

*eclipse*<sup>™</sup>

**Model 1000 User Manual**





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# Important Safety Instructions

## Important Safety Instructions are Shown Under the Following Headings:

SeQual® Technologies Inc. (SeQual) recommends that this User Manual be given to each patient receiving an ECLIPSE™ Oxygen System. This User Manual describes all the necessary information in order for a patient or caregiver to operate the ECLIPSE.

<b>WARNING</b>	Important safety information for hazards that might cause serious injury.
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<b>CAUTION</b>	Important information for preventing damage to the ECLIPSE Oxygen System.
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**DO NOT** Information to which you should pay special attention.

**Important!** Clarifying information, specific instructions, commentary, sidelights, or interesting points.

## Symbols Used in User Manual and on Oxygen System

Refer to this section for an explanation of the symbols and the warnings that accompany them.



**“Read Instructions”:** This symbol, when used alone or in conjunction with any of the following symbols, indicates the need to consult the operating instructions provided with the product. A potential risk exists if the operating instructions are not followed.



**“Attention or Caution”:** Consult accompanying documents. This symbol indicates important information that requires the user to take special precautions when certain conditions are present.



**“No Smoking or Naked Flames”:** The use of oxygen therapy requires that special care be taken to reduce the risk of fire. Materials that burn in air, and even some materials that will not burn in air, are easily ignited and burn rapidly in high concentrations of oxygen. For safety concerns, all possible sources of ignition must be kept away from the oxygen concentrator and preferably out of the room in which it is being used. **Smoking in the proximity of an operating oxygen concentrator is dangerous, and can permanently damage the device and void the warranty.**



**“Use No Oil or Grease”:** Indicates important information about the possibility of spontaneous and violent ignition that may occur if oil, grease or other petroleum based substances come into contact with oxygen under pressure.

## IPX0

**“Drip Proof Equipment-IPX0”:** The ECLIPSE enclosure does not provide protection against the harmful effects of liquid ingress. (IPX0, per IEC 60529)

## IPX1

**“Drip Proof Equipment-IPX1”:** The ECLIPSE AC and DC Power Supplies provide protection against the harmful effects of liquid ingress. (IPX1, per IEC 60529)



**“IEC Icon for DC Power (Input)”**



**“Type B Equipment”:** Equipment providing a particular degree of protection against electric shock, particularly regarding:

- Allowable LEAKAGE CURRENT;
- Reliability of the protective earth connection.

## A

**“Amperes”**

## Symbols (continued)

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**“Alternating Current”**



**“Audible Alarm”**: An audible indicator is provided to announce a reduction in oxygen concentration or when the power has been interrupted or lost.



**“ON/OFF”**: Turns the unit ON and OFF but does not directly disconnect the mains power.



**“Increase Flow Setting”**: Increases the flow setting in 0.5 increments each time the button is pushed.



**“Decrease Flow Setting”**: Decreases the flow setting in 0.5 increments each time the button is pushed.



**“Flow Mode”**: Activates either Continuous Mode or Pulse Flow Mode Operation.



**“External Power Present Indicator”**: Indicates the presence of external power to operate the concentrator.



**“Power Cartridge Status”**: Shows the amount of charge remaining in the Power Cartridge.



**“Power Cartridge Symbol”**: The symbol on the Power Cartridge pack.



**“Oxygen Output”**: The port in which the oxygen flows out and where the tubing is attached.

## Indications for Use

THE ECLIPSE OXYGEN SYSTEM IS INDICATED FOR THE ADMINISTRATION OF SUPPLEMENTAL OXYGEN. THE DEVICE IS NOT INTENDED FOR LIFE SUPPORT NOR DOES IT PROVIDE ANY PATIENT MONITORING CAPABILITIES.

YOUR PHYSICIAN HAS PRESCRIBED A SPECIFIC OXYGEN FLOW RATE SETTING TO MEET YOUR INDIVIDUAL NEEDS.

*RECOMMENDED OXYGEN FLOW RATES SHOULD BE ADJUSTED ONLY UNDER THE ADVICE OF A PHYSICIAN.*

**WARNING** FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY OR ON THE ORDER OF A PHYSICIAN.

## Contraindications

**WARNING** THE ECLIPSE IS NOT INTENDED FOR LIFE SUPPORTING OR LIFE SUSTAINING APPLICATIONS, NOR DOES IT PROVIDE ANY PATIENT MONITORING CAPABILITIES.

**WARNING** IN CERTAIN CIRCUMSTANCES, THE USE OF NON-PRESCRIBED OXYGEN CAN BE HAZARDOUS. THIS DEVICE SHOULD ONLY BE USED WHEN PRESCRIBED BY A PHYSICIAN.

**WARNING** FOR ADULT USE ONLY. NOT QUALIFIED FOR USE ON PEDIATRIC PATIENTS.

**WARNING** NOT FOR USE IN THE PRESENCE OF FLAMMABLE ANESTHETICS.

**WARNING** AS WITH ANY ELECTRICALLY POWERED DEVICE, THE USER MAY EXPERIENCE PERIODS OF NON-OPERATION AS THE RESULT OF ELECTRICAL POWER INTERRUPTION, OR THE NEED TO HAVE THE OXYGEN CONCENTRATOR SERVICED BY A TECHNICIAN. AN OXYGEN CONCENTRATOR IS NOT APPROPRIATE FOR ANY PATIENT WHO WOULD EXPERIENCE ADVERSE HEALTH CONSEQUENCES AS THE RESULT OF SUCH TEMPORARY INTERRUPTION.

# Safety Guidelines

This section of the manual provides warnings and cautions that apply to hazards or unsafe practices that could result in personal injury or property damage.

## Oxygen Therapy Safety



**“Read Instruction Manual”:** **DO NOT** operate this oxygen system without first reading and understanding this manual. If you are unable to understand the warnings and instructions, contact your authorized SeQual dealer/provider before attempting to use this oxygen system.



**“Caution or Attention”:** In certain circumstances, oxygen therapy can be hazardous; therefore, it is advisable to seek medical advice before using the oxygen system.

**DO NOT** deviate from prescribed flow rates. Adjust the flow only to your prescribed flow rate, unless otherwise instructed by your physician.

### WARNING



**“No Smoking or Naked Flames”:** The use of oxygen therapy requires that special care be taken to reduce the risk of fire. Oxygen enhances the combustion of flammable material. For safety concerns, all possible sources of ignition must be kept away from the oxygen system and preferably out of the room in which it is being used. Smoking in the proximity of an operating oxygen concentrator is dangerous, and can permanently damage the device and void the warranty.

### WARNING



**“Use No Oil or Grease”:** A spontaneous and violent ignition may occur if oil, grease or other petroleum substances come into contact with oxygen under pressure. Keep these substances away from the oxygen system, tubing and connections and any other oxygen source. **DO NOT** use any petroleum based or other lubricants.

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## Operating Safety

- Keep oxygen system and cord away from hot surfaces.
- **DO NOT** use the oxygen system if it has a damaged cord or plug; contact your dealer/provider.
- Your oxygen system should be located in a well-ventilated area to allow for adequate air intake and to avoid the intake of airborne pollutants and fumes.
- **ONLY** use this device with accessories designed or recommended by SeQual Technologies Inc.
- If your oxygen system has been dropped, damaged or exposed to water, contact your dealer/provider for examination or repair.
- **DO NOT** drop or insert any object into any opening.
- **DO NOT** block the air inlet or the exhaust vent of the ECLIPSE when it is on a soft surface, such as a bed or couch or car seat.
- **DO NOT** cover unit with a blanket, towel, quilt, etc.
- **DO NOT** overfill the humidifier, if used. Fill with water only to the level shown by the manufacturer.
- When using ECLIPSE in a vehicle, make sure it is properly secured or restrained.

## Safety Guidelines (continued)

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### Operating Safety (continued)

**WARNING** **DO NOT** remove the cover, no serviceable parts inside. Qualified service personnel should only remove the cover.

**WARNING** **DO NOT** operate device or accessories on wet surfaces or in standing water and **DO NOT** submerge or expose to water. The ECLIPSE enclosure does not provide protection against the harmful effects of liquid ingress. Electrical shock or damage to the unit may result.

**WARNING** Protect electrical cords from sharp edges. Electrical shock and serious physical injury may result.

**WARNING** Use only the SeQual AC Power Supply and DC Power Supply supplied with your ECLIPSE Oxygen System. Use of a non-SeQual Power Supply may be hazardous, cause damage to your oxygen system and will void the warranty.

