

Powered Air-Purifying Respirator (PAPR) System





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### IMPORTANT:

This manual must be read in full before the product is used, and retained for future reference.

## **Approvals and Certifications**

The EVA Powered Air-Purifying Respirator (PAPR) system, manufactured by Bullard, meets regulation (EU) 2016/425 and is certified to European standard EN12941:1998+A2:2008, Class TH2/TH3 by INSPEC International B.V. Beechavenue 54-62, 1119 PW Schipol-Rijk, The Netherlands.

Bullard is certified to ISO 9001:2015.

RT-Series Hood: TH3
LF-Series Hood: TH2

For the Declaration of Conformity and other applicable documentation visit www.bullard.com/certifications.

#### ▲ LIMITATIONS OF USE AND WARNINGS

- Failure to properly use and maintain this product could result in injury or death.
- Filters / cartridges shall only be fitted to the turbo-blower unit and not directly to the hood
- Your PAPR system is designed for use at temperatures from -5°C to 54°C (23°F to 129°F) with humidity less than 90% RH, except Filter Storage should be between 0°C to 32°C (32°F to 90°F) with humidity less than 90% RH. The unit will shut down if operated outside this temperature range. A high temperature alarm will sound at 50°C (122°F).
- This device does not protect against high powered RFI/EMI emissions which could cause interference with the proper functioning of this unit. Failure to follow these warnings could result in death or serious injury.
- Do not use in oxygen deficient atmospheres and not for use in atmospheres containing less than 19.5% oxygen or atmospheres immediately dangerous to life or death.
- Do not exceed maximum use concentrations established by regulatory standards.
- · Do not use PAPR if low flow alarm has activated.
- The PAPR is not permissible for use in an explosive atmosphere. The PAPR contains electrical parts that may cause an ignition in flammable or explosive atmospheres.
- Follow the manufacturer's user instructions for changing filters / cartridges. Never substitute, modify, add, or omit parts. Use only exact Bullard replacement parts in the configuration as specified by the manufacturer.
- $\bullet\,$  Do not use the PAPR for respiratory protection during abrasive blasting or clean up.
- This PAPR must not be worn with the turbo-blower unit switched off, a rapid build-up of carbon dioxide and depletion of oxygen may occur, which could result in death or serious injury.
- In the power-off state little or no respiratory protection is to be expected and is
  considered an abnormal situation. A warning should also be given that in the power-off
  state a rapid build-up of carbon dioxide and depletion of oxygen within the hood may
  occur.

- The markings on a filter / cartridge only apply to EN 12941: 1998+A2:2008 with the classification of this device when used with these filters.
- Select the appropriate length of Breathing Tube to ensure there is not an excess which could be caught, twisted, kinked, or caught up.
- "High Work Rates" could allow a user to "over-breathe" the Air Flow from the Turbo-blower Unit. If High Work Rates are encountered, a negative pressure could be encountered inside the hood during peak inhalation rates.
- Equipment of this type may have problems where high wind velocities are
  present, work must be postponed as the wind could cause the equipment to
  move resulting in loss of protection.
- Design duration: 4-10 hours run time for further details refer to Technical Specifications
- Manufacturers minimum design flow rate is 180 L/min. for further details refer to Technical Specifications

Leave the hazardous work area immediately if:

- · Breathing becomes difficult
- · Dizziness or other distress occurs
- · You taste or smell the contaminant
- · Unit becomes damaged
- · Battery alarm activates
- · Low Flow alarm activates
- Temperatures exceed 50°C (122°F

#### WARNING

Failure to follow all instructions on the use of this product, and/or failure to use the PAPR during times of exposure, may lead to adverse effects on the wearer's health, including injury or death, and may render the warranty void.

## **System Components**



















## Filter / Cartridges

| <b>Bullard Filter</b> | No. in Box | Color | Type/Class    |            | Application  | Standard |
|-----------------------|------------|-------|---------------|------------|--|----------|
|                       |            |       | 20LFHE Series | RT Series  |  |          |
| PAPRFC3               | 6          |       | TH2P          | TH3P       | Particulates                                       | EN 12941 |
| PAPRFC4               | 6          |       |               | TH3A2P     | Particulates, Organic gases                        | EN 12941 |
| PAPRFC5               | 6          |       |               | TH3B1E1K1P | Panoramic, Inorganic gases,<br>Acid gases, Ammonia | EN 12941 |

Prefilters are available for both filter/cartridge PAPRFC4 and PAPRFC5 and are optional in many situations. Prefilters act by helping to block larger particulates from reaching the main filter, which can help extend the usable life of the filter. The prefilter (PAPRPF2) must be used with the prefilter cover (PAPRPFCOVER2).

