

# **AIRSEP**® *VisionAire*™

## Oxygen Concentrator Patient Manual





***DO NOT OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS AND INSTRUCTIONS, CONTACT YOUR EQUIPMENT PROVIDER BEFORE ATTEMPTING TO USE THIS EQUIPMENT; OTHERWISE, INJURY OR DAMAGE CAN RESULT.***



NO SMOKING signs must be prominently displayed in the home or wherever VisionAire is in use. Patients and their contacts should be informed about the dangers of smoking in the presence of medical oxygen.

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**English:** A multilingual version of the manual is available through your equipment provider.  
**Español:** Una versión multilingüe del manual está disponible a través de su proveedor de equipo.  
**Français:** Une version multilingue du manuel est disponible par l'intermédiaire de votre fournisseur de matériel.  
**Deutsche:** Eine mehrsprachige Version des Handbuchs ist in Ihrer Geräte-Anbieter.

[Read the Important Safety Rules section before operating this equipment.]

**Important Safety Rules**

Carefully review and familiarize yourself with the following important safety information about the VisionAire™ Oxygen Concentrator.

 <b>WARNING</b>	This device supplies high-concentration oxygen that promotes rapid burning. Do not allow smoking or open flames within the same room of (1) this device, or (2) any oxygen-carrying accessory. Failure to observe this warning can result in severe fire, property damage and / or cause physical injury or death.
 <b>WARNING</b>	This unit is not to be used for life-support. Geriatric, pediatric, or any other patient unable to communicate discomfort while using this oxygen concentrator may require additional monitoring. Patients with hearing and/or sight impairments may need assistance with monitoring the alarms.
 <b>WARNING</b>	If you feel discomfort or are experiencing a medical emergency, seek medical assistance immediately.
 <b>WARNING</b>	Use no oil, grease, or petroleum-based or other flammable products on or near nasal end of cannula or on the VisionAire™ unit. Oxygen accelerates the combustion of flammable substances.
 <b>WARNING</b>	Electrical shock hazard. Disconnect the power cord from the electric outlet before you clean the unit to prevent accidental electrical shock and burn hazard. Only your Equipment Provider or a qualified service technician should remove the covers or service the unit.
 <b>WARNING</b>	Do not leave a nasal cannula under bed coverings or chair cushions. If the unit is turned on but not in use, the oxygen will make the material flammable. Set the I/O power switch to the 0 (off) position when the VisionAire unit is not in use.
 <b>WARNING</b>	Do not use extension cords with this unit or connect too many plugs into the same electrical outlet. The use of extension cords could adversely affect the performance of the device. Too many plugs into one outlet can result in an overload to the electrical panel causing the breaker/fuse to activate or fire if the breaker or fuse fails to operate.



Use only voltage specified on back panel label.



Do not use your oxygen concentrator in the presence of flammable gases. This can result in rapid burning causing property damage, bodily injuries or death.



Care should be taken to prevent VisionAire from getting wet or allowing water to enter the unit. This can cause the unit to malfunction or shut down, and cause an increased risk for electrical shock or burns.



Ensure concentrator is operated in an upright position.

## **1.0 Introduction**

This Patient Manual will acquaint you with AirSep's VisionAire Oxygen Concentrator. Make sure you read and understand all of the information contained in this guide before operating your concentrator. Should you have any questions, your Equipment Provider will be happy to answer them for you.

### **Why Your Physician Prescribed Oxygen**

Many people today suffer from a variety of heart, lung, and other respiratory diseases. A significant number of these patients can benefit from supplemental oxygen therapy for respiratory care at home, in the hospital, or at a medical facility.

Oxygen is a gas that makes up 21% of the room air we breathe. Our bodies depend on a steady supply to function properly. Your physician has prescribed supplemental oxygen therapy because your body is not able to get enough oxygen from room air. Oxygen is a non-addictive drug, and your physician prescribed a flow sufficient to improve your condition.

Please keep in mind that unauthorized oxygen therapy can be dangerous. You must seek medical advice before you use this unit. The Equipment Provider who supplies your oxygen equipment will demonstrate how to set the prescribed flow rate.

