# Technical Data Bulletin

OH&ESD

## #198 Inspection, Cleaning and Storage Procedures for 3M™ TR-300 PAPR Assemblies

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*Replaces all previously published Bulletins until superseded.*

### Introduction

The 3M™ Versaflo™ TR-300 Powered Air Purifying Respirator (PAPR) assemblies are designed to be used with certain 3M breathing tubes and headgear to form a complete respirator system. Occupational use of respirators must be in compliance with applicable health and safety standards. By United States regulation employers must establish a written respirator protection program meeting the requirements of the Occupational Safety and Health Administration (OSHA) Respiratory Protection standard 29 CFR 1910.134 and any applicable OSHA substance specific standard. OSHA 1910.134 states that employers shall ensure that respirators are inspected, cleaned, and properly stored.

This Technical Data Bulletin will review the 3M recommended cleaning procedures as well as inspection and storage guidelines for the 3M™ TR-300 PAPR assemblies. Refer to the TR-300 PAPR *User Instructions* as well as the *User Instructions* for your specific headgear for proper assembly, use and limitations of your specific respirator system.

### Inspection

The 3M™ TR-300 PAPR must be inspected before each use to ensure good operating condition. Detach the battery pack, breathing tube, headgear, filter cover, filter, and prefilter or spark arrestor/prefilter (if used) from the motor/blower. If any damage, non-functionality, or signal observations as noted below are discovered during the inspection, remove PAPR system from use and service or replace as appropriate.

Motor/blower

Note: Except for removing the filter cover, high efficiency filter, and prefilter or prefilter/spark arrestor the main housing of the motor/blower cannot be opened and has no user serviceable parts.

- The filter cover must be intact with no cracks or other damage. The cover window should be in place and free of dirt, debris, or other contamination that may make it difficult to see the filter label through the window.
- The main housing or case of the motor/blower unit must be intact with no cracks, holes, or other damage. The plastic should not be discolored, chalky, or soft as these may be signs of deterioration of the housing.
- The area of the motor/blower unit under the filter should be clean and free of contaminants. Contamination noted here may indicate improper/lack of filter installation or damage to the filter or filter gasket.
- The user interface (motor blower display) should be clean. All 3 LEDs should be lit and clearly visible during initial start-up of the motor/blower. Excessive build-up of materials on the display may mask a visual alarm from the wearer. The ON/OFF switch should be intact with no cuts, tears or holes.

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- The filter release button should function smoothly and hold the cover securely onto the motor/blower.
- The outlet of the motor/blower (i.e. where the breathing tube attaches) should be inspected for any damage, dirt, debris, or other contamination which may interfere with proper attachment of the breathing tube.
- The belt loops on the back of the motor/blower should be intact and undamaged.

Filters and Filter Accessories

- The high efficiency (HE) filter should be intact with no cracks, tears or other damage noted. If the filter is wet or appears heavily loaded with particulate, it should be replaced. Never attempt to clean the filter by any means as intentional manipulation can easily damage the filter media
- The gasket on HE filter should be firmly attached, clean and intact. There should not be any indentations, tears, rips, or debris. Replace the filter immediately if any damage is noted.
- The prefilter (if used) should be intact with no tears or cuts. If the filter is wet or appears heavily loaded with particulate, it should be replaced. Use of the prefilter and frequent change out may help prolong the life of the HE filter and help maximize battery pack run time.
- The metal spark arrestor/prefilter (if used) should be clean and intact with no damage. Frequent cleaning or change out of the spark arrestor may help prolong the life of the HE filter and help maximize battery pack run time. The spark arrestor must be used during hot work, molten metal or spark creating operations.

Note: The foam prefilter and the metal spark arrestor/prefilter should not be used simultaneously. Review the TR-300 PAPR NIOSH approval label to determine which component is approved for use with your specific system configuration.

Battery Pack

- Inspect the battery pack for cracks, holes or other damage. The plastic case should not be discolored, chalky, or soft. These may be signs of deterioration of the battery housing.
- Battery pack electrical contacts should be clean and dry with no corrosion.
- Battery pack hinge should be intact with no damage or erosion.
- Battery pack release button should move freely and function properly.
- Attach the battery pack to the motor/blower and gently tug on the battery pack to confirm it properly attaches, and the battery pack is being held firmly in place.
- When pushing the “Test” button on a fully charged battery pack, all five LEDs should light up. Less than five may indicate the battery pack is losing capacity and may need to be replaced.