**CAUTION** Availability of an alternate source of oxygen is recommended in case of power outage or mechanical failure.

**CAUTION** **DO NOT** expose unit to temperature outside of specified operating or storage temperatures as this may damage the unit.

**CAUTION** Locate oxygen tubing and Power Supply cords to prevent tripping hazards.

**CAUTION** **DO NOT** place ECLIPSE in a small, enclosed space, such as a bathroom or closet, with cannula leading out of the enclosed space.

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## Power Cartridge Safety

**WARNING** This Power Cartridge may explode and cause potential injury if exposed to or disposed of in a fire.

**WARNING** **DO NOT** short-circuit the Power Cartridge's metal contacts with metallic objects, such as keys or coins. It may cause sparks or excessive heat.

**WARNING** **DO NOT** disassemble, puncture, or crush the Power Cartridge. Power Cartridge electrolytes may be toxic if swallowed and can be harmful to skin and eyes. Keep the Power Cartridge away from children.

**WARNING** Use of a damaged Power Cartridge may cause personal injury.

**WARNING** Exposing the Power Cartridge to water or other liquids may cause personal injury.

**CAUTION** **DO NOT** expose the Power Cartridge to temperatures above 140°F (60°C), such as in a vehicle parked in the sun or on a hot day.

**CAUTION** Charging the Power Cartridge below 50 F° (10° C) or above 104° F (40° C) may degrade the performance.

**CAUTION** **DO NOT** drop the Power Cartridge or expose it to mechanical shock.

**CAUTION** Only use the Power Cartridge for its intended purpose.

# Introduction to Your ECLIPSE Oxygen System



This User Manual will inform you about the use and care of the ECLIPSE Oxygen System and its accessories. Thoroughly read all the information in this manual in its entirety before operating your ECLIPSE. Contact your dealer/provider for proper training in the use of this device.

**YOUR PHYSICIAN HAS PRESCRIBED SUPPLEMENTAL OXYGEN AS PART OF A TREATMENT PLAN. LONG TERM OXYGEN THERAPY IS NOW WIDELY ACCEPTED AS THE STANDARD TREATMENT FOR CHRONIC HYPOXIA CAUSED BY CHRONIC OBSTRUCTIVE PULMONARY DISEASE. OXYGEN THERAPY HAS BECOME MORE VERSATILE IN RECENT YEARS DUE**

**TO THE DEVELOPMENT OF OXYGEN CONCENTRATORS. THE ECLIPSE MAKES IT EASIER FOR PHYSICIANS TO SELECT A MODE OF OXYGEN THERAPY THAT SUITS THE PATIENT'S LIFESTYLE.**

**THE ECLIPSE MAY BE USED IN HOME, INSTITUTION, AND MOTOR VEHICLES.**

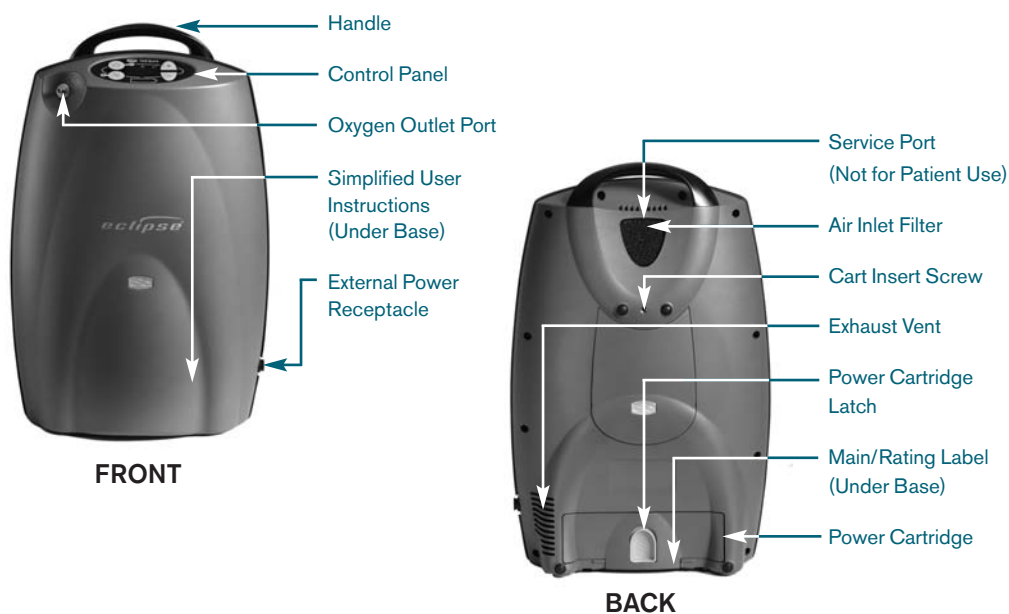
**USE OF THE ECLIPSE IN HOSPITALS SHOULD INCLUDE THE USE OF A "HOSPITAL GRADE" POWER CORD.**

**YOUR PHYSICIAN HAS PRESCRIBED A SPECIFIC OXYGEN FLOW RATE SETTING TO MEET YOUR INDIVIDUAL NEEDS. THIS FLOW RATE IS DETERMINED BY THE AMOUNT OF OXYGEN YOU NEED. RECOMMENDED OXYGEN FLOW RATES SHOULD BE ADJUSTED ONLY UNDER THE ADVICE OF A PHYSICIAN.**

# Understanding the Controls and Front Panel

## Description of the ECLIPSE

The key features of the ECLIPSE Oxygen System and control panel are important items to become familiar with.



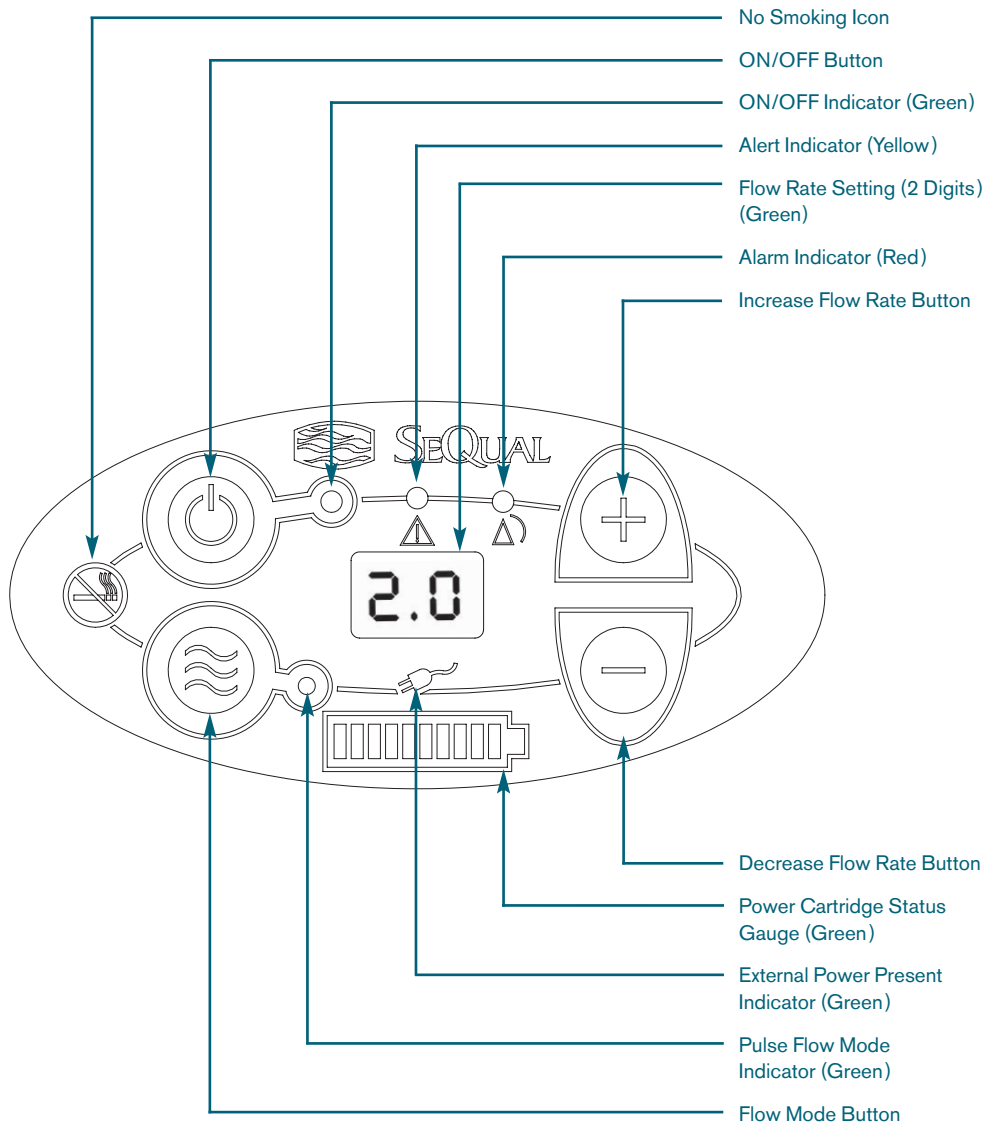
## INPUT/OUTPUT CONNECTIONS

Oxygen Outlet Port	Extension tubing or a cannula is attached to this port.
Air Inlet Filter	Ambient air is drawn into the unit through the air inlet located on the top/back of the unit. This filter prevents dust and debris from entering the ECLIPSE and should be cleaned regularly.
Service Port	This connection allows service personnel to diagnose and monitor ECLIPSE performance. It is not for patient use.
External Power Receptacle	Either the ECLIPSE AC or DC Power Supply output cords may be connected to this receptacle.
Exhaust Vent	Exhaust air from the ECLIPSE is expelled from this vent.

