

7. Cleaning and Maintenance

Cleaning the Ventilator

The ventilator's exterior surface and the exterior of the detachable battery pack (if using) should be cleaned before and after each patient use, and more often if needed.

1. Unplug the device and clean the front panel and exterior of the enclosure as needed using a clean cloth dampened with any of the following cleaning agents:
 - Water
 - Soapy water or a mild detergent
 - Hydrogen Peroxide (3%)
 - Isopropyl Alcohol (91%)
 - 10% bleach solution (10% bleach, 90% water)
2. Do not allow any liquid to drip into the ventilator case or detachable battery pack. After cleaning, use a soft, dry cloth to remove any residual cleaner. Use extra care when cleaning the display. Abrasive cleaners can scratch the display.
3. Allow the device to dry completely before plugging in the power cord.

 **WARNING**

To avoid electrical shock, always unplug the power cord from the wall outlet before cleaning the ventilator.

 **CAUTION**

Do not immerse the device or allow any liquid to enter the enclosure or the inlet filter.

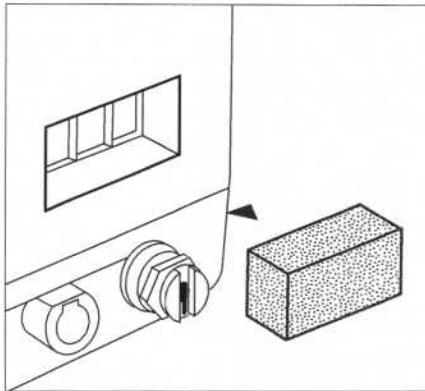
 **CAUTION**

Do not use harsh detergents, abrasive cleaners, or brushes to clean the ventilator system. Use only the cleaning agents and methods described in this manual.

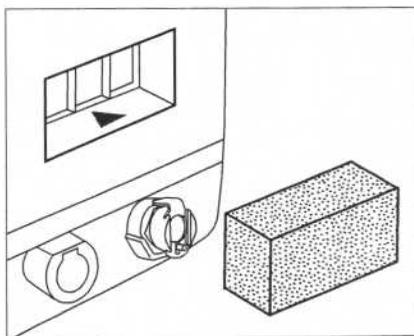
Cleaning and Replacing the Air Inlet Filter

Under normal usage, you should clean the gray foam filter at least once every two weeks and replace it with a new filter every six months or sooner if needed.

1. If the device is operating, stop the airflow by pressing the  button. Disconnect the device from the power source.
2. Remove the filter from the enclosure by gently squeezing the filter in the center and pulling it away from the device, as shown below.



3. Examine the filter for cleanliness and integrity.
4. Wash the gray foam filter in warm water with a mild detergent. Rinse thoroughly to remove all detergent residue. Allow the filter to air dry completely before reinstalling it. If the foam filter is torn or damaged, replace it. Only Philips Respironics-supplied filters should be used as replacement filters.
5. Reinstall the filter as shown below.



CAUTION

The reusable foam inlet filter is required to protect the ventilator from dirt and dust. Wash periodically and replace when damaged for proper operation.



Removing the Air Inlet Filter

Note: *Never install a wet filter into the device. It is recommended that you clean the filter in the morning and alternate using the two foam filters provided with the system to ensure sufficient drying time for the cleaned filter.*