### **What is an Oxygen Concentrator?**

Oxygen concentrators were introduced in the mid-1970s and have become the most convenient, reliable source of supplemental oxygen available today. Without an oxygen concentrator, the average patient would require a delivery of 12 bottles/cylinders of oxygen each month. Your oxygen concentrator produces all the oxygen you need, with no deliveries required.

The air we breathe contains approximately 21% oxygen, 78% nitrogen, and 1% other gases. In the VisionAire unit, room air passes through a regenerative adsorbent material called molecular sieve. This material separates the oxygen from the nitrogen and other gases. The result is a constant supply of high concentration supplemental oxygen that is delivered to the patient.

Note: There is never a danger of depleting the oxygen in a room when you use your VisionAire unit.





AirSep recommends an alternate source of supplemental oxygen in the event of a power outage, alarm condition, or mechanical failure. Consult your physician or Equipment Provider for the type of reserve system required.



Federal (USA) law restricts this device to sale or rental by order of a physician or other licensed health care provider.



It is very important to follow the prescribed level of oxygen flow. Do not increase or decrease the flow until you first consult your physician.



In the event of an alarm or you observe the VisionAire is not working properly; consult the troubleshooting section of this manual. If you cannot resolve the problem, consult your Equipment Provider.



Do not operate this unit in a restricted or confined space where ventilation can be limited. This can cause the device to overheat and affect performance.



Storing the device outside of its temperature specifications may affect performance (refer to the specification section of the manual).



**NO SMOKING** signs must be prominently displayed in the home or wherever VisionAire is in use. Patients and their contacts should be informed about the dangers of smoking in the presence of medical oxygen.

[Read the Important Safety Rules section before operating this equipment.]

## 2.0 Concentrator Components

Review the figures below and become familiar with the important parts of your VisionAire Oxygen Concentrator.

