent alternative, in accordance with the manufacturer's instructions.
- Using a shielded syringe and needle, held in an upright position, inject **40 mCi in 2 mL** of ^{99m}Tc -DTPA solution through the center of the grey stopper, on top of the kit body.

NOTE: Any more than 2mL of liquid will increase dosing time. Any less than 2mL of liquid may not create a steady mist.

- Place the lid on the shield.



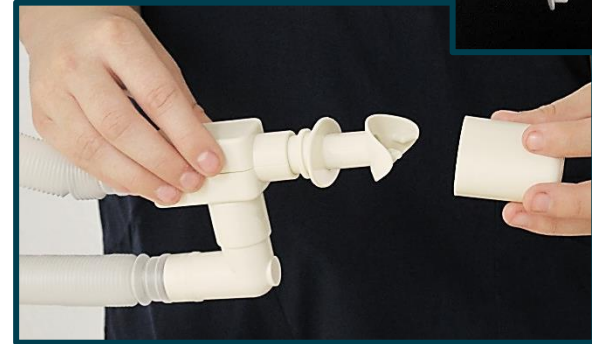
Insta/Vent™ Plus Operation

- Place the scuba style Safety Shield™ mouthpiece in the patient's mouth, and place nose clip on patient's nose to prevent leakage.

NOTE: To minimize leakage and risk of contamination, be sure nose clip is positioned properly.

- Prior to turning on the oxygen/air, instruct the patient to take several test breaths from the system.

NOTE: If patient is unable to use a mouthpiece or nose clip, or is believed to be infectious, a face mask may be used.



To properly place a face mask, place it on the bridge of a patient's nose and carefully roll it downward, making sure it seals securely around the edges. If necessary, a face mask harness may be used to keep the mask in place.

NOTE: When using a face mask, encourage the patient to breathe through the mouth.

Nose breathing will slow the buildup of activity because the hairs in the nose are a very efficient filter and will strip particles from the air. Breathing through the mouth will make the accumulation of activity in the lungs nearly as fast as using a mouthpiece.

NOTE: It's a good practice to wipe the patient's face with a damp cloth following the procedure, as airflow from the nebulizer, combined with a patient's breath, may provide an opportunity for radioactivity to settle on a patient's face.



- Gradually turn on the oxygen/air regulator, adjusting the flow rate to 10-12 liters/minute.

NOTE: There will be a drop in air pressure of approximately 10% when extended oxygen tubing is used. To account for this, increase the flow rate to 12-13liters/minute.

CAUTION: At normal 50 PSI pressure for the oxygen/air supply, a sudden increase of flow from 0 to10 liters/minute may blow the air line off of the shield.

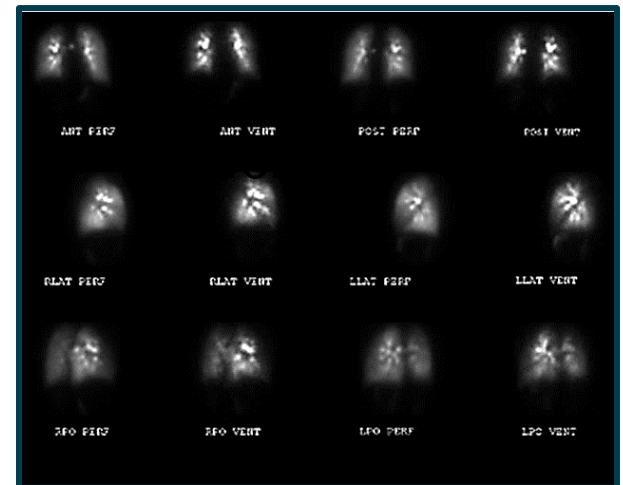
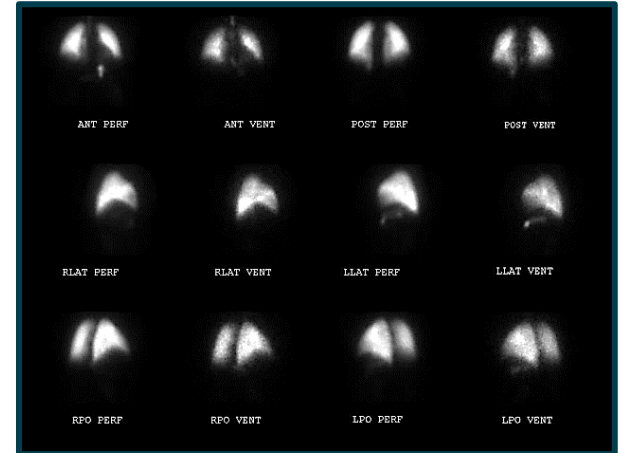
- Instruct the patient to breathe normally until the desired amount of radioactivity is delivered to the lungs. **Dosing time is generally around 2 minutes.**

CAUTION: To prevent possible radiation leakage, be prepared to shut off the oxygen flow immediately if the patient releases the mouthpiece or face mask.



