



# ***Breathe-cool***

## ***Continuous-Flow Supplied Air Respirator***

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### **BREATHE-COOL™ OPERATOR'S MANUAL**

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Thank you for choosing the Breathe-Cool™ Supplied Air Respirator (SAR) system for your respiratory protection needs. At Turbine Products Inc., we take pride in our precision-engineered products and want you to obtain all the benefits that your Breathe-Cool™ system has to offer.

To ensure the proper use and maintenance of your Breathe-Cool™ system, please carefully read the information contained in this manual before using your system. Should you require any further information, please contact your nearest Breathe-Cool™ distributor, or Turbine Products Inc. directly for assistance - we will be pleased to assist you.



## IMPORTANT: READ BEFORE USING

## SAFETY PRECAUTIONS

### **ELECTRIC SHOCK HAZARD** – May cause severe injury or death

- To reduce the risk of electric shock, do not expose air pump unit to rain or water. Store indoors.
- This product should be grounded. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances

### **RISK OF BURSTING** – May cause property damage or severe injury

- Use only authorized parts that are rated for pressure not less than 5 psi.

### **GENERAL** – May cause property damage or severe injury.

- Read all instructions and safety precautions before operating any equipment.
- Comply with all appropriate local, state and national codes governing ventilation, fire prevention, and operation.
- United States Government Safety Standards have been adopted under the Occupational Safety and Health ACT (OSHA). These standards, particularly Part 1910 of the General Standards and Part 1926 of the Construction Standard should be consulted.
- This equipment is designed to be used with authorized parts only. When using this equipment with parts that do not comply with the minimum specifications and safety devices of the equipment manufacturer, the user assumes all risks and liabilities
- Check all hoses for cuts, leaks, abrasion or bulging, as well as damage or movement of fittings before each use. If any of these conditions exist, replace the hose immediately. Do not repair a hose.
- Do not direct air stream at face or body

## CAUTIONS AND LIMITATIONS

- Not for use in atmospheres immediately dangerous to life or health.
- Do not exceed maximum use concentrations established by regulatory standards.
- Respirator can be used only when supplied with respirable air meeting the requirements of CGA G-7.1 Grade D or higher quality.
- Do not exceed the maximum hose length specified in this manual.
- Failure to properly use and maintain this product could result in injury or death.
- Never substitute, modify, add or omit parts. Use only exact replacement parts as specified by Turbine Air Products Inc.

## **!! WARNING !!**

- Improper respirator use could result in death or serious injury. Improper use may also cause certain life-threatening delayed lung diseases such as silicosis, pneumoconiosis or asbestosis.
- This respirator, when properly fitted and used, significantly reduces, but does not completely eliminate, the breathing of contaminants by the respirator wearer. Where excessive airborne contaminant levels are found, you may obtain better respiratory protection from other types of respiratory protection equipment such as a valve-operated pressure-demand air line respirator or a pressure-demand self-contained breathing apparatus respirator.
- Regulations require that the employer provide training to the user on the proper use, maintenance and limitations of this equipment. Each person using this respirator must first read and understand this entire instruction manual. The Breathe-Cool system should only be used in accordance with these operating and maintenance instructions.
- DO NOT use this respirator if any of the following ambient conditions exist:
  - Atmosphere is immediately dangerous to your life or health (IDLH)
  - You CANNOT escape without the aid of the respirator.
  - Atmosphere contains less than 19.5% oxygen
- There are users, environments and chemicals for which this respirator is not suitable. It is the responsibility of the user and the employer to determine that these respirators are appropriate for the intended use
- This system should not be used around heat, open flames, or in any potentially flammable or explosive environment. The hood, facepiece, and hose materials will burn and melt.
- Turbine Air Products recommends that you DO NOT use a respirator until you have passed a complete physical exam (including a chest x-ray), conducted by qualified medical personnel.
- Inspect all components of this system during cleaning and before and after each use for signs of wear, tear or damage that might reduce the degree of protection originally provided. Immediately replace worn or damaged components, or remove the system from service.
- DO NOT use this system in poorly ventilated areas, areas where oxygen is less than 19.5%, or in confined spaces such as tanks, small rooms, tunnels or vessels unless the confined space is well-ventilated and contaminant concentrations are below the upper limit recommended for this system. The procedures for confined space entry, operation and exit are defined in applicable regulations and standards, including 29 CFR 1910.146.
- DO NOT use this equipment for underwater diving
- DO NOT reach your hand into the hood/head cover/facepiece in atmospheres containing air contaminants. Leave the contaminated area and clean hands before reaching into the hood/head cover/facepiece.
- Failure to observe these warning could result in death or serious injury.