## Understanding the Controls and Front Panel (continued)

### Control Panel Features

The ECLIPSE displays important operating information using the icons, numbers and visual indicators on the control panel. This section will help you understand these features.



## User Controls

This section describes the control buttons and function for your ECLIPSE Oxygen System.

### FRONT PANEL ICONS



**ON/OFF Button and Indicator:** This button turns the system ON or OFF. The Green Indicator is lit when the unit is ON.



**Increase or Decrease Flow Rate Button:** Use these buttons to set the flow rate to your prescribed level.



**Flow Mode Button and Indicator:** The ECLIPSE contains a button to toggle between Continuous Flow and Pulse Flow mode. Pulse Flow mode allows a significant increase in the amount of time the system can operate from the Power Cartridge. When the Pulse Flow Mode is activated, the green Flow Mode indicator goes on and a pulse of oxygen is delivered upon inhalation. When the pulse of oxygen is delivered, the indicator briefly goes off. Only change your flow settings at the recommendation of your physician.

### SYSTEM STATUS INDICATORS

The ECLIPSE control panel displays important operating information. This section will help you understand these features.

Green, Yellow, and Red indicators on the front panel indicate the operating condition of the system. For more information on the indicators, see the Alarm Conditions and Troubleshooting table.



**ON/OFF (Green) Indicator - System OK:**

Indicates that the ECLIPSE is ON and operating properly.



**ALERT (Yellow) Indicator - Low and Medium Priority Alerts:**

When steadily illuminated, this indicates a low priority awareness condition or Caution. Continue to use your system and refer to the

## Understanding the Controls and Front Panel (continued)

Troubleshooting section for the proper response. A flashing yellow indicates a medium priority alert. Prompt response is needed to deal with a condition. Refer to the Troubleshooting section.



### **ALARM (Red) Indicator - High Priority Alarms:**

Indicates a high priority alarm condition. Immediate response is necessary to deal with the condition. Refer to the Troubleshooting section and contact your dealer/provider.

**Buzzer:** An audible alarm (or buzzer) is used to alert you of the condition of the unit, either a warning or failure, and to confirm a valid key press.



**Flow Rate Setting Indicator (Green):** This is the main focus on your control panel. Your dealer/provider will set up your prescribed flow rates for your Continuous Flow Mode (LPM) and your Pulse Flow settings, if pulse flow has been prescribed. **DO NOT** change these settings unless it is under the order of your physician. Each time you turn the unit on, the last flow mode and flow setting will be used.



**Power Cartridge Status Gauge:** This indicator displays the charge remaining in the Power Cartridge. When the Power Cartridge is fully charged all 10 bars are illuminated. Each bar represents approximately 10% of the total Power Cartridge charge. When the Power Cartridge is being charged, the charge indicator bars will blink in a waterfall fashion.

If the Power Cartridge is not installed, or if it is improperly installed, the Status Gauge will not light.



**External Power Present Indicator:** When the ECLIPSE system is properly plugged in using the AC or DC Power Supply, this indicator will appear on the Control Panel.

## Recommended Operating Environments

The following information recommends certain boundaries that will allow the ECLIPSE Oxygen System to operate at its full potential.

Operating Temperature	50° F to 104° F (10° C to 40° C)
Operating Humidity	10% - 95% at an 82.4°F (28°C) dew point
Transport/Storage Temperature	-4° F to 140° F (-20° C to 60° C) Humidity: Up to 95% Non-Condensing
Electrical	Use no extension cords or electrical outlets controlled by a switch.
Altitude	0 – 13,123 feet (0 – 4000 meters)
Placement	Do Not block air inlet or bottom exhaust vent (keep at least 3 inches away from walls, draperies, furniture, etc.)
Environment	Smoke, pollutant, and fume free.
Operating Time	Up to 24 hours per day when connected to external power.

When moving the ECLIPSE from an extreme environment, allow time for your ECLIPSE to acclimate to the recommend operating environment.

**WARNING** Operating your ECLIPSE outside the recommended operating environment may impact performance, cause damage and will void the warranty.

**CAUTION** Locate the unit in a well-ventilated room that provides adequate air flow and check if air is being prevented from entering or exiting the system by furniture, draperies, bedding, clothing or pets.

## Recommended Operating Environments (continued)

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### The Proper Location

Select a location that avoids fumes and pollutants and allows the oxygen system to draw in room air through the air inlet filter on the back of the cabinet and exhaust air out the vent at the bottom of the case without being restricted.

Locate the unit such that the alarms can be heard.

Route oxygen tubing such that it does not kink or is subject to occlusion.

**DO NOT** cover unit with a blanket, towel, quilt, or other covering, as the unit may overheat.

**DO NOT** locate near flammable materials or cleaning agents or in the direct path of any heat source, such as a heat register or car heater.

Keep the oxygen system at least five (5) feet (1.5 m) away from hot, sparking objects or open sources of flame.



# Operating Instructions

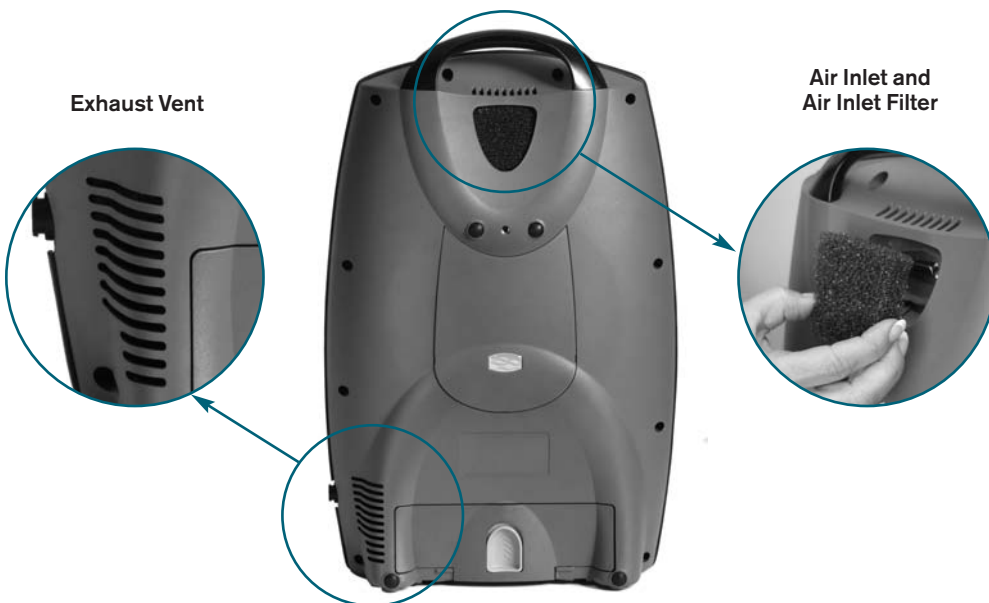
## Before Operating

Your SeQual dealer/provider or authorized service representative will demonstrate how to operate the oxygen system. This manual serves as a supplemental reference to help you operate and maintain the unit. If you have any further questions or problems call your SeQual dealer/provider or authorized service representative.

**Important!** **DO NOT** attempt to operate the ECLIPSE System without first reading the “Safety Guidelines” section of this manual. Follow all operating instructions. Observe all warnings on the product and in the operating instructions. To reduce the risk of fire, bodily injuries, and damage to the oxygen system, observe all safety precautions.