Download the Bullard MaxxLife calculator to help measure the service life of your organic cartridge (PAPRFC4) <a href="https://www.bullard.com/maxxlife-calculator">https://www.bullard.com/maxxlife-calculator</a>.



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## **Pre-Operational Inspection**

Before each entry into a contaminated area, the following inspection must be performed to ensure proper function of the respirator system. If damage is found on any component, do not use.

### 1. PAPR System

· Closely inspect the entire EVA Powered Air-Purifying Respirator (PAPR) system including the filter / cartridge, battery, hood and breathing tube. Pay attention to component connection points for wear and damage. If parts are missing or damaged, replace them with only Bullard branded/manufactured replacement parts before proceeding.

### 2. Filter / Cartridge

- · Inspect the filter / cartridge for physical damage.
- · Check the label to ensure the filter / cartridge has not exceeded its "use-by" date.
- · Inspect the gasket on the filter for physical damage.
- Ensure that the correct filter / cartridge is appropriate for the contaminated area.

#### 3. Battery

- · Inspect the battery for any physical damage.
- Check the Fuel Gauge to determine sufficient charge is available.
- The battery must be latched to the turbo-blower. The battery tab will click when completely engaged.

#### 4. Hood

· Inspect the hood for any physical damage.

### 5. Breathing Tube

- · Ensure that a rubber gasket is installed into the air source connection on the turbo-blower unit.
- · Examine the breathing tube for tears, holes, or cracks.
- · The breathing tube should screw securely into the air source connection and the hood.

#### 6. Airflow Check

- · The EVA Powered Air-Purifying Respirator (PAPR) system is precalibrated to ensure required airflow. However, the Airflow Indicator must be used to verify minimum required airflow is attained prior to each day's use. The airflow should be checked with your current filter / cartridge installed.
- See Checking Airflow with Airflow Indicator under Operational Instructions for correct operation of the airflow check.

### 7. Check Low Flow Alarm

· See Checking Low Flow Alarm under Operational Instructions to verify Low Flow Alarm is functioning properly.

## 2 Setup and Getting Started

## Important:

Perform a Pre-Operational Inspection prior to use. See section Pre-Operational Inspection.

## 1. Battery Charging and Installation



### **Battery charging**

- a. Connect the battery charger to a 220-230V electrical outlet (110-120V if applicable).
- b. Place the battery upside down into the charging port of the battery charger.
- c. Charge the battery for approximately four (4) hours. While the battery is charging, the light on the charger will remain red. The charger light will illuminate green when charging is complete.



## **Battery Installation**

a. Insert the battery into the battery compartment on the turbo-blower unit. The battery tab will click when completely engaged.



b. To remove the battery from the turbo-blower unit, press the battery release tab on the battery and pull the battery up and out.



## Powered Air-Purifying Respirator (PAPR) System

## 2. Belt and Backpack Assembly





a. With the turbo-blower unit filter side down, orient the lever locks as shown.



b. Lay the belt over the turboblower lever locks as shown.



c. Rotate the lever locks until they are oriented, as shown. Repeat steps in reverse order to remove the turbo-blower unit from the belt.





d. The EBH Backpack (optional accessory) requires the use of the belt. See EBH Backpack User Manual for assembly instructions.

## 3. Filter / Cartridge Installation





a. Remove the filter / cartridge from its packaging and inspect for damage to the gasket and filtering media.



b. Position the filter / cartridge into the filter receptacle with the Bullard logo in the upright position. Rotate the filter 1/8th of a turn clockwise until the filter lock tab is secure.

## 4. Connecting the breathing tube



- a. Ensure the rubber gasket is in place in the air source connection on the turboblower unit.
- b. Screw the black end of the breathing tube into the turbo-blower unit by turning clockwise.



- c. Ensure that neither the breathing tube nor the hood connection is blocked.
- d. Screw the blue end of the breathing tube into the blue hood connector on the back of the hood by turning clockwise.



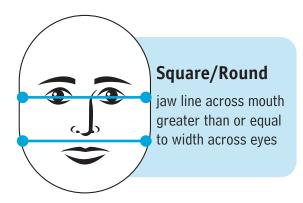
## **Guidance for Selecting LF-Series Hood**

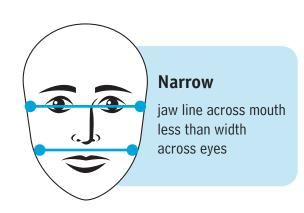
The LF-Series hood is available in two (2) widths and three (3) sizes in each width to accommodate various face and head sizes for maximum comfort and protection.

The 20LFHE hoods have a built-in PTFE-based HEPA panel along the jaw of the hood. It is intended to block large-particle droplets, splashes, sprays, or splatter from entering the hood.