### 2.1 Front of Concentrator



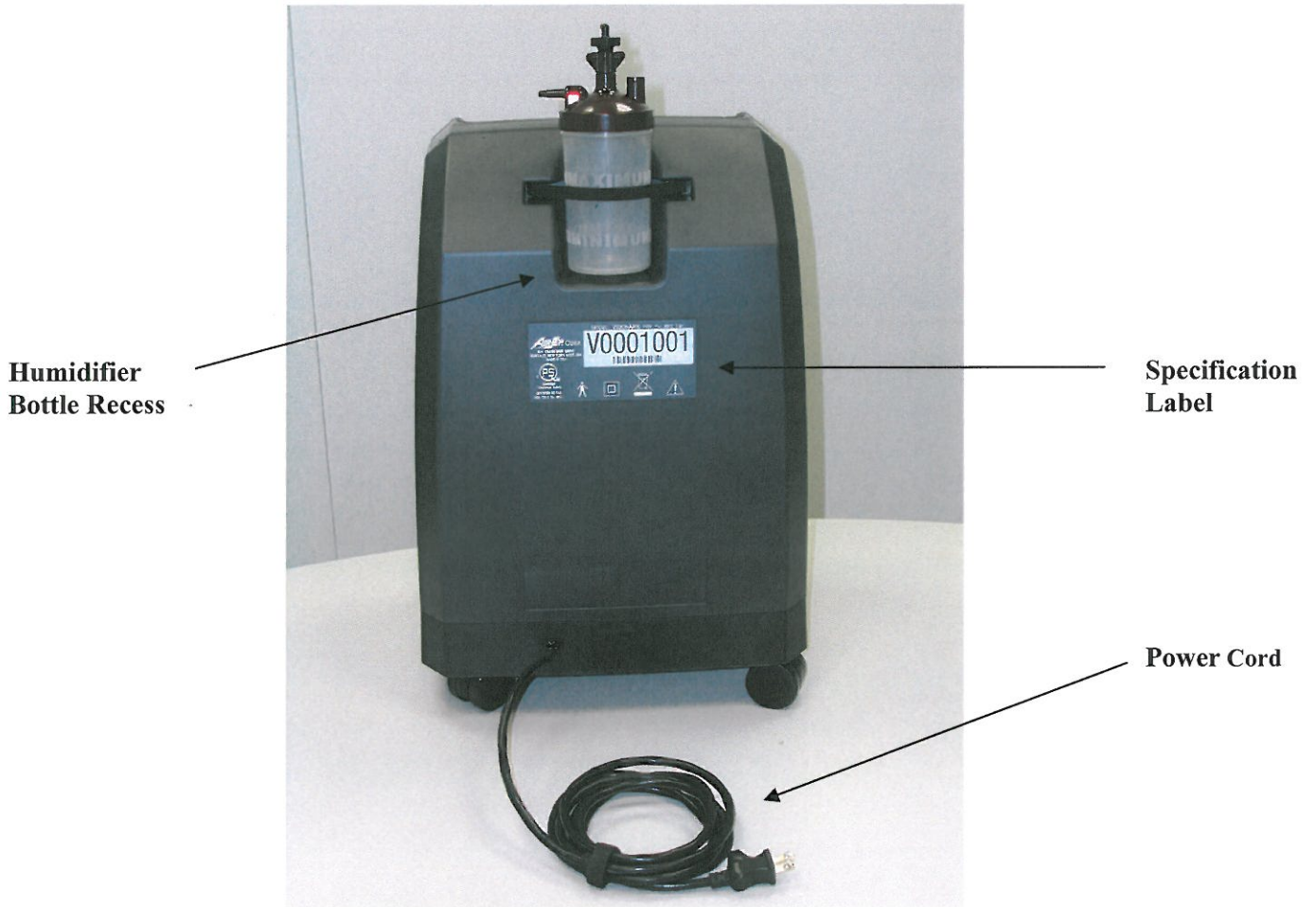
**Figure 1**

- **Top and Side Handles:**
  - Enables convenience in carrying the unit.
- **On/Off (I/O) Power Switch:**
  - Starts and stops the operation of the unit.
- **Oxygen Outlet**
  - Provides connection for a humidifier (if required) or cannula.



- **Circuit Breaker Reset Button:**
  - Resets the unit after electrical overload shutdown.
  
- **Flowmeter Adjustment Knob:**
  - Controls the oxygen flow rate in liters per minute (LPM).
  
- **Low Oxygen Concentration Indicator (optional):**
  - Illuminates (amber) if the unit is equipped with optional Oxygen Monitor and detects low oxygen concentration.
  
- **Hour Meter:**
  - Records the concentrator's hours of operation.
  
- **Operating Instructions Label:**
  - Directs usage of the unit.
  
- **Casters:**
  - Four casters enable unit to be easily moved, as needed.