**WARNING** Protect the ECLIPSE and AC/DC Power Supplies from fluid spills or drips to avoid possible shock hazards.

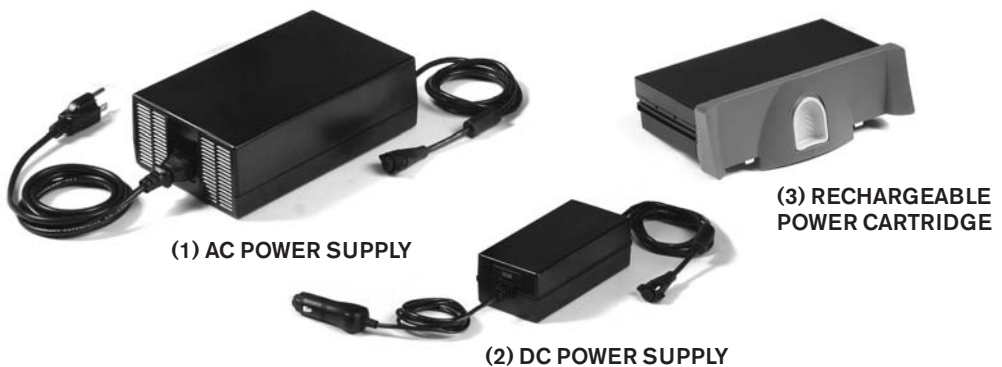
**CAUTION** Always check to see that the Air Inlet and the Exhaust Vent are not blocked and the air inlet filter is clean before using your system.



## Operating Instructions (continued)

### Powering Your ECLIPSE System

The ECLIPSE is a lightweight, portable oxygen system capable of being operated directly from three different power sources: **(1) an AC Power Supply, (2) a DC Power Supply, or (3) a rechargeable Power Cartridge.**




The ECLIPSE charges the optional Power Cartridge when external power (AC or DC) is present and when the Power Cartridge temperature is below a safe charging temperature. When external power is disconnected, the system will automatically switch over to the Power Cartridge, if installed. When external power is restored (by plugging into AC or DC outlets) the system will accept power from the external source and replenish the Power Cartridge while operating, if adequate power is available.

Connect the AC or DC Power Supply by aligning the arrow on the plug locking ring with the white dot on the receptacle of the unit. Push until the locking ring twists slightly counter-clockwise, then snaps back into alignment with the dot on the receptacle. Disconnect by grasping the plug, twist counter-clockwise and pull. Connect the AC Power Cord to a grounded power outlet.



**WARNING** **DO NOT** use any cord if damaged. Improper use of the Power Cord may result in a fire or electrical shock hazard.


**WARNING** **DO NOT** touch the Power Cartridge cavity connectors with the Power Cartridge removed while the unit is connected to an external power source. This may result in electrical shock.

**(1) AC POWER SUPPLY:** The ECLIPSE System includes a universal AC Power Supply for use at home or where standard AC power is available. To plug into AC, make sure the AC Power Supply cord is securely inserted in the power receptacle on the side of the unit, and plug the AC Power Supply into an AC outlet. When the unit is plugged in properly, a green indicator on the AC Power Supply will light and the **External Power Present Indicator**,  will appear on the control panel.

**CAUTION** The AC Power Cord used with the ECLIPSE Oxygen System must meet the requirements of the country where the product is used.

**CAUTION** Use with grounded, 3-pin receptacle. **DO NOT** remove ground pin from cord. Use only with SeQual supplied cords.

**CAUTION** **DO NOT** connect the ECLIPSE to an extension cord or electrical outlet controlled by a switch.

**(2) DC POWER SUPPLY:** A DC Power Supply allows the system to operate from DC accessory outlets, such as those found in motor vehicles. **You need to determine the Fuse rating in your motor vehicle, either 15 AMP or 20 AMP.** Consult your vehicle's Operator's Manual or look at your fuse box in the vehicle. Set the switch on the DC Power Supply to the appropriate one. Use the 10 AMP position on the DC Power Supply for a 15 AMP vehicle fuse and use the 15 AMP position for a 20 AMP or greater vehicle fuse. **Start your vehicle.** Insert the DC cord in the proper receptacle on the side of the ECLIPSE. Next, insert the DC Power Supply plug into the DC accessory outlet in your vehicle. When the system is properly plugged in and receiving power from the DC source, a green indicator light on the Power Supply, and the **External Power Present indicator**,  on the control panel will appear.

## Operating Instructions (continued)

**WARNING** Secure the ECLIPSE and the DC Power Supply in your vehicle and make sure the air inlet and exhaust airflow are not blocked. This may impact performance.

**WARNING** **DO NOT** leave the ECLIPSE or DC Power Supply plugged into the vehicle without the engine running or attempt to start the vehicle while the DC Power Supply is connected to the vehicle. This may drain the vehicle's battery.

A buzzer in the DC Power Supply is intended to warn user when low vehicle power is present. Immediately disconnect the DC Power Supply from the vehicle for low voltage alarm conditions.

**WARNING** If the vehicle power source (vehicle accessory connector) drops below 11.5 Volts (brownout) the ECLIPSE will revert to Power Cartridge operation (if present). The External Power Present Indicator may remain on.

### TYPICAL FLOW RATES AVAILABLE AT EACH FUSE SETTING

Setting	10 AMP		15 AMP	
	Continuous	Pulse	Continuous	Pulse
0.5	Yes	–	Yes	–
1.0	Yes	Yes	Yes	Yes
1.5	Yes	Yes	Yes	Yes
2.0	Yes	Yes	Yes	Yes
2.5	NO	Yes	Yes	Yes
3.0	NO	Yes	Yes	Yes
3.5	–	Yes	–	Yes
4.0	–	Yes	–	Yes
4.5	–	Yes	–	Yes
5.0	–	Yes	–	Yes
5.5	–	Yes	–	Yes
6.0	–	Yes	–	Yes

Actual performance may vary dependent upon usage conditions and vehicle.

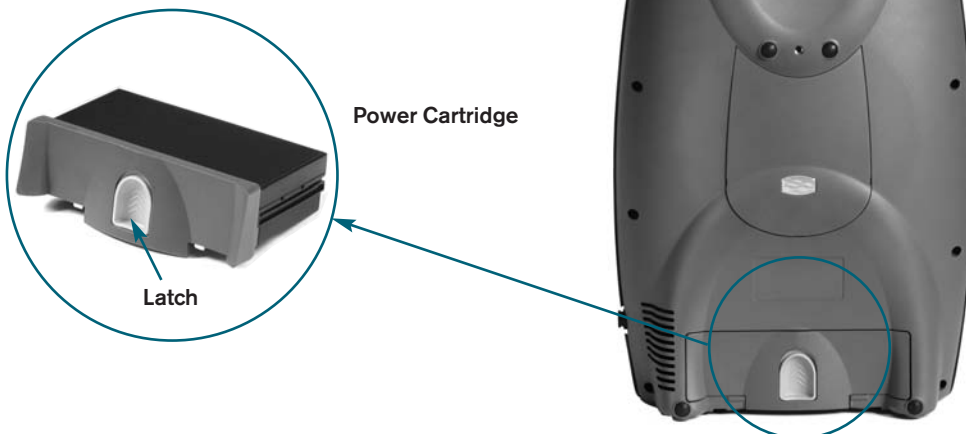
When operating in the 10 AMP switch position, flow rate settings above 2.0 LPM continuous flow will automatically switch to 2.0 LPM continuous flow when the DC Power Supply is connected.

**(3) RECHARGEABLE POWER CARTRIDGE:** The ECLIPSE system can also be powered by a rechargeable Power Cartridge.

**Installing the Power Cartridge:** Align the Power Cartridge so that it will slide into the Power Compartment. Push the Power Cartridge into the Power Compartment until it is secure and flush with the back of the system. When the Power Cartridge is properly inserted and the ECLIPSE is ON, the Power Cartridge Status Gauge will appear on the Control Panel. (If you **DO NOT** have a Power Cartridge installed, the Status Gauge will not light up).



To remove the Power Cartridge, push up on the latch on the Power Cartridge. The Power Cartridge will slide out so that you can grasp it for removal.

**Power Cartridge Capacity:** The capacity of the Power Cartridge is lit up on the control panel. A variety of factors, such as flow rate and Pulse or Continuous Flow Mode operation determine the duration of operating time. The following table provides estimates of amount of time that the ECLIPSE can operate on a fully charged Power Cartridge given certain flow rates and operating conditions.