### **IMPORTANT OPERATING TIPS**

- Be sure to locate the Breathe-Cool air pump in fresh air (Grade D or better) far enough away from the contaminated area and on the opposite side of an appropriate barricade so as to ensure that the incoming air remains contaminant free. Ensure inlet air filters are installed before using this equipment.
- Before entering a contaminated environment, place the hood/headpiece/facepiece over your face and test for adequate air supply.
- Hose and fittings should be checked for tightness before each use. Worn fittings and air hose must be replaced before use and only with those approved by Turbine Air Products.
- Make sure you inspect and clean your equipment after each use as outlined in this manual. Proper cleaning is essential to ensure the smooth operation of your system.

- Minimum recommended airflow as specified by NIOSH is: 4 cubic feet/minute (CFM) for a tight-fitting facepiece (half/full face mask, and 6 cubic feet/min (CFM) for a loose-fitting hood. Use a flow meter to ensure you are receiving proper airflow to your hood/headpiece/facepiece.
- The maximum hose length approved with the Breathe-Cool system is 300 feet for use with a tight-fitting facepiece, and 200 feet for use with a loose-fitting hood.
- Do not remove the respirator hood/headpiece/facepiece in a contaminated area except for escape purposes.

## GETTING STARTED

### TESTING THE AIR PUMP

With the power switch in the OFF position, place the air pump as far away from the contaminated area as possible and plug into a standard (110-120 volt) power outlet. The Breathe-Cool air pump must be placed in a clean air area. Place a barricade between the air pump and the work area. Ensure the work area is properly ventilated to prevent the build-up of dangerous fumes. Verify that the air pump foam air filters are properly covering the motor air vents on either side of the air pump cabinet. With the variable speed control dial turned all the way up (clockwise), turn the air pump ON and ensure that air is blowing out the air outlet. Turn the variable speed control dial counterclockwise to lower the air output.

### CONNECTING THE HOSE TO THE AIR PUMP

With the power switch in the OFF position, uncoil the air hose and screw it hand-tight to the air pump air outlet.

Although the hose is designed for industrial use, it is not crushproof. Do not stand on the hose for extended periods. The hose should never be used to pull the air pump or form a sharp angle at the air outlet – this can cause premature wear of the hose, restriction of the airflow and/or failure of the hose.

### CONNECTING THE BELT/BREATHING TUBE ASSEMBLY

Connect the adjustable web belt around your waist with the breathing tube at your back, resting the hood/facepiece over your shoulder.

Before attaching the air hose to your breathing tube, turn on the motor to clear the air hose.

Attach the quick connect fitting on the air hose to the plug at the end of the breathing tube.

Position the hood/headpiece/facemask and breathe normally.

Adjust the airflow using the variable speed control for your comfort.

Re-check belt and fittings before entering the work area.

## **EXITING A CONTAMINATED AREA**

When finished working, leave the work area wearing the respirator. Once outside the contaminated area and in a fresh air area, remove the hood/headpiece/facepiece and disconnect the air hose from the breathing tube. Turn off the air pump.

### **WARNING: LEAVE THE WORK AREA IMMEDIATELY IF:**

1. Air flow to the hood/headpiece/facepiece stops.
2. Breathing becomes difficult.
3. You smell any odor or contaminated air.
4. You become dizzy, nauseated, or ill.
5. Your vision becomes impaired.

## **MAINTENANCE**

### **MAINTAINING THE AIR PUMP AIR FILTERS**

The motor inside the air pump cabinet draws large amounts of air volume. It is therefore very important to check the air pump foam air filters after every use. Depending on the location of the air pump, these filters may require some form of cleaning after every use.

The air pump foam air filters can be easily removed from the sides of the air pump and are washable. Once the pores are permanently blocked or begin to visibly deteriorate, the filters should be changed.