The comfort-fit, designated by 20LFHE, has a wider profile while the contour-fit, designated by 20LF2HE, has a narrower profile.

If using the LF-Series hood, select the size that fits most comfortably and where the entire elasticized edge of the faceseal contacts your face. For additional guidance, refer to the LF-Series Sizing Chart (below) to further match your face shape and head size. If your proper fit falls between two (2) sizes, default to the smaller size to ensure a snug fit.





|          | Step 1: Face Shape | Step 2: Head Diameter                         |  |
|----------|--------------------|---|--|
|          |                    | Option 1:<br>hat size US size (EU size)       | Option 2: measure circumference at forehead (cm) |
| 20LFMHE  | square/round       | 7 1 <sub>4</sub> - 7 3 <sub>4</sub> (58 – 62) | 57 – 62  |
| 20LFLHE  | square/round       | 7 3/8 - 8 (59 – 64)                           | 58 – 65  |
| 20LFXLHE | square/round       | 7 3 <sub>4</sub> - 8 (62 - 64)                | 61 – 69  |
| 20LF2SHE | narrow             | 6 5/8 - 7 3/8 (53 – 59)                       | < 55 – 59  |
| 20LF2MHE | narrow             | 6 7/8 - 7 5/8 (55 – 61)                       | 55 – 61  |
| 20LF2LHE | narrow             | 7 12 - 8 (60 – 64)                            | 59 – 66  |

## Guidance for Selecting the Appropriate Breathing Tube Length

| EVA Belt       |                              | Height of Wearer             |                               |
|----------------|------------------------------|------------------------------|-------------------------------|
| Hood<br>Series | ≤ 165 cm (65 in)             | 167 - 180 cm<br>(66 - 71 in) | ≥ 182 cm (72 in)              |
| LF-Series      | 26" or 32"<br>Breathing Tube | 26" or 32"<br>Breathing Tube | 32" or 38"<br>Breathing Tube* |
| RT Series      | 22" Breathing Tube           | 26" Breathing Tube           | 26" OR 32" Breathing<br>Tube* |

| EVA EBH<br>Backpack |                    | Height of Wearer             |                               |
|---------------------|--------------------|------------------------------|-------------------------------|
| Hood<br>Series      | ≤ 165 cm (65 in)   | 167 - 180 cm<br>(66 - 71 in) | ≥ 182 cm (72 in)              |
| LF-Series           | 26" or 32"         | 26" or 32"                   | 32" or 38"                    |
| RT Series           | 22" Breathing Tube | 26" Breathing Tube           | 26" OR 32" Breathing<br>Tube* |

<sup>\*</sup> Size is dependent on comfort and amount of slack desired. It is recommended to have approximately 8 to 10 cm (3 to 4 in) of slack in the breathing tube to allow for maximum mobility.



## **3** Donning and Doffing

Prepare to don the turbo-blower, battery, and hood in a safe, hazard-free area. Prior to entering a contaminated area, complete the Pre-Operational Inspection as outlined in section Pre-Operational Inspection.

### **Donning Procedures**

- 1. Connect the breathing tube to the hood.
- Ensure the filter / cartridge used is suitable for the contaminant(s) in question and are compatible with the EVA Powered Air-Purifying Respirator (PAPR) system.
- 3. Check that the filter / cartridge is properly installed on the turbo-blower unit
- 4. Put on the belt or backpack and turbo-blower assembly, keeping the breathing tube and hood behind the head. See EBH Backpack (optional accessory) User Manual for donning and doffing instructions.
- 5. Turn the turbo-blower unit ON (see Section 4 Operating Instructions within this manual).

- Don the hood according to the type of hood selected. See LF-Series Hood Donning Procedures or RT-Series Hood Donning Procedures
- 7. Make any final adjustments to the fit as required to ensure a comfortable and stable fit.

## **Doffing Procedures**

- Prepare to doff the turbo-blower, battery, and hood in a safe, hazard-free area. It is recommended to follow your employer's standard operating procedure.
- 2. Remove the hood.
- 3. Turn the turbo-blower unit OFF (see Section 4 Operating Instructions within this manual).
- 4. Remove the belt or backpack and turbo-blower assembly.
- 5. Unscrew the breathing tube from the hood and turbo-blower unit.
- 6. Clean and inspect components, as necessary.

## **LF-Series Hood Donning Procedures**

- 1. Refer to LF-Series Hood Sizing Chart for guidance in selecting an appropriate size hood.
- Don the hood by first placing your chin into hood, pulling from front to back, until the headband is around your head and the sides of the hood are just above your ears.
- 3. Make final adjustments to the headband around your head and the elasticized edge of the face seal under your chin.
- 4. Ensure the elasticized edge of the face seal should fit snugly around the bottom half of your face and chin for a proper fit.
- Hood should be secure around the circumference of the head and under the chin when attached to the breathing tube.
- If you are unable to achieve an acceptable fit, select an alternative hood type/size, belt, or backpack combination.