## Operating Instructions (continued)

### TYPICAL NEW POWER CARTRIDGE OPERATION TIME

Flow Rate Setting	Power Cartridge  	
	Continuous Flow Mode (LPM)	Pulse Flow Mode (Setting)
0.5	4.4 hours	–
1.0	3.7 hours	4.4 hours
2.0	2.4 hours	3.6 hours
3.0	1.3 hours	3.0 hours
4.0	–	2.6 hours
5.0	–	2.3 hours
6.0	–	2.1 hours

Operating time will degrade with Power Cartridge use and age.

**CAUTION** Store your Power Cartridge in a cool, dry location. This will help to assure the longevity of your Power Cartridge.

**CAUTION** DOT/UN Regulations require the removal of the Power Cartridge for international travel.

**CAUTION** There are no serviceable parts inside the Power Cartridge. **DO NOT** open.

**CAUTION** Replace the Power Cartridge with only SeQual approved Power Cartridge.

**CAUTION** The Power Cartridge used in this device may present a risk of fire or chemical burn if mistreated. **DO NOT** disassemble, incinerate, or heat above 140° F (60° C).

**CAUTION** Return your Power Cartridge to your dealer/provider for proper disposal.

**CAUTION** Keep your Power Cartridge away from children.

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## Typical Power Cartridge Recharge Time

The typical time to recharge your Power Cartridge to achieve 80% capacity from a fully discharged Power Cartridge is 1.4 hours to 5.0 hours, dependent upon the flow setting.

If the Power Cartridge is too warm, charging will not begin until it sufficiently cools.

The Power Cartridge may not charge or the charge time may increase when operating from the DC Power Supply set in the 10 AMP position.

### INITIAL POWER CARTRIDGE OPERATION:

The new Power Cartridge packaged with your ECLIPSE Oxygen System is not fully charged. Before using your ECLIPSE Oxygen System for the first time, you must fully discharge the Power Cartridge.

1. Turn your ECLIPSE ON and allow the Power Cartridge to completely discharge. Unit will sound a low Power Cartridge alert until the unit completely shuts down. This could continue for up to approximately 20 minutes.
2. Connect the AC Power Supply and plug in the AC Power Cord to completely charge the Power Cartridge. This may require up to five hours of uninterrupted charging. This completes the calibration of the Power Cartridge.



## Operating Instructions (continued)

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**WARNING** **DO NOT** tamper with, disassemble, crush or heat the Power Cartridge above 140°F (60°C). The Power Cartridge may present a risk of fire or explosion and will void the warranty.

**CAUTION** Store the Power Cartridge in a cool, dry place when not in use.

**CAUTION** **DO NOT** leave your ECLIPSE or your Power Cartridge in your vehicle or in the trunk during a hot day.

**CAUTION** The ECLIPSE system can only work with a SeQual Power Cartridge. Use of another Power Cartridge or Battery may damage the unit, present a risk of fire or explosion and will void the warranty.

In the event of a power interruption, the ECLIPSE Oxygen System will automatically switch to the Power Cartridge operation. When power is restored, the Power Cartridge will automatically start recharging. If the Power Cartridge is not present during a power interruption the ECLIPSE Oxygen System will stop operation. When power is restored, turn the system back ON to resume oxygen production.

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## Operating Your ECLIPSE

### STEP 1: LOCATING YOUR ECLIPSE

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- Place the ECLIPSE in a well-ventilated place so that the air inlet and exhaust have clear access.
- Position the ECLIPSE so that any alarm can be heard.
- Check to see if the air inlet filter is in place before using. If the air inlet filter needs to be cleaned, wash with soapy water and allow drying before using. If necessary, replace with a new air inlet filter.
- Plug unit into AC Power, DC Power, or make sure there is a charged Power Cartridge installed.



## Operating Instructions (continued)

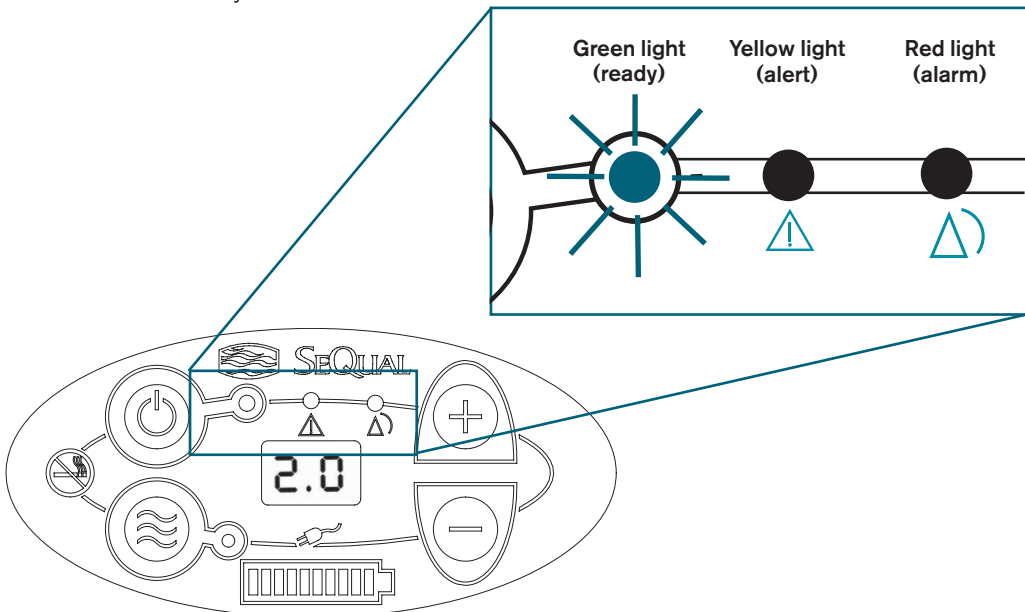
### STEP 2: TURN ON THE UNIT AND ALLOW TO WARM UP

- Press and hold the **“ON/OFF”** Button for one (1) second to turn **ON** your ECLIPSE. A brief self-test will happen. Verify that all the indicators are lit and a 3-second buzzer sounds, indicating the system is in working order.



- **Warm-up Period**

- **Oxygen Monitoring** - The ECLIPSE Oxygen System has an oxygen monitoring system with a yellow (alert) and red (alarm) visual indicator and buzzer. The buzzer will activate in the event of an internal malfunction or power outage (external power loss with no Power Cartridge installed). The red, yellow, and green (all OK) indicators will initially light up and then the red and yellow indicators sequentially go out when the oxygen purity is within specification.
- After initially turning ON the unit, allow up to five (5) minutes for the unit to reach its specified performance. The control panel will indicate when the unit is done warming up. When the green ON indicator is lit, the system is ready for use.



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**STEP 3: CONNECT THE TUBING TO THE OXYGEN OUTLET AND THE CANNULA PER THE INSTRUCTIONS FROM YOUR DEALER/PROVIDER.**

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- Replace the cannula and tubing on a regular basis. Consult your dealer/provider for cannula and tubing cleaning and replacement information.

**STEP 4: SELECT FLOW MODE**

- Press the **Flow Mode** button to select the flow delivery mode.



- **Continuous Flow Mode Operation**

- When operating in Continuous Flow Mode, a continuous supply of oxygen will flow through your tubing and nasal cannula.

**WARNING**

When operating in Continuous Flow Mode, to ensure adequate flow, **DO NOT** use a tubing/cannula extension more than 50' (15.2m) long.

### ■ Pulse Flow Mode Operation

- Pulse Flow Mode should only be used under the direction of a qualified clinician or physician.
- When operating in Pulse Flow Mode, an alarm will beep after 15 seconds if inspiration is not detected. If another 15 seconds elapses and no inspiration is detected, the unit will switch to Continuous Flow Mode at the last Continuous Flow Mode rate setting used.

**WARNING** Pulse Flow settings should be determined for each patient individually. Settings from Continuous Flow applications may not be applicable to Pulse Flow Mode.

**WARNING** When operating in Pulse Flow Mode, to ensure adequate breath detection, the length of the tubing/cannula must not exceed 7 feet (2.1 m).

**WARNING** As with all conserving devices, the ECLIPSE may not be able to detect some respiratory efforts.

### STEP 5: ADJUST FLOW RATE TO PRESCRIBED LEVEL

- Using the **Flow Rate Setting buttons**, adjust the flow rate to the prescribed setting supplied by your physician.



**WARNING** **DO NOT** change from prescribed flow rate setting without consulting with a qualified clinician or physician.

