

GUIDANCE FOR CLEANING AND DISINFECTING PA700 PAPR



Honeywell North® PA700 Series Powered Air Purifying Respirator (PAPR) Assemblies

This document is intended to provide supplemental guidance concerning the cleaning and disinfecting of the Honeywell North® Primair™ 700 Series Powered Air-Purifying Respirators (PAPRs). It should be consulted in conjunction with the Operating and Maintenance Instruction Manuals included with the PAPR, head cover/hood, and/or any PAPR components or accessories used as part of the complete respirator assembly, as well as the directions associated with the disinfectant you select.

Powered Air-Purifying Respirators (PAPRs) can be used as part of a respiratory protection program during healthcare procedures in which healthcare practitioners are potentially exposed to or at greater risk of exposure to aerosolized pathogens.

First refer to the product Operating and Maintenance Instruction Manuals.

Additional guidance healthcare facilities may find useful is below:

CDC [2019]. Guidelines for Disinfection and Sterilization in Healthcare Facilities, 2008. Available from: <https://www.cdc.gov/infectioncontrol/pdf/guidelines/disinfection-guidelines-H.pdf> pdf icon

CDC [2020]. Considerations for Optimizing the Supply of Powered Air-Purifying Respirators (PAPRs) For Healthcare Practitioners (HCP). Available from: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/powerd-air-purifying-respirators-strategy.html>

EPA [2020]. List N: disinfectants for use against SARS-CoV-2. Available from: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

Honeywell has not tested the efficacy of disinfectants identified by EPA or CDC. You should refer to disinfectant manufacturers' and government guidelines regarding use of those products. With respect to PA700 component degradation, the following cleaning solutions and disinfectants have been tested internally by Honeywell and do not result in eminent component degradation of the PAPR blower. Alternate cleaning and disinfectant methods outside of this guidance have not been tested with the Honeywell North PA700 PAPR and may cause immediate or longer-term product and component degradation over time.

If you notice any wear and/or damage, replace the damaged component. If you are unable to replace the damaged component(s), do not use the respirator and remove it from service.

WARNING: Honeywell has tested the following disinfectants only for purposes of degradation testing and not for efficacy or performance as a disinfectant.

Recommended Agents:

- 70% Isopropyl Alcohol (IPA 70% / 30%) as per brand manufacturer's instructions
- Ethanol
- Hydrogen Peroxide

If a N listed product from the EPA website is needed, select a brand manufacturer product from the EPA listed guidelines comprised only of ingredients listed above.

Warning:

Always reference the latest information from trusted sources such as the World Health Organization (WHO), the US Centers for Disease Control and Prevention (US CDC), the US Occupational Safety and Health Administration (OSHA) and the European Centres for Disease Prevention and Control (ECDC) regarding selection, use, maintenance and cleaning of personal protective equipment.

Always read and follow the user instructions and/or EPA label for your selected disinfectant. Honeywell strongly recommends performing a water rinse and wipe down after disinfection to thoroughly remove disinfection solution and thorough drying.

Customers must make sure that their PPE cleaning and disinfectant procedures do not lead to exposures to chemicals at levels capable of causing adverse health effects.

It is the responsibility of you and your facility to thoroughly review all applicable information prior to selecting a disinfecting product for your respiratory equipment and specific application. Always follow your employer's established hygiene and infection control practices maintained for the targeted organisms. The evaluation of disinfectant agents' effectiveness in inactivating viruses has been performed by the CDC or disinfectant manufacturers and has not been performed by Honeywell.

Cleaning and Disinfecting the Honeywell PA700 Series Powered Air Purifying Respirator (PAPR) Assemblies:

The PA700 Series Powered Air Purifying Respirator and associated Primair Headtop / Hood assemblies should only be used and maintained by individuals who have completely read and understood the associated Operating and Maintenance Instruction Manuals included with the PAPR and the head cover used as part of the complete respirator assembly. The following information is considered supplemental and is not a replacement for the Operating and Maintenance Instruction Manuals.

As with any use of cleaning / disinfecting product, you should always follow the guidance of the product User Instructions and / or government labeling for usage, application protocol, and duration and you should wear appropriate PPE during the cleaning and disinfecting process.

Disassembly and Inspection

- 1) Refer to your specific Honeywell PAPR respirator and Headpiece / Hood Operating and Maintenance Instruction Manuals and visually inspect the system to make certain that all components are present and in good condition, following the manuals' recommended inspection procedures.
- 2) Remove the filter from the blower assembly by rotating it counterclockwise until it is free.
 - a. If the filter has reached its end of service life, discard according to local and EPA regulations and in accordance with your facility's infection control policy.
 - b. If the filter has remaining service life, wipe down the outside of the filter with a disinfectant or alcohol wipe, being careful not to get the filter media inside wet. Depending on your facility's written program, either place filter in a resealable container and set it aside until you are ready to use again or attach the filter to a clean PAPR for storage.
NOTE: Please consult your facility's infection control policy for proper storage procedure
- 3) Remove the battery and release the blower assembly from the harness.
- 4) If installed, remove the comfort pad from the harness.
- 5) Disconnect the breathing tube by rotating the blower-side connector counterclockwise approximately 90 degrees until it releases from the blower assembly. If present, dispose of the PA116 breathing tube cover.