## **RT-Series Hood Donning Procedures**

- 1. Locate and connect the unattached end of the nylon strap with Velcro to the opposite side of the hood. This provides the overall shape of the hood and lens.
- 2. Pull the hood over your head so the lens is directly in front of your face.
- 3. Tuck inner bib of hood into shirt or protective clothing.
- 4. Pull outer bib over collar of shirt or protective clothing.
- 5. Ensure the neck cuff is below the chin and in a comfortable position.
- 6. Bring Velcro straps located on rear outer bib on either side of the bib, to the front of your body and attach to front outer bib.















## LF-Series / RT-Series Useability Guidance

- Special consideration should be taken for users with long hair in a ponytail-style to ensure the hood remains secure on the head. Ponytails should be worn low at the nape of the neck (below the occipital lobe) and the knot tucked into the rear of the LF-Series hood as required to ensure a comfortable and stable fit.
- · User's build should be taken into consideration if the worker is required to perform duties that require them to crawl or to be in smaller-than-normal spaces. Verify that the equipment does not interfere with the working environment. Select the appropriate belt or backpack for the application. If the belt or backpack need to be worn in alternate positions, verify the breathing tube is the correct length (an alternate breathing tube length and belt or backpack combination may be required).

## **Operating Instructions**

The EVA Powered Air-Purifying Respirator (PAPR) system has three (3) operating settings: ON/HIGH-SPEED, LOW-SPEED, OFF

## **Operating Settings**

### 1. ON/HIGH-SPEED

Press and hold the button for two (2) seconds, confirmed by a short beep, to turn the turbo-blower ON. The turboblower unit automatically turns ON at the high-speed setting.



The turbo-blower unit is designed to operate at a maximum airflow of approximately 230 L/min (8.1 CFM) under normal use on the HIGH-SPEED setting.

#### 2. LOW-SPEED

Press and hold the button for two (2) seconds, confirmed by a short beep, to turn the turbo-blower speed from HIGH-SPEED to LOW-SPEED. Pressing the button additional times will toggle the unit between the two

The turbo-blower unit is designed to operate at a minimum airflow of approximately 208 L/min (7.3 CFM) under normal use on the LOW-SPEED setting.

### 3. OFF

Press and hold the button for four (4) seconds, confirmed by a short beep, to turn the turbo-blower unit OFF.

## Onboard Fuel Gauge



The EVA Powered Air-Purifying Respirator (PAPR) system is equipped with an onboard fuel gauge to indicate the amount of remaining capacity left in the battery. To check the battery capacity, press the button labeled PUSH. LEDs will illuminate indicating the level of battery capacity. When fully charged, all four (4) LEDs will illuminate green. When 25% or less charged, a single LED will illuminate green.



One fully charged battery will power the turbo-blower for approximately four (4) to ten (10) hours depending on factors such as speed, filter / cartridge selected, and cartridge loading.



## Airflow Test with Airflow Indicator

With the turbo-blower unit turned ON, breathing tube connected to turbo-blower unit, and the filter / cartridge installed, place the upright- positioned Airflow Indicator onto the free end of the breathing tube.

If the Airflow Indicator "Bottom of the Ball" fails to rise completely above the Top EVA "Pass Line" on the Airflow Indicator Tube, then the turbo-blower unit could be malfunctioning, have a clogged or damaged filter / cartridge, low battery, or battery malfunction.

Do not use a turbo-blower unit that fails the airflow test. Failure to observe this warning could result in death or serious injury.

Ensure the air outlet holes in the Airflow Indicator are not blocked by your hand, or other obstructions during the Airflow Test. Any hole blockage will give bad air flow results.

Confirm the ball, within the Airflow Indicator, moves freely in the tube and rests at the bottom of the tube when turned upright before testing begins.

Airflow indicator must be in an upright, vertical position for an accurate measurement during the entire testing.



### Low Flow Alarm

It is important to follow these steps to test the turbo-blower unit Low Flow Alarm prior to operation.

 Install battery, filter / cartridge, and breathing tube on turbo-blower unit according to section Setup and

Getting Started.

- Press and hold the button for twoseconds, confirmed by a short beep, to turn the turbo-blower ON.
- 3. Cover the outlet end of the breathing tube with your hand to completely cut off airflow.
- 4. With the breathing tube blocked, the turbo-blower unit will increase in speed for approximately 15 seconds until it sounds the Low Flow Alarm. Refer to section Understanding Alarms.