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**STEP 6: BEGIN USE**

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- Breathe normally through the cannula.
- You will get longer operating time on your Power Cartridge if you operate your ECLIPSE in Pulse Flow.

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**STEP 7: CART OPERATION**

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- The Cart is designed for use on pedestrian surfaces.
- Align the locator holes on the bottom of the unit to the tabs on the cart.
- Align the screw to the insert on the back of the ECLIPSE and hand-tighten the knob on the cart.
- Push the button on the cart handle to adjust the height.



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**STEP 8: TURN OFF THE UNIT**

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- Press and hold the **“ON/OFF” Button** for two (2) seconds to turn OFF your ECLIPSE.
- Store the ECLIPSE unit in a cool, dry location.



# Alarm Conditions and Troubleshooting

The table shows possible alarm conditions and suggests appropriate responses. If any other alarms occur, call your authorized SeQual dealer/provider.

	Condition	Green Indicator	Yellow Indicator	Red Indicator	Audible Alarm	What to do
<b>TYPICAL CONDITIONS</b>	"Warming Up. Please Wait."	On	On	On	None	Wait. The system typically takes 3–5 minutes to reach specified performance.
	"2.0" (or flow setting)	On	Off	Off	None	Nothing. The system is operating properly at the specified flow rate.
<b>UNIT NEEDS ATTENTION</b>	"Low or Warm Power Cartridge"	On	Blinking	Off	Beeps	Plug into external power or replace with a charged Power Cartridge.
	"O <sub>2</sub> Concentration < 85%"	Off	Blinking	Off	None	Continue Use. Check or clean air intake filter. If condition persists, contact dealer/provider.
	"O <sub>2</sub> Concentration < 70%"	Off	Off	Blinking	Beeps	Continue Use. Check or clean air intake filter. If condition persists, contact dealer/provider.
	"Flow Rate Error/ Blocked Flow"	Off	Blinking	Off	Beeps	Check tubing and/or humidifier for obstruction. Check/clean air intake filter. If condition persists past 10 minutes, contact dealer/provider.
	"No Inspiration Detected" (in Pulse Flow Mode only)	On	On	Off	Beeps	Make sure tubing does not exceed 7 ft (2.1m) when using Pulse Flow Mode. Audible alarm will beep after 15 seconds if no inspiration is detected. If no inspiration detected 15 seconds after that, the ECLIPSE will automatically switch to Continuous Flow Mode.
<b>SHUTDOWN CONDITIONS</b>	"Power Cartridge Shutdown or hot Power Cartridge" (with no external power present)	Off	Off	Blinking	On	Seek external power source. If Power Cartridge malfunction persists, contact dealer/ provider.
	"Loss of External Power" (without charged Power Cartridge installed)	Off	Off	Blinking	On	Seek an alternative oxygen supply until external power is restored or install a charged Power Cartridge.
	"System Malfunction"	Off	Off	On	On	Contact dealer/provider. Use back up oxygen supply.

**WARNING** AVAILABILITY OF AN ALTERNATE SOURCE OF OXYGEN IS RECOMMENDED IN CASE OF POWER OUTAGE OR MECHANICAL FAILURE. CONSULT YOUR PHYSICIAN FOR THE TYPE OF BACK-UP SYSTEM REQUIRED. **DO NOT IGNORE ALARMS.**

Symptom	Probable Cause	Remedy
ECLIPSE does not power on when ON/OFF button is pressed	No Power Cartridge installed	Install charged Power Cartridge or plug into external power
	Power Cartridge is discharged	Plug into external power
	Malfunction	Contact your dealer/provider
No Oxygen	Blocked or kinked tubing	Check tubing or replace
	Filter Blocked	Clean Air Inlet Filter
	Humidifier	Check humidifier attachment and tubing
	ECLIPSE not ON	Turn ECLIPSE ON
	Tubing or cannula is not properly connected or kinked	Check tubing, cannula and connections
	Power Cartridge is discharged or no external power is present	Install charged Power Cartridge or attach external power
	Malfunction	Contact your dealer/provider
Low Oxygen Concentration	Restriction in tubing or humidifier	Repair or replace tubing or humidifier
	Filter restricted	Clean or replace air inlet filter
	Malfunction	Contact your dealer/provider
Low Oxygen Flow	Restriction in humidifier or tubing	Repair or replace humidifier or tubing
	Filter Blocked	Clean or replace air inlet filter
	Malfunction	Contact your dealer/provider
No Oxygen delivered in Pulse Mode	Tubing/cannula longer than 7 feet (2.1m)	Attach 7 foot (2.1m) tubing/cannula
	Humidifier attached	Remove humidifier
	No inspiration detected	Contact your dealer/provider
Power Cartridge Status Gauge never indicates fully charged	Power Cartridge needs calibration	Fully discharge the Power Cartridge and recharge

## Accessories

### WARNING

Use of certain oxygen administration accessories not specified for use with this oxygen system may impair the performance. **ONLY** use recommended oxygen delivery accessories.



There are many different types of oxygen tubing, cannula, and humidifiers. The following accessories are recommended to be used with your ECLIPSE Oxygen System. Refer to the “Maintenance” section of this manual for accessory maintenance instructions.

#### **Humidifier - Salter Labs® Bubble Humidifier, Part Number 7600 or equivalent:**

If your physician has prescribed a humidifier, follow the manufacturer’s instructions for use. Attach the humidifier to the oxygen outlet port of the oxygen system. The **O<sub>2</sub>** symbol marks the oxygen outlet port on the concentrator. Use of humidifiers not specified for this oxygen system may impair performance and void the warranty.

**DO NOT** use a humidifier in Pulse Flow Mode. The ECLIPSE will not detect an inspiration and will default to Continuous Flow Mode.

**Humidifier Adapter - SeQual Part Number 3509:** If your physician has prescribed a humidifier, you may need to use the SeQual Humidifier Adapter. Follow the instructions for use. Attach the Humidifier Adapter to the oxygen outlet port of the oxygen system and then to the humidifier. Attach cannula or extension tubing to humidifier outlet.

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**Oxygen Tubing - Salter Labs® Series 2000 or equivalent tubing (internal diameter of the tubing should be no less than 3/16" (0.48 cm)):** Connect the oxygen tubing to the outlet port of the humidifier or directly to the oxygen outlet port if you do not use a humidifier. Connect the other end of the tube to the nasal cannula, if not already attached. Tubing not specified for use with this oxygen system may impair the performance.

**WARNING** The tube fitting may be tight. **DO NOT** use oil or grease to lubricate.

**WARNING** If tubing becomes disconnected during operation, ECLIPSE does not alarm. Check flow at the cannula to verify oxygen delivery.

**CAUTION** To ensure there is adequate flow to deliver oxygen, the length of the tubing must not exceed 50 feet (15.2m) when using Continuous Flow Mode, and must not exceed 7 feet (2.1m) when operating in Pulse Flow Mode for adequate breath detection.

**Cannula – Salter Labs® Part Number 1600 Series or equivalent:** Your physician will have prescribed a cannula to deliver oxygen. In most cases they are already attached to the oxygen tubing. If not, follow the instructions included with the cannula to attach it to the oxygen tubing. Use of cannula not specified for use with this oxygen system may impair the performance.

**Power Options:** You have various options to provide power to your ECLIPSE. A Power Cartridge, AC Power Supply and DC Power Supply.

**Power Cartridge, Model 2400:** The rechargeable Power Cartridge supplied with your ECLIPSE is capable of providing you with battery operation depending on your prescribed flow rate.

Your Power Cartridge will be recharged when the ECLIPSE is connected to the AC Power Supply or the DC Power Supply, if adequate power is available. The Power Cartridge will take longer to recharge when connected to the DC Power Supply and will depend on the flow setting and the amperage switch setting.

**Power Compartment:** The Power Compartment is available when Power Cartridge operation is not required. When using the Power Compartment, your ECLIPSE will **ONLY** operate on the AC and DC Power Supplies.

## Accessories (continued)

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**AC Power Supply, Model 6104:** Your AC Power Supply enables the ECLIPSE to be connected to a grounded AC electrical outlet with the country-specific power cord. Please contact your dealer/provider for the country-specific power cord.

**DC Power Supply, Model 6105:** Your DC Power Supply enables the ECLIPSE to be operated in an automobile or other vehicle with an accessory outlet. Contact your dealer/provider to set up the DC Power Supply for proper use in your own automobile.

The indicator on the AC and DC Power Supplies will be either green or red. Green indicates normal operation and red indicates abnormal operation.