Cleaning and Disinfecting

General respirator cleaning and/or disinfecting guidance is as below:

- 1) Breathing Tube
 - a. Clean the outside of the breathing tube by using a mild cleaning solution (e.g., dishwashing liquid soap) or solution P/N 80955-H5, Shockwave[®] cleaner and disinfectant, or previously stated Recommended Agents as per the cleaning solution product manufacturer instructions, and a lint-free cloth or sponge.
 - b. Rinse the outside of the breathing tube in clean water. Take care to avoid getting any water or particulates inside the breathing tube. If liquid should get inside the breathing tube, make sure it is thoroughly cleaned and dried before using it with the PAPR.
- 2) Harness and Comfort Pad
 - a. Clean the harness and comfort pad by using a mild cleaning solution (e.g., dishwashing liquid soap) or solution P/N 80995-H5, Shockwave cleaner and disinfectant, or previously stated Recommended Agents as per the cleaning solution product manufacturer instructions, and a lint-free cloth or sponge.

- 3) Blower Assembly
 - a. Clean the blower assembly by using a mild cleaning solution (e.g., dishwashing liquid soap) or solution P/N 80995-H5, Shockwave cleaner and disinfectant, or previously stated Recommended Agents as per the cleaning solution product manufacturer instructions, and a lint-free cloth or sponge.
 - b. Take care not to get cleaning solution or water near the air-inlet or battery connector terminals.
- 4) Battery
 - a. Clean the battery by using a mild cleaning solution (e.g., dishwashing liquid soap) or solution P/N 80995-H5, Shockwave cleaner and disinfectant, or previously stated Recommended Agents as per the cleaning solution product manufacturer instructions, and a lint-free cloth or sponge.
 - b. Take care not to get cleaning solutions or water on the battery connector contacts or the gasket.
- 5) Dry all components and the exterior of the breathing tube with a clean, lint-free cloth and/or leave to air dry in a clean environment free of dust and particles. Make sure components are completely dry before putting the PAPR respirator back into service.

Caution:

Do not use bleach or any compound containing chlorine on the belt assembly. Chlorine products will deteriorate the fabric / material, reducing the life of the component.

Caution:

When cleaning the battery pack, never submerge it in water or other liquid. Use only non-conductive cleaning tools and materials and avoid the battery connector contacts.

Caution:

If you inadvertently submerge the breathing tube, connect it to your blower and battery assembly and turn the unit on to blow uncontaminated air through it for several minutes until any trace amounts of water are removed. Storing or using the breathing tube with water inside may damage the components and may also result in the growth of fungus.

Cleaning/Disinfection and Reuse of Honeywell North Primair PAPR Headcovers/Hoods

Prior to reuse of the PAPR headcover or hood, all components should be cleaned using the following steps.

Remove the Primair or Primair Plus head cover from the headgear. Clean the headgear using a mild cleaning solution, ex. DAWN® 5ml / DI WATER 500ml, and a cloth or sponge. Rinse with clean water then air dry in a clean area.

If a N listed product from the EPA website is needed for disinfection, select a brand manufacturer product from the EPA listed guidelines comprised only of ingredients listed below.

Recommended Agents:

- 70% Isopropyl Alcohol (IPA 70% / 30%) as per brand manufacturer's instructions
- Ethanol
- Hydrogen Peroxide

WARNING: Honeywell has tested the above disinfectants only for purposes of degradation testing and not for efficacy or performance as a disinfectant.

Please note, the disinfection of the interior of the Primair hoods and head coverings is not addressed due to the expectation that these are individually assigned to a single healthcare worker. It is imperative to visually inspect all components for damage and replace the entire headgear if any component is damaged. If you are unable to replace the damaged component(s), do not use this respirator and remove it from service.

Note that alternate cleaning or disinfectant methods outside of this guidance have not been tested with the Honeywell North PA700 PAPR and any disinfectant use may cause immediate or time-scaled product and component degradation over usage and lifespan.

Put the replacement head cover on the headgear (Refer to your Primair Series Head Covers Operating and Maintenance Instruction Manual).

Caution:

Be sure the air duct (manifold) is completely dry inside as well as outside before reusing the respirator or sealing the headgear in a bag for storage. Forcing uncontaminated air through the air duct for a few minutes using the PAPR blower battery assembly can help assure that all moisture has been removed from the inside of the air duct.