## Cleaning, Storage, and Disposal

The EVA Powered Air-Purifying Respirator (PAPR) system should be cleaned and inspected after each use and prior to storage. Detach the battery, breathing tube, and hood from the turbo-blower unit. Inspect all parts for damage or other signs of excessive wear. Replace all damaged parts prior to storage or next use.

#### **A** WARNING

Any products recommended for cleaning, maintenance, or disinfection do not adversely affect the PAPR equipment unless otherwise noted.

Use only approved cleaning agents to clean, maintain or disinfect the PAPR. Use of other products may damage the unit and affect its performance.

### Cleaning/Disinfection

- The exterior of the filter / cartridge can be gently wiped down with a dry or damp cloth. Ensure water does not enter filter / cartridge. Replace wet filter / cartridges.
- Do not use gasoline, organic-based solvents, or chlorinated degreasing fluids

The following chemicals have been tested and approved as cleaning agents for the turbo-blower unit, belt, and battery.

- · Process NPD (1.256) from Steris
- · Spor Klenz (undiluted) from Steris
- Clorox liquid bleach at 10% concentration
- · Sani-cloth HB wipes
- 100% Methanol
- 70% IPA
- Mechanical laundering of hoods is not recommended. Hand-sponge with warm water and mild detergent if reusing.
- Ensure all equipment is clean and dry prior to storage and next use.
- Do not immerse the equipment in water or clean in an industrial/ respiratory dishwasher, unless using Bullard Decontamination Kit. See Bullard Decontamination Kit instructions for more detail.

|  | Mild<br>Detergent | Approved<br>Cleaning<br>Agents | Water<br>Immersion | Respirator<br>Washer |
|--|-------------------|--------------------------------|--------------------|----------------------|
| Battery  | Yes               | Yes                            |                    |                      |
| Belts /<br>Backpacks   | Yes               | Yes                            | Yes                | Yes                  |
| <b>Breathing Tube</b>  | Yes               |                                | Yes                | Yes                  |
| Turbo-blower<br>Unit   | Yes               | Yes                            | Yes*               | Yes*                 |
| Hood   | Yes               |                                |                    |                      |
| Filter / Cartridge   | Yes               |                                |                    |                      |
| and the same of th |                   |                                |                    |                      |

\* Use Bullard Decontamination and Storage Kit

#### **Decontamination Shower**

If wearing the EVA Powered Air-Purifying Respirator (PAPR) system into a decontamination shower, filters should be left installed with a decon shower cap covering it and the turbo-blower unit kept running. User PAPRSC2 decon shower cap for filter/cartridge PAPRFC3 and PAPRSC3 decon shower cap for filter/cartridge PAPRFC4 and PAPRFC5.



### Storage

Store the PAPR and its components where they will be protected from contamination, distortion, and damage from elements such as dust, direct sunlight, heat, extreme cold, excessive moisture, and harmful chemicals. Temperature should be between -5°C to 54°C (23°F to 129°F) with humidity less than 90% RH, except Filter Storage should be between 0°C to 32°C (32°F to 90°F) with humidity less than 90% RH. It is recommended to store and transport the PAPR using the Bullard duffle bag to prevent contamination. Ensure the PAPR is clean and dry prior to storage.

Humidity and ambient air contaminants may diffuse into chemical cartridges; once they are removed from their original packaging. This may reduce service life. Storing chemical cartridges in a clean airtight container or bag, attached to, or removed, from the turbo-blower unit, may help extend service life.

Do not hang turbo-blower or hood by its breathing tube and do not hang the turbo-blower unit from the hood.

#### Battery storage and optimization

The EVA Powered Air-Purifying Respirator (PAPR) battery is a durable Lithium Polymer battery designed to deliver consistent power during its life. Each battery provides up to 800 charge/discharge cycles. Normal use of the battery, natural aging of the battery cells and exposure to high heat will gradually decrease the battery's available capacity.

Maximize battery life by following these maintenance and storage guidelines.

- Do not charge battery in an enclosed or unventilated cabinet.
- Discharging and re-charging the battery fully at least once every three (3) months is suggested to maximize its lifecycle.
- · Do not leave a battery on the charger for more than thirty (30) consecutive

days.

- Battery loses less than 0.5% charge per day and can be charged and stored ready for use. For long-term storage, keep battery in a cool area not below -5°C (23°F) with at least 40% charge.
- · Remove the battery from the turbo-blower unit when not in use.
- · Charge the battery before it is completely discharged.
- Always charge the battery at room temperature or cooler. At higher temperatures, the battery may not accept full charge. If battery feels warm, let it cool for 30 minutes before charging.

## NOTE:

The turbo-blower unit is provided with a circuit to protect the battery. It will not allow the battery to be discharged below a safe voltage for the cells, regardless of airflow, without the Alarm sounding. When the battery reaches the voltage cutoff it will automatically cease operation.