**Cleaning**

The TR-300 should be cleaned regularly. Follow the hygiene practices established for your worksite for the specific contaminants to which the respirator assembly has been exposed.

Motor/blower unit and battery pack

The outer surfaces of the TR-300 motor/blower assembly and battery pack may be wiped with a soft cloth dampened in a solution of water and mild, pH neutral detergent.

- Do not use organic solvents, or abrasive cleaners as they may weaken and damage the plastic. Do not allow liquid to enter the air

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outlet port or the motor housing area.

- Do not use compressed air or a vacuum to clean the interior of the motor/blower. This can damage the motor/blower.
- Use caution if cleaning around the battery pack connector pins where the battery seats on the bottom of the motor/blower unit. Ensure this area and the pins are thoroughly dry before next use or storage.

The motor/blower and battery pack cannot be submerged for cleaning, and cannot be put in a respirator washer. The TR-300 PAPR when assembled as a system with headgear and a breathing tube can be worn through a decontamination shower with a spray angle of up to 60 degrees from vertical.

The TR-300 PAPR has an International Protection or Ingress Protection (IP) rating of IP53 (EN 60529: 1992). The IP53 rating indicates the unit is protected against infiltration of dusts and also water falling as a spray from overhead at an angle no more than 60 degrees on either side of vertical (i.e. up to 120 degrees total spread) that would interfere with normal operation.

When going through a decontamination shower, the TR-300 PAPR must be in the vertical (upright) position as worn around the waist. 3M does not recommend a TR-300 PAPR mounted on the BPK-01 backpack be worn through a decontamination shower. It is preferred the unit remain running during the decontamination shower, however, it can be turned off if required. The motor/blower unit without a breathing tube attached cannot be taken through a decontamination shower as water may enter the motor/blower unit through the air outlet. If the user removes their headgear, ensure the breathing tube remains attached and allowed to dangle towards the floor to ensure water does not enter the breathing tube or the motor/blower unit. After going through the shower ensure all outer surfaces are wiped off before dissembling the system. All system components should be thoroughly dry before storage or next use.

Filters and Filter Accessories

The HE filter and foam prefilter (if used) cannot be cleaned. Attempts to clean the filters may damage them and in the case of the HE filter allow particulates to enter the respirator and the user's breathing zone. Damaged filters or filters beyond their service life should be replaced.

The metal spark arrestor/prefilter may be cleaned with a mild, pH neutral cleaner. Dry thoroughly before next use or storage. If the spark arrestor/prefilter cannot be cleaned, it should be replaced.

**Storage**

Motor/Blower

Store in a clean, contaminant free environment, protected from prolonged exposure to heat, sunlight, radiation and chemicals.

For prolonged storage, the motor/blower should be run at least once per year for 5 minutes to ensure continued proper lubrication of the motor. Note: Respirators used for emergency purposes must be inspected monthly per OSHA 29CFR1910.134. This should include running the motor/blower.

Filters and Filter Accessories

HE filter, prefilter, and spark arrestor/prefilter should be stored at temperatures and conditions similar to the motor/blower.

Store the filter and spark arrestors in the original 3M packaging until ready for installation in the motor/blower. HE filters should not be stored long-term on the motor/blower as this may damage the filter gasket. HE filters have a shelf life of 5 years when stored in their original packaging.

Battery pack

Refer to the TR-300 Chargers and Battery Packs *User Instructions* and Technical Data Bulletin 178 *Maintenance*

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*and Care of 3M PAPR Batteries* for additional information. Do not use, charge, or store battery packs where temperatures may exceed 122º F (50º C). Battery packs can be stored on the charger between uses. For storage greater than 30 days, the battery pack should be stored off charger with approximately 40% charge (as shown by the battery pack fuel gauge). Recharge before next use. For infrequently used battery packs, to maximize pack life, store battery pack off charger at 40% charge. Approximately every 6 months, fully charge the battery packs and run down to approximately 40% charge before returning to storage.