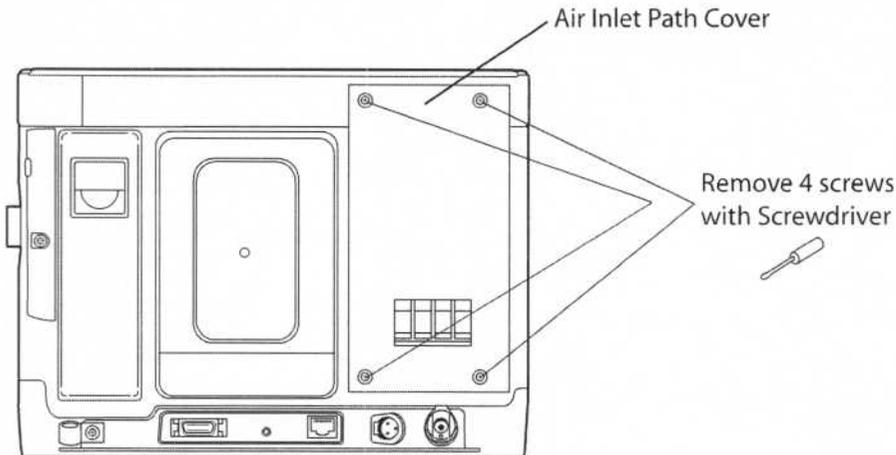


Reinstalling the Filter

Replacing the Air Inlet Path Foam

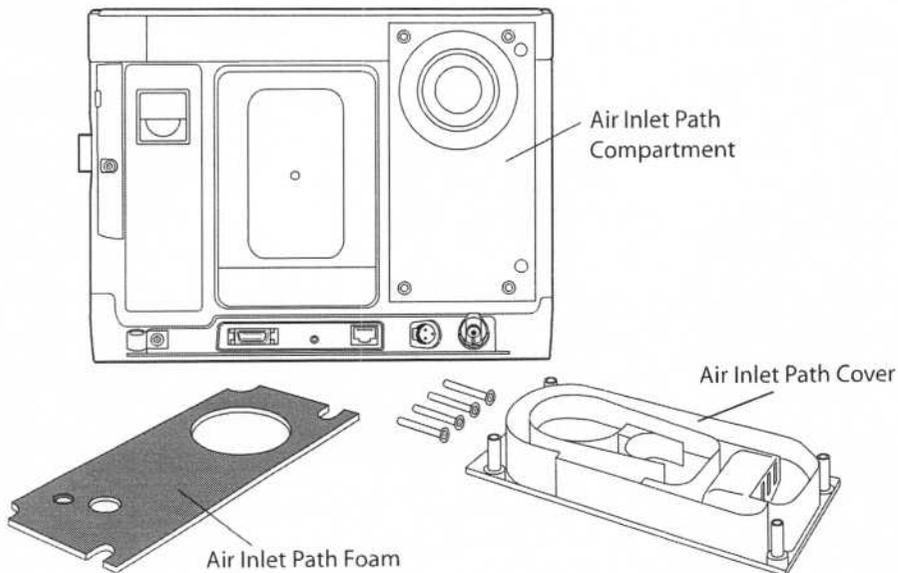
Follow your institution's protocol for how often you replace the air inlet path foam. To replace the foam, complete the steps below.

1. Using a screwdriver, remove the air inlet path cover by unscrewing the four screws as shown below.



Removing the Air Inlet Path Cover

2. Remove the gray foam air inlet path by hand. The removed air inlet path is shown below.



Removing the Air Inlet Path Foam

3. Insert the new air inlet path foam in the slot, lining the large circular cutout on the foam up with the circular connection at the top of the air inlet path compartment on the device. Make sure the air inlet path foam is securely in place.
4. Replace the air inlet path cover, using a screwdriver to secure each of the four screws. Make sure all of the screws are firmly in place.

Cleaning the Patient Circuit

Cleaning the reusable circuit is important in the hospital and in the home. Circuits infected with bacteria may infect the user's lungs. Clean the respiratory circuit on a regular basis. If you are using a disposable circuit, dispose of and replace it on a regular basis.

Follow your institution's protocol for cleaning the circuit. Philips Respironics recommends that you perform the cleaning twice a week under normal conditions and more frequently as required. If the patient uses the device on a 24 hour a day basis, it may be convenient to have a second breathing circuit so you can switch circuits while one is being cleaned.

Reusable Circuit Cleaning Instructions

Clean the patient circuit twice a week, or follow your institution's protocol.

1. Disconnect the circuit from the device, and disassemble the circuit for cleaning. Thoroughly wash your hands.
2. Using a mild detergent, such as liquid dishwashing soap, clean all accessible surfaces of the circuit. Do not clean using alcohol.
3. Rinse the circuit with tap water, removing all remaining detergent.
4. Prepare a solution of one part white vinegar to three parts distilled water. An average beginning quantity is 16 ounces vinegar to 48 ounces distilled water. The actual amount will vary according to individual needs. Regardless of the quantity the ratio must remain 1 part:3 parts. Soak the circuit in this solution for one hour. Rinse the circuit completely with tap water.

CAUTION

Exhalation valves, patient circuits, and water traps are shipped clean, not sterile. Cleaning and disinfection of these parts should follow individual institution processes and conform to guidelines provided by Philips Respironics with each accessory.

5. Place the circuit on a clean towel to dry. Do not wipe dry. The circuit must be completely dry before storing.
6. Reassemble the circuit when dry. Store in a plastic bag or dust-free area.
7. Inspect components for deterioration prior to use.

Cleaning the Reusable Exhalation Devices

Disassemble the exhalation device from the patient circuit. Follow the detailed cleaning instructions included with your exhalation device.