## NOTE:

The battery has a built-in circuit protection. In the event of a short circuit, the fuse will trip. The fuse will reset itself within 5-10 seconds allowing the battery to resume normal operation.

#### Disposal

Damaged or worn-out batteries should be disposed of in accordance with local, state, and federal regulations at an approved hazardous waste recycling or disposal facility. Failure to properly dispose of battery may lead to environmental contamination, fire, or explosion.

Used filter / cartridges should be disposed of based on the contaminates collected on it and according to local environmental regulations.

The turbo-blower unit, the battery, and charger contain electronic components, dispose of according to local and government regulations.

## **Troubleshooting**

| Circumstance   | Possible Cause(s)                            | Solution  |
|--|--|---|
| Low Pattory Alarm is counding                          | Low Voltage                                  | Charge the battery  |
| Low Battery Alarm is sounding Turbo-blower malfunction |  | Return turbo-blower for analysis, or repair   |
|  | Clogged/damaged air-purifying filter element | Replace the filter/cartridge  |
|  | Battery Low                                  | Re-charge the battery   |
| Low Flow Alarm is sounding                             | Turbo-blower malfunction                     | Leave hazardous area immediately and check equipment. If the problem persists and no damage is found, return equipment for repair.  Replace breathing tube and/or hood. |
|  | Hood neck cuff is restricting flow           | Adjust neck cuff position   |
|  | Equipment damaged                            | Leave hazardous area immediately and check equipment  |
| Smell or taste contaminant                             | Filter needs to be replaced                  | Replace filter  |
|  | Low airflow                                  | Leave hazardous area immediately and check equipment  If the problem persists and no damage is found, return equipment for repair                                       |
|  | Damaged Battery                              | Return battery for analysis   |
| Turbo-blower unit does not run                         | Malfunctioning Battery Charger               | Return charger for analysis   |
|  | Turbo-blower malfunction                     | Return turbo-blower for analysis  |

## Powered Air-Purifying Respirator (PAPR) System

## **Understanding Alarms**

### Low Battery Alarm

The Low Battery Alarm will sound an intermittent electronic beep indicating that there is approximately fifteen (15) minutes of remaining battery capacity. The delays between beeps will get shorter and shorter as time runs out. The battery indicator LED will turn red.









### Low Flow Alarm

The Low Flow Alarm will sound a continuous electronic beep indicating that the flow to the hood has dropped below the designed specification of 185 L/min (6.5 CFM).



### **Active Flow Technology**

The Active Flow Technology automatically responds to a wearer's need for more or less airflow by continually monitoring and adjusting airflow to keep it constant at the design set point regardless of filter/cartridge type, hood type, filter loading or battery capacity.

### **High Temperature**

The turbo-blower unit is designed to shut down if operating temperatures reach 50°C (122°F) and sound an audible alarm.



## **Technical Specifications**

| Airflow (low / high speed) | 208 / 230 L/min (7.3 CFM / 8.1 CFM)                          |
|----------------------------|--|
| Sound Pressure Level (SPL) | 65 – 67 dBA  |
|                            | (SPL varies by system configuration and filter loading)      |
| Audible Alarms             | Low battery, Low airflow, High temperature                   |
| Low Battery Alarm          | 15 minutes remaining   |
| Low Flow Alarm             | If activated, do not use PAPR                                |
| Operating Temperature      | -5°C to 54°C (23°F to 129°F); < 90% RH                       |
| Storage Conditions         | -5°C to 54°C (23°F to 129°F); < 90% RH                       |
| Filter Storage Conditions  | 0°C to 32°C (32°F to 90°F); < 90% RH                         |
| Turbo-blower unit          | IP53: Immersion with Bullard Decontamination and Storage Kit |
| Battery Charging           | 4 - 10 hours run time**                                      |
|                            | 4 cells, 6300 mAh, 14.8V Nominal                             |
|                            | 4-hour charge for empty battery                              |
| PAPRFC3                    | 10-year shelf life (unopened in original packaging)          |
| PAPRFC4                    | 5-years shelf life (unopened in original packaging)          |
| PAPRFC5                    | 5-years shelf life (unopened in original packaging)          |
| Belt and Backpack          | Chemically resistant closed cell or vinyl/urethane           |
|                            | Adjustable waist sizes 71 cm to 152 cm (28 in to 60 in)      |
|                            | Belt extension available                                     |
| Hoods*                     | 5-years shelf life (unopened in original packaging)          |

<sup>\*</sup>All Bullard hoods are latex-free.