**WARNING** **DO NOT** expose the AC and DC Power Supplies to water. Electrical shock or serious injury may result.

**Cart:** Your ECLIPSE Oxygen System can be easily transported while attached to the Cart. The cart has wheels and a telescoping handle for easy mobility.

**WARNING** **DO NOT** drip, spill or expose the ECLIPSE to water during portable use. The ECLIPSE enclosure does not protect against the harmful effects of liquid ingress. Electrical shock or damage to the unit may result.

**CAUTION** When operating the ECLIPSE on the cart, **DO NOT** bang, drop or bump the unit while in transport.

# Cleaning, Care and Routine Maintenance

## Routine Maintenance

A trained technician will carry out all routine maintenance at least once a year or as needed.

Your dealer/provider will perform inspections and maintenance of the compressor, filters, alarms, 9V battery, Power Cartridge and other internal parts as needed.

**WARNING** **DO NOT** disassemble the ECLIPSE or attempt to perform any routine maintenance other than what is described in the Patient Cleaning and Care section below. Disassembling the oxygen system may create a hazard of electrical shock and void your warranty. Contact your dealer/provider for any maintenance required.

## Patient Cleaning and Care

**Cannula Replacement:** Replace your tubing and cannula on a regular basis as recommended by your dealer/provider. Your physician or dealer/provider will provide you with cleaning, disinfection and replacement information.

**Air Inlet Filter:** Ambient air is drawn into the unit through the air inlet located on the top/back of the unit. Cleaning the air inlet filter is the most important activity you will perform to keep your oxygen system performing properly. Check this air filter daily and *clean it at least once a week*.

1. Remove the filter.
2. Wash the filter in warm water using a mild detergent solution.
3. Rinse the filter thoroughly and squeeze out the excess water.
4. Allow the filter to air dry.
5. Reinsert the filter in the cabinet.



**CAUTION**

The filter should be free of liquid water and dry to the touch before reinstallation, as excess moisture may impair the proper operation of the oxygen system.

**CAUTION**

When the filter is removed, the Service Port is exposed. **DO NOT** attach any cables to this Service Port. It is for Service **ONLY**.

**CAUTION**

**DO NOT** poke objects through the vent holes.

The air inlet filter should be replaced as needed. If the oxygen system is used in a dusty environment, the filter may need to be replaced more often. You should not operate the ECLIPSE without a filter installed for longer than 30 minutes.

**Cabinet, AC Power Supply, DC Power Supply and Power Cord:** Turn OFF the ECLIPSE and disconnect from AC or DC power before any cleaning or disinfection activity. Use a damp (not soaking wet) cloth or sponge and a mild detergent solution to clean the cabinet and power supplies. To disinfect the ECLIPSE use Lysol® Brand II disinfectant. Proceed as directed by the manufacturer.

**WARNING**

Unplug Power Cords, AC or DC Power Supplies before cleaning the exterior cabinet. **DO NOT** use denatured alcohol or apply liquid spray or aerosol cleaners.

**Humidifier:** If used, clean your humidifier daily to reduce possibility of contamination. Replace humidifier monthly or as recommended by the manufacturer or your dealer/provider.

**Cart:** Before cleaning the cart, remove the ECLIPSE. Use a damp (not soaking wet) cloth or sponge and mild detergent solution to clean the Cart.

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## Power Cartridge Cleaning, Care and Maintenance

The Power Cartridge in the ECLIPSE Oxygen System requires special care to assure a longer life and higher performance. The SeQual Power Cartridge is the only approved Power Cartridge to be used.

Once a month, completely discharge your Power Cartridge and fully recharge to calibrate the Power Cartridge.

Use a damp cloth or sponge and mild detergent to clean the Power Cartridge case and latch.

**WARNING** **DO NOT** tamper with or try to repair the Power Cartridge.  
No serviceable parts inside.

**Power Cartridge Disposal:** Your Power Cartridge is rechargeable and can be recycled. Always return it to your dealer/provider for proper disposal.

**Power Cartridge Storage:** Your Power Cartridge should be stored in a cool, dry location.

**WARNING** Exposing the Power Cartridge to water or other liquids may cause personal injury.

## Technical Data\*

Flow Rate Settings	1 to 6 setting in Pulse Flow Mode 0.5 to 3.0 LPM in Continuous Flow Mode
Oxygen Concentration	90% +/- 3% for all flow settings
Oxygen Concentration Indicator	Green Light = Normal Operation Yellow Light = Warning or Caution, less than 85% +/- 3% Red Light Flashing = Abnormal Operation, less than 70% +/- 5%
Maximum System Pressure	15 psig (103.5 kPa)
Oxygen Outlet Pressure	5.0 psig (34.5 kPa) nominal
Electrical Power:	
AC Operation	100 – 240 VAC, 50/60 Hz
DC Operation	12 V
Power Cartridge	195 W-Hrs
AC Power Supply	200 Watts Max
DC Power Supply	150 Watts Max
Operating Temperature	50° F to 104° F (10° C to 40° C)
Operating Humidity	10% - 95% at 82.4° F (28° C) dew point
Nominal Sound Level	48 dBA at 3.0 LPM in Continuous Flow Mode 40 dBA at 3.0 LPM in Pulse Flow Mode
Dimensions (H x W x D)	19.3 inches x 12.3 inches x 7.1 inches (49.0 cm x 31.2 cm x 18.0 cm)
Weight	17.9 pounds (8.1 kg) with Power Cartridge 14.5 pounds (6.6 kg) without Power Cartridge
Continuous Flow Indication	Expressed in liters per minute (LPM)
Audible Alarm Indicators	Loss of power/Hot Power Cartridge Low Battery/Warm Power Cartridge Low Oxygen Output O <sub>2</sub> flow outside normal limits No inspiration detected in Pulse Mode Unit Malfunction
Back-Up Alarm Power	9V Internal Battery
Filters	Air Inlet, HEPA
Device Classification	IEC Class I, Type B Applied Part, IPX0
Transport/Storage Requirements	Temperature: -4° F (-20° C) to +140° F (+60° C) Humidity: up to 95% Non-Condensing
Back pressure Effect on Flow Indicator	None
Altitude	0 – 13,123 feet (0 – 4,000 meters)

**Pulse Flow Mode**

Principle of Operation	Pulse Flow Mode is designed to deliver 16 ml boluses of oxygen per incremental flow setting for each patient inspiration detected. Bolus volume is held constant regardless of breath rate within a given setting. Delivery of the bolus is triggered by detection of the end of inspiration followed by the start of a subsequent inspiration. Sensitivity is dealer/provider adjustable. Based on this inspiration trigger signal, a "pulse" of oxygen is released to the patient by an electronically controlled flow valve. There is no mixing of oxygen with room air.
Range of Operation – Settings	Increments of 1– 6 times (x) the bolus of 16 ml (16 to 96 ml per breath)
Accuracy of Delivered Bolus	± 15%
Breathing Frequency range	6 to 25 breaths per minute average, sustainable
Minimum time between breaths	1.25 seconds (maximum 3 consecutive breaths)
Response to missing breaths	ECLIPSE switches to Continuous Flow Mode after 30 seconds without breath detection.

\* Specifications are subject to change without notice.

## Summary of All Warnings and Cautions

**WARNING** FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY OR ON THE ORDER OF A PHYSICIAN.


**WARNING** THE ECLIPSE IS NOT INTENDED FOR LIFE SUPPORTING OR LIFE SUSTAINING APPLICATIONS, NOR DOES IT PROVIDE ANY PATIENT MONITORING CAPABILITIES.

**WARNING** IN CERTAIN CIRCUMSTANCES, THE USE OF NON-PRESCRIBED OXYGEN CAN BE HAZARDOUS. THIS DEVICE SHOULD ONLY BE USED WHEN PRESCRIBED BY A PHYSICIAN.

**WARNING** FOR ADULT USE ONLY. NOT QUALIFIED FOR USE ON PEDIATRIC PATIENTS.

**WARNING** NOT FOR USE IN THE PRESENCE OF FLAMMABLE ANESTHETICS.

**WARNING** AS WITH ANY ELECTRICALLY POWERED DEVICE, THE USER MAY EXPERIENCE PERIODS OF NON-OPERATION AS THE RESULT OF ELECTRICAL POWER INTERRUPTION, OR THE NEED TO HAVE THE OXYGEN CONCENTRATOR SERVICED BY A TECHNICIAN. AN OXYGEN CONCENTRATOR IS NOT APPROPRIATE FOR ANY PATIENT WHO WOULD EXPERIENCE ADVERSE HEALTH CONSEQUENCES AS THE RESULT OF SUCH TEMPORARY INTERRUPTION.

