

TEMPLATE
Standard Operational Guideline
3M Breathe Easy Turbo Powered Air Purifying Respirator (PAPR)

PURPOSE:

To provide guideline instructions for usage of the 3M Breathe Easy Turbo Powered Air Purifying Respirator (PAPR) Respiratory System

This PAPR system is used to provide respiratory protection for staff during various tasks such as the gross decontamination of chemically contaminated patients.

EQUIPMENT LOCATION: (REMAIN BLANK FOR EACH HOSPITAL TO FILL IN)

OPERATIONAL INSTRUCTION GUIDELINES:

AIRFLOW RATE CHECK

At the beginning of each shift perform flow rate check to ensure system is providing adequate air flow. With the breathing tube assembly disconnected from Turbo blower unit and the system running insert the base of the flow meter into the Turbo unit outlet. Be sure the Turbo unit and flow meter are resting in a vertical position. Check that the center of the float rests at or above the 6 cfm mark. If the flow rate is below 6 cfm, replace the cartridges and check flow again.

Push the end of the breathing tube with the slotted hose connector into the rear of the butyl rubber head cover until it snaps into place if the head cover is not already connected.

Reconnect the respirator headpiece/breathing tube assembly to Turbo unit and verify that air is flowing before donning the respirator headpiece.

DONNING RESPIRATOR

1. Ensure that one end of breathing tube is attached to motor-blower unit outlet tube and other end of the breathing tube is attached to the head cover.
2. Adjust the belt length by pulling the whole belt to the right or left through the Turbo PAPR blower unit's bracket so the buckle centers at your waist (in front) and the Turbo PAPR blower unit is behind you.
3. To don the PAPR unit, place the blower unit back against your lower back (along your spinal column) with the breathing tube extending upward. Fasten the belt around your waist at the front so the Turbo unit rests comfortably and securely against your lower back.
4. Plug the Turbo unit into a fully charged battery pack (see step 3 for appropriate battery to use) at the beginning of the shift and attach the battery pack to the belt.
5. Turn the battery pack on to draw ambient air through the filter/cartridge.
6. Pull the head cover over your head and adjust it so the headband wraps around your head and the elasticized edge of the face seal fits under your chin.

Removing the PAPR:

Remove the PAPR only in accordance with the Respiratory Protection Program.

1. Return to an area of clean air and proceed to decontamination if necessary.
2. When decontamination is complete and it is safe to remove the butyl hood and PAPR roll up the butyl hood starting at the bottom rear and proceeding up the back of the neck
3. Remove the head from the head band.
4. Lift the butyl hood away from the body keeping it rolled to contain any residual contamination that might be present.
5. Turn the power switch to the OFF position.
6. Disengage the belt buckle and remove the belt and blower assembly.
7. After decontamination and termination of use, handle the butyl hood with care as residual contamination may be present. Treat the hood as a contaminated or potentially contaminated object.
8. Thorough decontamination must be performed in accordance with established procedures. Water and standard nonabrasive decontamination cleaners will clean the material of the butyl hood. Allow the hood to dry completely before storage. Do not store butyl hood wet or damp. Note: Due to the nature of some contamination, certain used hoods may be declared unsuitable for cleaning and reuse. Remove unusable butyl hood and dispose of properly.
9. Inspect the butyl hood for damage such as holes, tears, or broken seams. If the hood is damaged in any way, dispose of the hood.
10. Clean, disinfect and inspect the PAPR blower unit after each use. Surface clean the blower unit by using a damp sponge soaked in an approved cleaning solution to wipe the exterior surfaces of the filter/motor-blower assembly, the breathing tube, the battery pack, and the support belt. Wipe with clear water and then allow them to air dry.
11. The battery must be charged after each use. Connect the battery to the battery charger and then plug in the charger into an outlet to recharge the battery pack.
12. Store the Breathe Easy, after cleaning and through drying, by placing the butyl hood with the breathing tube and the filter/motor-blower assembly in the black canvas respirator bag.

Battery Pack Care:

Battery charging -- A completely exhausted battery pack should be charged for 8 to 12 hours. Charge the battery pack by first plugging in the end of the charger/battery pack cord into the battery pack. Then plug the battery charger into a 120 volt outlet. If the battery pack is accepting a charge, the small light on the battery charger will be illuminated. A fully charged battery will operate for approximately 8 hours.

If the battery does not hold a charge, replace the battery pack.

Cartridge selection and attachment:

Remove three filters/cartridges from their packaging and verify that they are the appropriate type for the application by examining the label attached to the filter/cartridge housing.

For gross decontamination of patients use FR-57 cartridge # 453-03-02 from 3M.

Remove screw caps from each filter/cartridge and retain them for future use. Ensure that the air inlet insert is seated inside each of the three rubber air inlets on the Turbo unit and that the threads and sealing surfaces are free of dirt and debris. Screw a filter/cartridge loosely into each of the three threaded inlets. When all three filters/cartridges are in place, hand-tighten them so that an airtight seal is achieved between the neck of each filter/cartridge and the rubber molding inside the threaded inlet. Dispose of used filters/cartridges in accordance with applicable regulations.

Cleaning of equipment:

1. Surface clean the Turbo Unit at the end of the shift unit after each use by using a damp sponge soaked in an approved cleaning solution to wipe the exterior surfaces of the filter/motor-blower assembly, the breathing tube, the battery pack, and the support belt. Allow them to air dry.
2. Surface clean the outside of the head cover with a disinfectant before storing at the end of the shift. Allow to air dry.

Preventive Maintenance:

Battery recharging: The black and yellow (standard) batteries can remain on the charger indefinitely since this charger has a trickle charge feature

Monthly PAPR inspections: Inspect the 3m Breathe Easy respirators using the 3M Breathe Easy Turbo PAPR Assembly Monthly Inspection Checklist.



3M Breathe Easy Turbo PAPR (powered air purifying respirator)
Assembly
Monthly Inspection Checklist

1. Battery recharging:
The black and yellow (standard) batteries (#BP-15) can remain on the charger indefinitely since this charger has a trickle charge feature.
2. Wipe the Turbo blower unit and battery pack with a mild cleaning solution as necessary. Do not immerse the Turbo PAPR blower or battery pack
3. Turbo PAPR Unit:
 - a) Remove the filters/cartridges.
 - b) Examine the blower for cracks. Replace if cracked or damaged.
 - c) Examine the inside of the blower intake manifold (note the red and white wires). The presence of dust or other particulate matter inside the manifold or on the wires may indicate a damaged filter, improper seating of the filter/cartridge or incorrect filter/cartridge selection.
 - d) Examine the outside of the battery pack for cracks. Replace if damaged.
4. Breathing Tube:
 - a) Carefully examine the entire breathing tube. Look for tears, holes, or cracks.
 - b) Bend the tube to verify that it is flexible.
5. Airflow Check:
 - a) With the breathing tube assembly disconnected from the Turbo PAPR blower unit and the system running, insert the base of the flow meter into the Turbo unit outlet. Be sure that the turbo blower unit and flow meter are resting in a vertical position. The Turbo unit may need to be propped up so that the lower cartridge opening is not blocked.
 - b) Check that the center of the float rests at or above the appropriate mark. The Turbo must maintain at least 6 cfm. If the flow rate is below 6 cfm, replace filter/cartridges and check flow rate again.
 - c) Reattach the breathing tube assembly to the Turbo blower unit.