 $<sup>{\</sup>tt **Battery\ run\ times\ depend\ on\ hood\ type,\ filter/cartridge,\ selected\ airflow,\ and\ filter\ loading.}$ 



## **Product Warranty**

E.D. Bullard Company (manufacturer) warrants to the original purchaser that the EVA Powered Air- Purifying Respirator, hoods, battery, and charger will be free of defects in material and workmanship under normal use and service for a period of one (1) year from the date of purchase. E.D. Bullard Company obligation under this warranty is limited to repairing or replacing, at its option, articles that are returned within the warranty period and that are, after examination, shown to E.D. Bullard Company satisfaction to be defective, subject to the following limitations:

This Warranty does not apply to any parts that have been misused, altered, or had repair attempted, or have been subject to abuse, accidental or otherwise.

This Warranty does not apply to expendable consumables, accessories, or fabric components such as but not limited to filters / cartridges, hoods and visors that have been used.

E.D. Bullard Company and all subsidiaries reserve the right to use replacement parts that are refurbished. Replaced or repaired parts, whether or not they have been refurbished or are original equipment, will operate properly and be free from defects in materials and workmanship for a period

of ninety (90) days from the date of shipment to the customer, or for the remainder of the original warranty period, whichever is longer.

All products must be returned to the E.D. Bullard Company factory with shipping charges prepaid (as described below).

In no event shall E.D. Bullard Company be responsible for damages, for loss of use or other indirect, incidental, consequential or special costs, expenses or damages incurred by the purchaser, notwithstanding that Bullard has been advised of the possibility of such damages.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTY IS REQUIRED BY LAW, IT IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD ABOVE. NEITHER BULLARD NOR ITS DISTRIBUTORS SHALL BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY NATURE, INCLUDING WITHOUT LIMITATION, LOST PROFITS, BUSINESS INTERRUPTION, OR ANY OTHER DAMAGE WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE.

Some states and territories do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

THIS LIMITED WARRANTY EXPRESSLY EXCLUDES ROUTINE PRODUCT MAINTENANCE AND SOFTWARE UPDATES. ANY MISUSE, ALTERATION, MODIFICATION, REPAIR, ATTEMPTED REPAIR, IMPROPER MAINTENANCE, NEGLECT, ABUSE OR FAILURE TO FOLLOW THE PRODUCT INSTRUCTIONS, DAMAGE OR ANY OTHER IMPROPER CARE OR HANDLING OF THE PRODUCT VOIDS THIS LIMITED WARRANTY.

The foregoing is the only warranty made by Bullard. No representative, dealer or any other person is authorized to make any warranty, representation, condition or promise on behalf of Bullard with respect to this product. No terms or conditions other than those stated herein or provided by law, and no agreement or understanding, oral or written, in

any way purporting to modify this warranty shall be binding upon Bullard, unless made in writing and signed by an authorized employee of Bullard.

Some states and territories do not allow the exclusion or limitation of incidental or consequential damages or allow limitations on how long an implied warranty lasts, so the above limitations or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary based on your territory.

The E.D. Bullard Company (manufacturer) is defined as the location where authorized returns are to be sent. This location will depend upon the country, territory, or state you indicate on your Return Authorization (RMA) request and is selected to optimize the process.

### **Return Authorization**

Follow the steps outlined below to return goods to Bullard for repair or replacement under warranty or for paid repairs:

- 1. Submit an online RMA request to customerservice@bullard.com
- Once the Customer Service Representative has received your warranty claim, a case will be initiated. To process the case, please have the following information available: Model Number, Serial Number, Describe the concern.
- 3. If the Customer Service Representative determines that the warranty claim is valid, the claim will be processed. You will be provided written permission, an RMA number, and instructions for where to return the product. Shipping costs for warranted products are to be sent to Bullard pre-paid. Bullard cannot accept returned goods on a freight collect basis. Bullard is responsible for shipping costs for repaired or replaced products.
- 4. Prior to returning the product, you must submit a PAPR Service-Certificate of Decontamination form found at www.bullard.com and submit to customerservice@bullard.com.
  Before returning a product, decontaminate and clean it to remove any hazardous materials which may have settled on the product during
- hazardous materials which may have settled on the product during use. Laws and/or regulations prohibit the shipment of hazardous or contaminated materials. Products suspected to be contaminated will be professionally discarded at the customer's expense.
- 5. Returned products will be inspected upon return to the Bullard facility. A Customer Service Representative will call or email you with a quote for required repair work which is not covered by warranty. If the cost of repairs exceeds stated quote by more than 20%, your Customer Service Representative will call you again for authorization to complete repairs. After repairs are completed and the goods have been returned to you, Bullard will invoice you for actual work performed.