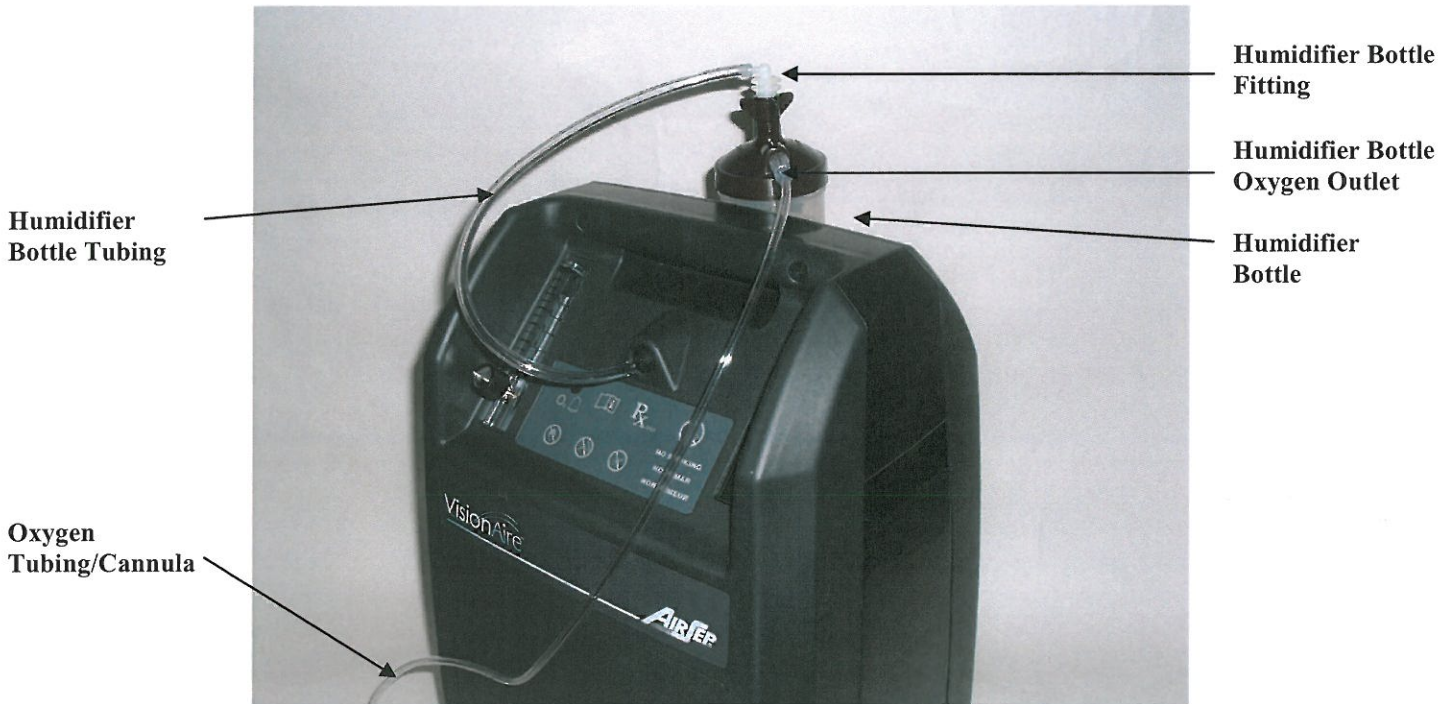
## 2.2 Back of Concentrator



**Figure 2**

- **Power Cord:**
  - Allows connection of the unit to an electrical outlet.
- **Humidifier Bottle Recess:**
  - Area to place the optional humidifier bottle.
- **Specification Label:**
  - Displays electrical specifications and serial number.

### 2.3 Humidifier Bottle (optional)



**Figure 3**

- **Humidifier Bottle (optional):**
  - Humidifies the oxygen before it reaches the patient.
- **Humidifier Bottle Oxygen Outlet:**
  - Connection for oxygen tubing/cannula.

### 2.4 Accessories

Accessories recommended for use with the VisionAire Oxygen Concentrator include:

- **Humidifier Bottle**
  - AirSep part number – HU003-1
- **Cannula, 25 feet (7.6 m)**
  - AirSep part number – CU002-4
- **Humidifier Bottle Tubing**
  - AirSep part number – TU176-160
- **Humidifier Bottle Fitting**
  - AirSep part number – F0655-1
- **Oxygen Tubing, 25 feet (7.6 m)**
  - AirSep part number – CU004-3
- **Tubing/Cannula Connector**
  - AirSep part number – CU009-1

[Read the Important Safety Rules section before operating this equipment.]

### 3.0 How To Operate Your Oxygen Concentrator

Review the following information before you operate your oxygen concentrator.

#### 3.1 Humidifier Bottle (Optional)

If additional humidification is required with your oxygen therapy, perform the following steps each time you fill or clean the humidifier, which may have been initially set up for your use.

1. Remove the humidifier bottle from the humidifier bottle recess.
2. Open the humidifier bottle. If you have a pre-filled bottle, do not perform this step. Proceed to step 5.
3. Fill the humidifier bottle with cool or cold water (distilled water is preferred) to the fill line indicated on the bottle. **DO NOT OVERFILL.**
4. Re-connect the top cover to the humidifier bottle.
5. Place the humidifier bottle in the humidifier bottle recess on the back of the concentrator and connect the humidifier bottle tubing to the oxygen outlet and the humidifier bottle fitting.



Use no oil, grease, or petroleum-based or other flammable products on or near nasal end of cannula or on the VisionAire unit. Oxygen accelerates the combustion of flammable substances.