When re-installing filters, be sure they properly cover the motor air vents visible from either side of the air pump cabinet.

**WARNING:** Do not put wet filters on the air pump - this may cause electrical shock and/or premature wear of the air pump. Do not operate your air pump without the foam air filters.

### **CLEANING**

The facemask can be cleaned with Windex. Paint or other residue can be cleaned with rubbing alcohol (isopropanol).

DO NOT use any solvent-based cleaner on any parts of this system. Solvents will damage rubber and plastic parts.

Periodically inspect the air hose, breathing tube, facemask and all fittings for cracks, wear, damage or deterioration. Replace any damaged part with parts approved by Turbine Air Products.

## STORAGE

After cleaning, ensure all components are thoroughly dry, store hood/headpiece/facepiece, breathing tube and all hoses in a sealed container away from sunlight, dust, extreme heat, extreme cold, moisture, and damaging chemicals.

## TROUBLESHOOTING

<u>Problem</u>	<u>Probable Cause</u>	<u>Solution(s)</u>
Air pump won't turn on	<ul style="list-style-type: none"> <li>A. Unit not plugged in</li> <li>B. No power to outlet</li> <li>C. Defective extension cord</li> <li>D. Defective air pump</li> </ul>	<ul style="list-style-type: none"> <li>A. Check fuse box, circuit breakers.</li> <li>B. Check for faulty extension cord.</li> <li>C. Return unit for service</li> </ul>
Not enough air flow	<ul style="list-style-type: none"> <li>A. Kinked or crushed air hose</li> <li>B. Clogged inlet filters</li> <li>C. Loose fittings</li> <li>D. Broken hoses</li> <li>E. Variable speed control turned down too low</li> </ul>	<ul style="list-style-type: none"> <li>A. Check and replace if necessary</li> <li>B. Install new filters</li> <li>C. Increase setting on variable speed control</li> </ul>
Paint or chemical smell while working	<ul style="list-style-type: none"> <li>A. Air pump is exposed to contaminated air</li> <li>B. Improper positioning of Hood/headpiece/facepiece</li> <li>C. Loose or broken fittings or hoses</li> </ul>	<ul style="list-style-type: none"> <li>A. Check for loose or broken fittings or hoses</li> <li>B. Check fit of Hood/headpiece/facepiece</li> <li>C. Reposition air pump to clean air area</li> </ul>

## OPTIONS AND ACCESSORIES

### **ACCESSORY LIST:**

Tyvek Painters Hood assembly  
Full facemask assembly  
Half facemask assembly  
Bumpcap Assembly  
Sandblast Helmet Assembly  
Welding Helmet assembly  
Lens protectors  
Through-the-wall fitting  
Inlet filters  
Belt assembly  
Breathing tube assembly  
Quick connector couplings  
“Y” connector (for supplying two workers)  
In-line HEPA filter  
In-Line flow meter  
50'/75'/100' Air hose

### **REPLACEMENT PARTS AND TECHNICAL SPECIFICATIONS**

For up-to-date parts breakdowns of any Breathe-Cool™ product and/or technical specifications other than those listed in Breathe-Cool™'s literature, please contact Turbine Products Inc. directly – we will be pleased to assist you.

## WARRANTY INFORMATION

### LIMITED WARRANTY

Turbine Products Inc. warrants to the original purchaser that the Breathe-Cool™ equipment described in this manual will be free of defects in materials and workmanship for a period of One (1) YEAR from the date of purchase as outlined by the Turbine Products Inc. warranty. Turbine Products Inc.'s only obligation shall be to repair or replace, at Turbine products Inc.'s option, such product proved to be defective during the warranty period.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

All statements, technical information and recommendations enclosed are based upon tests that Turbine Products Inc. considers reliable. However, neither the seller nor the manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising from the use of the product or the inability to use the product. Before use, users shall determine the suitability of the product for his/her intended use. The user assumes all risk and liability whatsoever in the use or failure to use the product, whether due to a product defect or not. Turbine Products Inc.'s only obligation shall be to replace or repair, at its option, the quantity of product proved to be defective and any consequential damages shall be limited to the value of the Breathe-Cool™ equipment purchased.

For further information, please contact Turbine Products Inc. directly at:

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