## Powered Air-Purifying Respirator (PAPR) System

## **Parts and Accessories**

#### **EVA Turbo-blower Assemblies**

EVA1EU Turbo-blower Unit only

EVA2EU Turbo-blower, Hood Battery, Charger, no filter

EVA2EUDB Turbo-blower, Vinyl Decon Belt, Hood Battery, Charger, no filter

EVA3EU Turbo-blower, Hood Battery, no Charger, no filter

EVA3EUDB Turbo-blower, Vinyl Decon Belt, Hood Battery, no Charger, no filter

EVA4EU Turbo-blower, Hood Battery, no Charger, PAPRFC3

EVA4EUDB Turbo-blower, Vinyl Decon Belt, Hood Battery, Charger, PAPRFC3

Hoods

20LF2LHETEU 20LF LF Hood Tychem 2000 Narrow Large EU Thread HEPA 20LF2MHETEU 20LF LF Hood Tychem 2000 Narrow Medium EU Thread HEPA 20LF LF Hood Tychem 2000 Narrow Small EU Thread HEPA 20LF2SHETEU 20LF LF Hood Tychem 2000 Traditional Large EU Thread HEPA 20LFLHETEU 20LF LF Hood Tychem 2000 Traditional Medium EU Thread HEPA 20LFMHETEU 20LF LF Hood Tychem 2000 Traditional XL EU Thread HEPA 20LFXLHETEU RT3TEU RT Hood Tychem 2000 Double Bib Sport Neck Cuff EU Thread RT4TEU RT Hood Tychem 4000 Double Bib Sport Neck Cuff EU Thread

#### **EVA Filters and Accessories**

PAPRFC3 EVA Filter HEPA EN 12941 P R SL 6 Pack
PAPRFC4 EVA Filter EN 12941 AZP R SL 6 Pack
PAPRFC5 EVA Filter EN 12941 B1E1K1P R SL 6 Pack

PAPRPFCOVER2 PAPR EVA\EVAHL Pre-Filter Cover for PAPRFC4 & PAPRFC5 3 Pack
PAPRPF2 PAPR EVA\EVAHL Pre-Filter for PAPRFC4 & PAPRFC5 120 Pack

#### **EVA Breathing Tubes**

PAHBTSEU EVA Breathing Tube XL Length 22" EU Threads Small
PAHBTMEU EVA Breathing Tube Standard Length 26" EU Threads Medium
PAHBTLEU EVA Breathing Tube XL Length 32" EU Threads Large
PAHBTXLEU EVA Breathing Tube Standard Length 38" EU Threads X-Large

### **EVA Breathing Tube Covers & Lenses**

RTLC RT Mylar Lens Cover Clear 25 Pack
20QCBTC EVA Breathing Tube Cover Tychem 2000

#### **EVA PAPR Accessories**

EVABAT1 EVA Battery Black for Hoods

EVABELT1 EVA Belt Standard Comfort Closed Cell Foam

EVABELT2 EVA Belt Decon Urethane\Vinyl

EVAEXT1 EVA Extension Belt for EVABELT1 or EVABELT2

EVABKPK2 EVA EBH Backpack

EVASMCEU EVA Charger Single Port (Type C & F plug)

EVASMCUK EVA Charger Single Port (Type G plug)

EVADCQC1 EVA Dust Cover Tychem 2000 Use w\ PAPRFC3

PAPRSC2 PAPR EVA\EVAHL Shower Cap for PAPRFC3 3 Pack

PAPRSC3 PAPR EVA\EVAHL Shower Cap for PAPRFC4 & PAPRFC5 3 Pack

PALAFI Air Flow Indicator

#### **EVA Parts & Kits**

EVABH1 EVA / EVAHL EBH Backpack with EVABELT1
EVABH2 EVA / EVAHL EBH Backpack with EVABELT2

EVACAPBLK EVA Storage Cap Black 3 Pack
EVACAPRED EVA Storage Cap Red 3 Pack
PAPRBAG Duffle Bag Vinyl Green 22"

PPEBAG Duffle Bag 11" W x 13" H x 25" L Roller Black EVABP1 EVA Belt Backplate for EVABELT1 EVABP2 EVA Belt Backplate for EVABELT2

EVABUCKLE EVA Belt Buckle for EVABELT1 or EVABELT2
EVALLKIT EVA Lever Lock Kit 3 levers 3 washers 3 screw

EVADSK EVA Decon Kit

EVASMCPSEU PAPR EVA Power Supply for Single Port Charger European
EVASMCPSUK PAPR EVA Power Supply for Single Port Charger United Kingdom

EVATGA EVA Tri-Glide Adjuster for EVABELT1 or EVABELT2 PK4

| PICTOGRAM KEY |                          |  |
|---------------|--------------------------|--|
|               | READER USER INSTRUCTIONS |  |
|               | EXPIRATION DATE          |  |



Powered Air-Purifying Respirator (PAPR) System



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