If the humidifier bottle tubing is not properly connected to the humidifier bottle fitting or to the oxygen outlet, an oxygen leak can occur.



Always follow the cannula manufacturer's instructions for proper use. Consult your licensed health care provider to determine how often the cannula should be replaced

#### 3.2 Cannula Connection

Connect the tubing and cannula to the unit's oxygen outlet, or to the optional humidifier's oxygen outlet.

[Read the Important Safety Rules section before operating this equipment.]

### 3.3 Starting the Concentrator



Do not use extension cords with this unit or connect too many plugs into the same electrical outlet. The use of extension cords could adversely affect the performance of the device. This can also result in an overload to the electrical panel causing the breaker/fuse to activate or fire if the breaker or fuse fails to operate.



Position the unit away from curtains or drapes, hot air registers or heaters. Be certain to place the unit on a flat surface and make sure all sides are at least 1 foot (30 cm) away from a wall or other obstruction. Do not place the unit in a confined area. Choose a dust and smoke free-location away from direct sunlight. Do not operate the unit outdoors unless the unit is plugged into a Ground Fault Circuit Interrupter (GFCI) protected outlet.

1. Locate the unit near the electrical outlet in the room where you spend most of your time.
2. Insert the power cord plug into the electrical outlet.
3. Set the I/O power switch to the “I” position to turn the unit on. An audible alarm will loudly sound for approximately 5 seconds.
4. The low oxygen concentration indicator remains on for a few minutes and until the oxygen concentration reaches minimum concentration requirements, (only pertains to unit equipped with an Oxygen Monitor)
5. To set the flow of supplemental oxygen, turn the flowmeter adjustment knob left or right until the ball inside the flowmeter centers on the flow line number prescribed by your physician. To view the flowmeter at the proper angle, note that the back line and the front number line must give appearance of one line.
6. The concentrator is now ready for use.



This unit is not to be used for life-support. Geriatric, pediatric, or any other patient unable to communicate discomfort while using this oxygen concentrator may require additional monitoring. Patients with hearing and/or sight impairments may need assistance with monitoring the alarms.



If you feel discomfort or are experiencing a medical emergency, seek medical assistance immediately.



AirSep recommends an alternate source of supplemental oxygen in the event of a power outage, alarm condition, or mechanical failure. Consult your physician or Equipment Provider.



Ensure concentrator is operated in an upright position

Normally, you should not need to adjust the flowmeter on your unit. If you turn the flowmeter adjustment knob clockwise, you will decrease and can shut off the flow of oxygen from your unit.



It is very important to follow the prescribed level of oxygen flow. Do not increase or decrease the flow until you first consult your physician.



If oxygen does not seem to flow, first verify that the flowmeter ball is registering a flow. Then, place the tip of the cannula into a glass of water; if bubbles come out of the cannula, oxygen is flowing. If bubbles do not appear, refer to Section 5.0. Troubleshooting.







### 3.4 Turning the Concentrator Off

- Set the I/O power switch to the “0” position to turn off the unit.

#### **Reserve Oxygen Supply**

Your Equipment Provider may recommend another source of supplemental oxygen therapy in case there is a mechanical failure or a power outage.

#### 4.0 Care and Cleaning

 <b>WARNING</b>	Disconnect the power cord from the electrical outlet before you clean the unit to prevent accidental electrical shock hazards. Only your Equipment Provider or a qualified service technician should remove the covers or service the unit.
 <b>CAUTION</b>	Do not use liquid directly on the unit. A list of undesirable chemical agents includes but is not limited to the following: alcohol and alcohol-based products, concentrated chlorine-based products (ethylene chloride), and oil-based products (Pine-Sol, Lestoil). These are NOT to be used to clean the plastic housing on VisionAire, as they can damage the unit's plastic.
 <b>CAUTION</b>	Clean the cabinet, control panel, and power cord only with a mild household cleaner applied with a damp cloth or sponge, and then wipe all surfaces dry. Do not allow any liquid to get inside the device.
 <b>NOTE</b>	Replace the disposable cannula periodically following normal usage according to your Equipment Providers recommendations.
 <b>NOTE</b>	To prevent a voided AirSep warranty, follow all manufacturers' instructions.
 <b>NOTE</b>	AirSep does not recommend the sterilization of this equipment.