Replacing the Bacteria Filter (Optional)

To remove a bacteria filter and replace it with a new one:

1. Disconnect the flexible tubing from the bacteria filter by gently pulling straight out from the filter. The proximal tubing (if using the Active PAP Exhalation Device) can remain connected to the ventilator.
2. Remove the used bacteria filter from the ventilator by gently pulling straight out from the connector. Follow the manufacturer's labeling and your institution's infection control guidelines for disposal of the bacteria filter.
3. Attach a new bacteria filter. The openings on either end of the bacteria filter are different sizes. Fit the larger opening onto the gas outlet port on the side of the ventilator as shown.

 **WARNING**

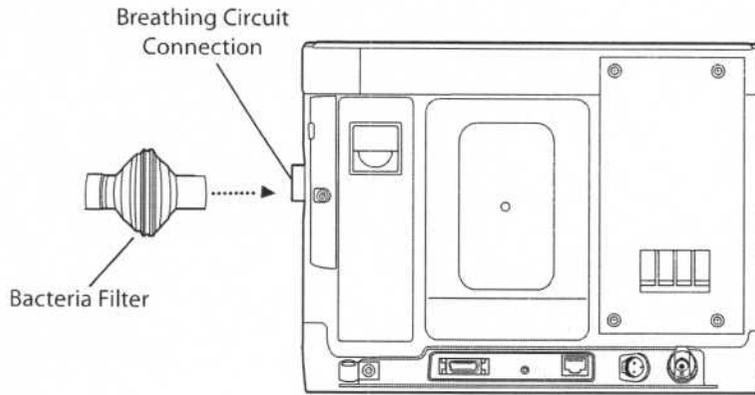
Philips Respironics recommends that a main line outlet bacteria filter (Part Number 342077) be used whenever the device is used for invasive therapy or if the ventilator may be used on multiple patients.

The following table provides information on recommended periodic maintenance for your device.

Time / Hours of Service	Recommended Maintenance
Prior to initial use on a patient	<ul style="list-style-type: none"> • Charge Internal and Detachable Batteries to 100% capacity by plugging ventilator into an AC power source for up to 8 hours. • Perform System Checkout Procedure in Chapter 10.
Prior to long term storage after initial use	<ul style="list-style-type: none"> • Charge both Internal and Detachable batteries to 100% capacity prior to storage.
While in storage after initial connection to AC Power, every 3 months	<ul style="list-style-type: none"> • Recharge internal and detachable batteries to 100% capacity by plugging ventilator into an AC power source. Batteries should recharge in 8 hours or less.
If in use, every two weeks	<ul style="list-style-type: none"> • Inspect and clean air inlet filter.
If in use, every 6 months	<ul style="list-style-type: none"> • Replace air inlet filter. • Inspect enclosures and external connections for damage and contact Philips Respironics service if necessary. • Inspect power cord for damage and replace if necessary.
Every 10,000 hours or 2 Years, whichever comes first	<ul style="list-style-type: none"> • Perform performance verification test per Trilogy Service Manual by Philips Respironics trained service technician.
Every 17,500 hours	<ul style="list-style-type: none"> • Replace the Motor / Blower Assembly by Philips Respironics trained service technician. • Perform full calibration and verification by Philips Respironics trained service technician.

Refer to the *Trilogy Service Manual* for additional information.

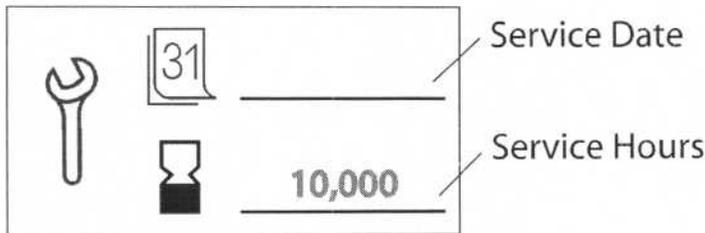
4. Connect the patient circuit. Fit the ventilator-end of the flexible tubing onto the bacteria filter.



 **Installing a New Bacteria Filter**

Preventive Maintenance

Your new Philips Respironics Trilogy ventilator includes a PM Service Due label affixed to the bottom of your device. The label indicates when service is due. Service is due every 10,000 hours or 24 months, whichever comes first depending on the usage of the device.



 **Preventive Maintenance Label**

Ensure that both the date and hours are recorded on the label to maximize your in-service interval. Record the service date as 24 months from the date first placed on a patient. Record the hours as 10,000 hours for initial usage.

Use the device blower hours to determine when service is required. The device blower hours are listed in the device software in the information menu.