- After inhalation, turn off the oxygen/air and instruct the patient to continue breathing through the mouthpiece for additional four or five tidal breaths to clear the system of aerosol.
- Remove the nose clip and the mouthpiece, or the face mask, from the patient.
- Have the patient expel any saliva into a disposable towel and discard the towel into the kit's plastic bag.]
- Start the patient imaging procedure as soon as it is convenient. Imaging time should be approximately one minute for 100-150,000 count images.

NOTE: SPECT may be performed with 99mTc-DTPA or equivalent alternatives such as PYP, Sulfur Colloid, and MIBI, with a physician's order.



Insta/Vent™ Plus Disposal

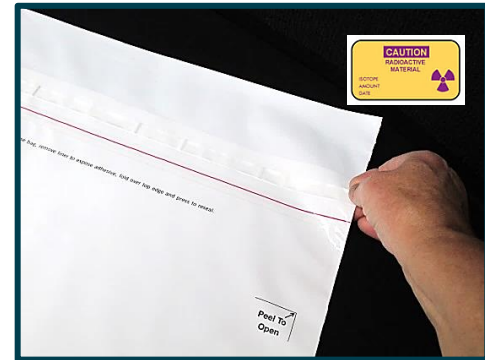
- Be sure the oxygen/air supply is off.
- Disconnect the elbow from the bottom of the HEPA filter.
- Set aside the shield lid and remove the used radioaerosol kit, placing it in the resealable bag.
- Disconnect oxygen tubing from the oxygen/air source.

CAUTION: Disconnecting the oxygen line before removing kit may result in a vacuum sufficient enough to pull liquid into the oxygen port, which could result in contamination.

Please disconnect in the steps shown above.



- Place any additional items used for the study in the resealable plastic bag and seal securely.
- Quickly attach the radioactive material label, and place the kit in a shielded disposal area to allow for radioactive decay.
- Discard decayed waste according to the radioactive waste procedures established by your facility.



Insta/Vent™ Convenience Kit #IV-600V for Patients on a Ventilator

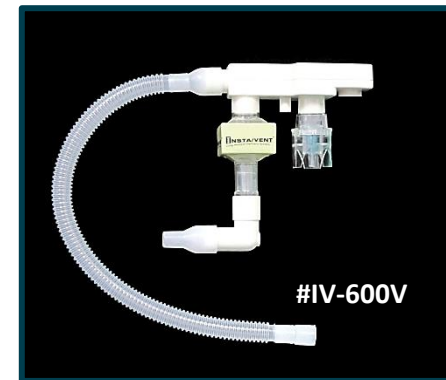
For patients on a ventilator, specially designed convenience kit #IV-600V may be used.

These special convenience kits:

- Come in a small case of just 6/each.
- Fit all standard 15mm endotracheal and tracheotomy tubes.
- Come complete and ready to use.

Quotes and detailed information available.

CAUTION: Standard Insta/Vent™ convenience kits **may not** be used for patients on a ventilator.



Insta/Vent™ Ordering Information

Catalog No.	Product Description	Qty/Units
IV-600	Insta/Vent™ Radioaerosol Kit, Single Tube System	24/cs
IV-600M	Insta/Vent™ Radioaerosol Kit with Mask, Single Tube System	24/cs
IV-600P	Insta/Vent™ Radioaerosol Kit, Two Tube, Unidirectional System	24/cs
IV-600PM	Insta/Vent™ Radioaerosol Kit with Mask, Two Tube, Unidirectional System	24/cs
IV-600V	Insta/Vent™ Ventilator Kit for ventilator dependent patients	6/cs
IV-601A	Insta/Vent™ Portable Lead Shield	Each
IV-605	Oxygen Supply Tube, 7 ft.	3/pk



For additional information,
please contact:



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