#### 4.1 Humidifier Bottle (optional)



- Check water level daily and add water as needed
- To clean and disinfect the humidifier, follow your Equipment Provider's instructions, or the instructions included with the humidifier bottle.

#### 4.2 Outside Cabinet

Use a mild household cleaner applied with a damp cloth or sponge to clean the exterior of the concentrator, and then wipe all surfaces dry. Do not allow any liquid to get inside the device.

## 5.0 Troubleshooting

If your concentrator fails to operate properly, consult your Equipment Provider, and refer to the troubleshooting chart on the following pages for probable causes and solutions.

 <b>NOTE</b>	Do not attempt any maintenance other than the possible solutions listed below.
 <b>NOTE</b>	If the unit has not been used for an extended time period, it needs to operate for several minutes before power failure alarm can become activated.

<b>Problem</b>	<b>Probable Cause</b>	<b>Solution</b>
Unit does not operate. Power failure condition causes an alarm to sound.	<p>The power cord is not connected to the electrical outlet.</p> <p>No power at the electrical outlet.</p> <p>Circuit breaker on concentrator unit is activated.</p>	<p>Check power cord at the electrical outlet for a proper connection.</p> <p>Check power source, wall switch, in-house fuse or circuit breaker.</p> <p>Press (do not hold in) the circuit breaker reset button in the front of the unit.</p> <p>If the circuit breaker trips again or the alarm continues to sound after the unit is turned on, contact your Equipment Provider.</p>
Limited or no oxygen flow.	<p>Dirty or obstructed humidifier bottle, or leak present.</p> <p>Defective nasal cannula, or other oxygen accessories, i.e. oxygen tubing.</p> <p>Cannula tubing loose.</p>	<p>Remove the humidifier bottle, and if flow is restored, clean or replace the humidifier bottle.</p> <p>Remove and check accessories for kinks or obstructions. Replace if needed.</p> <p>Check cannula tubing</p>



		connection at control panel.
<b>Problem</b>	<b>Probable Cause</b>	<b>Solution</b>
Condensation collects in the oxygen tubing when you use a humidifier bottle	Unit not properly ventilated. Elevated operating temperatures.	Make sure unit is positioned away from curtains or drapes, hot air registers or heaters, Be certain to place the unit so all sides are at least 1 foot (30 cm) away from a wall or other obstruction. Do not place the unit in a confined area. Refill humidifier bottle with COLD water. <b>DO NOT OVERFILL.</b> Allow oxygen tubing to dry out, or replace with new tubing.
Intermittent alarm sounds at one second intervals.	Equipment malfunction.	Set I/O power switch to 0 position, use your reserve oxygen supply (if provided), and consult your Equipment Provider immediately.
All other problems.		Set I/O power switch to the 0 position, use your reserve oxygen supply (if provided), and consult your Equipment Provider immediately.

## 6.0 Product Specifications

<b>VisionAire Oxygen Concentrator</b>		
Oxygen Concentration	Flow Rate	O2 Concentration
	1 – 5 lpm	90% + 5.5% / - 3%
	Based on an atmospheric pressure of 14.7 psia (101 kPa) at 70°F (21°C)	
Electrical Requirements	115 VAC / 60 Hz 220 -240 VAC / 50 Hz 220 VAC / 60 Hz	
Power Consumption	290 Watts	
Dimensions	14.1 in. W x 11.5 in. D x 20.8 in. H (35.8 cm W x 29.2 cm D x 52.8 cm H)	
Weight	30 lbs (13.6 kg)	
Electrical Shock Protection	Class II, Type B	
Operating Temperature Range	41 to 105 °F (5 to 40 °C)	
Storage Temperature Range	-4 to 140 °F (-20 to 60 °C)	

**Conformity with EN 60-601 (§ 6.8.2 b):**

“The manufacturer, assembler, installer or importer are not considered to be responsible themselves for the consequences on the safety, reliability and characteristics of a device unless:

- The assembly, fitting, extensions, adjustments, modifications or repairs have been performed by persons authorized by the party in question,
- The electrical installation of the corresponding premises complies with IEC regulations.
- The device is used in accordance with the instructions for use. “If the replacement parts used for the periodic servicing by an approved technician do not comply with the manufacturer’s specifications, the latter is absolved from all responsibility in the event of an accident. Do not open the device while in operation: risk of electrical shock. This device complies with the requirements of the 93/42/EEC European directive but its operation may be affected by other devices being used close by, such as diathermy and high frequency electro-surgical equipment, defibrillators, short wave therapy equipment, mobile telephones, CB and other portable devices, microwave ovens, induction plates or even remote control toys and more generally electromagnetic interferences which exceed the levels specified by the ECN 60601-1-2 standard.

**Classification**

Type of protection against electric shock:

**Class II** Protection from electric shock is achieved by DOUBLE INSULATION.  
Protective earthing or reliance upon installation conditions are not required.

Degree of protection against electric shock:

**Type B** Equipment providing a particular degree of protection against electric shock, particularly regarding:  
1) Allowable leakage current;  
2) Reliability of protective earth connection (if present).  
Not intended for direct cardiac application.

Method of cleaning and infection control allowed:

Please refer to your Equipment Provider and the VisionAire Service Manual.

Degree of safety of application in the presence of flammable gases:

Equipment not suitable for such application.

Mode of operation: Continuous duty.

For European Representative:

Gavin Ayling  
9 Bungham Lane  
Penkridge Stafford  
Staffordshire ST 19 5NH England






















E-mail: [eurorepcontact@airsep.com](mailto:eurorepcontact@airsep.com)



## 7.0 Symbols/Abbreviations

Symbols are frequently used on equipment in preference to words with the intention of lessening any possibility of misunderstanding caused by language differences. Symbols can also permit easier comprehension of a concept within a restricted space.

The following table is a list of symbols and definitions that may be used with AirSep's VisionAire Oxygen Concentrator. These symbols are referenced from the appropriate International Electro-technical Commission (IEC) standards:

Symbol	Description	Symbol	Description
	ON (power switch on)		OFF (power switch off)
	No smoking		Do not disassemble
	Type B equipment		Consult instructions for use
	Warning – Describes a hazard or unsafe practice that if not avoided can result in severe bodily injury, death or property damage		Class II Device
	Caution – Describes a hazard or unsafe practice that if not avoided can result in minor bodily injury or property damage		Complies with the 93/42/EEC directive drawn up by the approved organization No. 0459
	Note – Provides information important enough to emphasize or repeat		Safety agency for CAN/CSA C22.2 No. 601.1 M90 for medical electrical equipment
	Consult the accompanying documents		Keep unit and accessories dry
	Use no oil or grease		Proper disposal of waste of electrical and electronic equipment required
	Oxygen outlet connection to the cannula		Do not expose to open flames
	Caution: Federal law (USA) restricts this for sale or rental by or on the order of a physician or licensed health care provider.		Keep in the vertical position
	Fragile – handle with care		

**Method of disposing of waste:** All waste from AirSep's VisionAire Oxygen Concentrator must be disposed using the appropriate methods specified by local authorities

**Method for disposing of the device:** In order to preserve the environment, the concentrator must be disposed using the appropriate methods specified by local authorities.



Cet appareil produit de l'oxygène à concentration élevée, favorisant une combustion rapide. Ne pas permettre de fumer ou des flammes nues dans un rayon de 5 pieds (1,5 mètre) de : (1) cet appareil ou (2) tout accessoire contenant de l'oxygène. Ne pas utiliser de produits à base d'huile, de graisse ou de pétrole sur ou à proximité de l'unité. Déconnecter le cordon d'alimentation de la prise électrique avant de nettoyer ou de faire l'entretien de l'unité.



Risque de choc électrique. Ne pas enlever les couvercles lorsque l'unité est branchée. Seuls votre fournisseur d'équipement ou un technicien de service qualifié devrait enlever les couvercles ou faire l'entretien de l'unité.

**-Manufactured by:  
AirSep Corporation  
Buffalo, NY 14228-2085 USA**

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