Caution:

Do not use liquid solvents when cleaning the headgear. Liquid solvents may chemically weaken the plastic. Consult the product's Safety Data Sheet (SDS) if you have any questions as to whether the solution you intend to use contains solvents.

Post-Cleaning / Post-Drying

- 1) Reassemble the Honeywell PAPR respirator and Headpiece / Hood following the guidance in the Operating and Maintenance Instruction Manuals.
- 2) Following the same manuals' guidance, inspect the complete Honeywell PAPR respirator and Headpiece / Hood assemblies.

Inspection Checklist:

- 1) Always inspect all components of the complete PAPR respirator assembly
- 2) Inspect the harness, comfort pad, and buckles for any wear, damage, or frayed materials
- 3) Inspect the breathing tube for any wear including cracking or crazing

- 4) Inspect the headgear for wear or damage, particularly at the connection to the breathing tube
- 5) Inspect the head cover or hood for wear or damage
 - a. Check for tears or holes
 - b. Check that the snaps are attached to the headgear, and that any additional cover is properly secured

Warning:

The service life of headcovers/hoods will vary with user frequency and conditions of use. If you notice any wear and/or damage, replace the damaged component if possible. If you are unable to replace the damaged component(s), do not use the PAPR respirator. Remove the PAPR respirator from service and tag it for repairs and replace with a new respirator. Failure to follow this guidance may result in illness, injury, or death.

Warning: Before use of any information detailed here, it is the responsibility of the facility and user to evaluate it and determine if it is suitable for your intended use. You assume all risks and liability associated with such use. Honeywell makes no warranties relating to the efficacy of any of the procedures detailed herein in preventing the spread and/or contraction of Coronavirus or other pathogens. Honeywell will not be liable for any loss or damage arising from any information contained herein, whether direct, indirect, special, incidental or consequential, regardless of the legal or equitable theory asserted, including warranty, contract, negligence or strict liability.

Technical information provided by Honeywell is based on test data and/or experience believed to be reliable, but the results may not be relevant to every user's application. Honeywell does not accept any responsibility or liability, direct or consequential, arising from reliance upon any information provided. The user should determine the suitability of any disinfectant product for compatibility for use with Honeywell products.

GUIDANCE ON WHEN TO CHANGE OUT YOUR PA700 PAPR PARTICULATE FILTERS



Honeywell PA700 Series Powered Air Purifying Respirator (PAPR) Assemblies

A Powered Air Purifying Respirator (PAPR) particulate filter change out schedule is traditionally determined by two primary factors: (1) filter load (when a particulate filter becomes clogged from capture of particulates) and (2) the facility's own infection control policy.

The useful service life of filters will depend on many factors, such as the type and concentration of the contaminants, flow rate, and environmental factors such as temperature and humidity. When using high efficiency particulate air (HEPA) filters, the filters need to be replaced when the "LOW FLOW" alarm is activated, or the filter is damaged – always refer to your Operating and Maintenance Instruction Manuals for the PA700 for further instruction.

In a healthcare environment, where the PA700 PAPR is being utilized for exposure reduction in environments with potential biological aerosols that may contain bacterial or viral contaminants, the high efficiency particulate air (HEPA) filters may not reach a load that would activate the onboard "LOW FLOW" alarm.

Therefore, the PA700 PAPR particulate filter change out schedule for use in environments with airborne biological aerosols is primarily determined by the healthcare facility's own infection control policy, which should be developed and written built on the applicable local, state, and national guidelines.

For additional guidance healthcare facilities may reference sources such as the following:

CDC [2020]. Infection Control <https://www.cdc.gov/infectioncontrol/index.html>

Follow your Honeywell PAPR PA700 User Instructions for cleaning / disinfecting of the PAPR.

Warning:

Do not attempt to clean the filter media inside the filter body cartridge. Follow your infection control policy and guidance for appropriate practices based on the biological aerosols and/or contaminants to which the PAPR and filter /cartridge may have potentially been exposed.

When the filter has reached the end of its service life, and/or at deemed time for disposal under your facility's infection control procedure, discard the filter in accordance with all local and EPA regulations and your facility's infection control policy.

Please refer to your Honeywell North PAPR Operating and Maintenance Instruction Manual:

- Honeywell North Primair PA700 Series Powered Air Purifying Respirator Operating and Maintenance Instruction Manual
- Honeywell North Primair Series Head Covers Operating and Maintenance Instruction Manual

Warning:

Before use of any information detailed here, it is the responsibility of the facility and user to evaluate it and determine if it is suitable for your intended use. You assume all risks and liability associated with such use. Honeywell makes no warranties relating to the efficacy of any of the procedures detailed herein in preventing the spread and/or contraction of Coronavirus or other pathogens. Honeywell will not be liable for any loss or damage arising from any information contained herein, whether direct, indirect, special, incidental or consequential, regardless of the legal or equitable theory asserted, including warranty, contract, negligence or strict liability.

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