**WARNING**  **“No Smoking or Naked Flames”:** The use of oxygen therapy requires that special care be taken to reduce the risk of fire. Oxygen enhances the combustion of flammable material. For safety concerns, all possible sources of ignition must be kept away from the oxygen system and preferably out of the room in which it is being used. Smoking in the proximity of an operating oxygen concentrator is dangerous, and can permanently damage the device and void the warranty.

**WARNING**

**“Use No Oil or Grease”:** A spontaneous and violent ignition may occur if oil, grease or other petroleum substances come into contact with oxygen under pressure. Keep these substances away from the oxygen system, tubing and connections and any other oxygen source. **DO NOT** use any petroleum based or other lubricants.

**WARNING**

**DO NOT** remove the cover, no serviceable parts inside. Qualified service personnel should only remove the cover.

**WARNING**

**DO NOT** operate device or accessories on wet surfaces or in standing water and **DO NOT** submerge or expose to water. The ECLIPSE enclosure does not provide protection against the harmful effects of liquid ingress. Electrical shock or damage to the unit may result.

**WARNING**

Protect electrical cords from sharp edges. Electrical shock and serious physical injury may result.

**WARNING**

Use only the SeQual AC Power Supply and DC Power Supply supplied with your ECLIPSE Oxygen System. Use of a non-SeQual Power Supply may be hazardous, cause damage to your oxygen system and will void the warranty.

**WARNING**

This Power Cartridge may explode and cause potential injury if exposed to or disposed of in a fire.

**WARNING**

**DO NOT** short-circuit the Power Cartridge's metal contacts with metallic objects, such as keys or coins. It may cause sparks or excessive heat.

**WARNING**

**DO NOT** disassemble, puncture, or crush the Power Cartridge. Power Cartridge electrolytes may be toxic if swallowed and can be harmful to skin and eyes. Keep the Power Cartridge away from children.

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**WARNING** Use of a damaged Power Cartridge may cause personal injury.

**WARNING** Exposing the Power Cartridge to water or other liquids may cause personal injury.

**WARNING** Protect the ECLIPSE and AC/DC Power Supplies from fluid spills or drips to avoid possible shock hazards.

**WARNING** **DO NOT** use any cord if damaged. Improper use of the Power Cord may result in a fire or electrical shock hazard.

**WARNING** **DO NOT** touch the Power Cartridge cavity connectors with the Power Cartridge removed while the unit is connected to an external power source. This may result in electrical shock.

**WARNING** Secure the ECLIPSE and the DC Power Supply in your vehicle and make sure the air inlet and exhaust airflow are not blocked. This may impact performance.

**WARNING** **DO NOT** leave the ECLIPSE or DC Power Supply plugged into the vehicle without the engine running or attempt to start the vehicle while the DC Power Supply is connected to the vehicle. This may drain the vehicle's battery.

**WARNING** If the vehicle power source (vehicle accessory connector) drops below 11.5 Volts (brownout) the ECLIPSE will revert to Power Cartridge operation (if present). The External Power Present Indicator may remain on.

**WARNING** When operating in Continuous Flow Mode, to ensure adequate flow, **DO NOT** use a tubing/cannula extension more than 50' (15.2m) long.

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**WARNING** Operating your ECLIPSE outside the recommended operating environment may impact performance, cause damage and will void the warranty.

**WARNING** Pulse Flow settings should be determined for each patient individually. Settings from Continuous Flow applications may not be applicable to Pulse Flow Mode.

**WARNING** When operating in Pulse Flow Mode, to ensure adequate breath detection, the length of the tubing/cannula must not exceed 7 feet (2.1m).

**WARNING** As with all conserving devices, the ECLIPSE may not be able to detect some respiratory efforts.

**WARNING** **DO NOT** change from prescribed flow rate setting without consulting with a qualified clinician.

**WARNING** AVAILABILITY OF AN ALTERNATE SOURCE OF OXYGEN IS RECOMMENDED IN CASE OF POWER OUTAGE OR MECHANICAL FAILURE. CONSULT YOUR PHYSICIAN FOR THE TYPE OF BACK-UP SYSTEM REQUIRED. **DO NOT** IGNORE ALARMS.

**WARNING** Use of certain oxygen administration accessories not specified for use with this oxygen system may impair the performance. **ONLY** use recommended oxygen delivery accessories.

**WARNING** The tube fitting may be tight. **DO NOT** use oil or grease to lubricate.

**WARNING**

If tubing becomes disconnected during operation, ECLIPSE does not alarm. Check flow at the cannula to verify oxygen delivery.

**WARNING**

**DO NOT** tamper with, disassemble, crush or heat the Power Cartridge above 140° F (60° C). The Power Cartridge may present a risk of fire or explosion and will void the warranty.

**WARNING**

**DO NOT** expose the AC and DC Power Supplies to water. Electrical shock or serious injury may result.

**WARNING**

**DO NOT** disassemble the ECLIPSE or attempt to perform any routine maintenance other than what is described in the Patient Cleaning and Care section below. Disassembling the oxygen system may create a hazard of electrical shock and void your warranty. Contact your dealer/provider for any maintenance required.

**WARNING**

Unplug Power Cords, AC or DC Power Supplies before cleaning the exterior cabinet. **DO NOT** use denatured alcohol or apply liquid spray or aerosol cleaners.

**WARNING**

**DO NOT** tamper with or try to repair the Power Cartridge. No serviceable parts inside.

**WARNING**

Exposing the Power Cartridge to water or other liquids may cause personal injury.

**WARNING**

**DO NOT** drip, spill or expose the ECLIPSE to water during portable use. The ECLIPSE enclosure does not protect against the harmful effects of liquid ingress. Electrical shock or damage to the unit may result.

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**CAUTION** Availability of an alternate source of oxygen is recommended in case of power outage or mechanical failure.

**CAUTION** **DO NOT** expose unit to temperature outside of specified operating or storage temperatures as this may damage the unit.

**CAUTION** Locate oxygen tubing and Power Supply cords to prevent tripping hazards.

**CAUTION** **DO NOT** place ECLIPSE in a small enclosed space, such as a bathroom or closet, with cannula leading out of the enclosed space.

**CAUTION** **DO NOT** expose the Power Cartridge to temperatures above 140° F (60° C), such as in a vehicle parked in the sun or on a hot day.

**CAUTION** Charging the Power Cartridge below 50 F° (10° C) or above 104° F (40° C) may degrade the performance.

**CAUTION** **DO NOT** drop the Power Cartridge or expose it to mechanical shock.

**CAUTION** Only use the Power Cartridge for its intended purpose.

**CAUTION** Locate the unit in a well-ventilated room that provides adequate air flow and check if air is being prevented from entering or exiting the system by furniture, draperies, bedding, clothing or pets.

**CAUTION** Always check to see that the Air Inlet and the Exhaust Vent are not blocked and the air inlet filter is clean before using your system.

**CAUTION**

The AC power cord used with the ECLIPSE Oxygen System must meet the requirements of the country where the product is used.

**CAUTION**

Use with grounded, 3-pin receptacle. **DO NOT** remove ground pin from cord. Use only with SeQual supplied cords.

**CAUTION**

**DO NOT** connect the ECLIPSE to an extension cord or electrical outlet controlled by a switch.

**CAUTION**

Store your Power Cartridge in a cool, dry location. This will help to assure the longevity of your Power Cartridge.

**CAUTION**

DOT/UN Regulations require the removal of the Power Cartridge for international travel.

**CAUTION**

There are no serviceable parts inside the Power Cartridge. **DO NOT** open.

**CAUTION**

Replace the Power Cartridge with only SeQual approved Power Cartridge.

**CAUTION**

The Power Cartridge used in this device may present a risk of fire or chemical burn if mistreated. **DO NOT** disassemble, incinerate, or heat above 140° F (60° C).

**CAUTION**

Return your Power Cartridge to your dealer/provider for proper disposal.

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**CAUTION** Keep your Power Cartridge away from children.

**CAUTION** Store the Power Cartridge in a cool, dry place when not in use.

**CAUTION** **DO NOT** leave your ECLIPSE or your Power Cartridge in your vehicle or in a trunk during a hot day.

**CAUTION** The ECLIPSE system can only work with a SeQual Power Cartridge. Use of another Power Cartridge or Battery may damage the unit, present a risk of fire or explosion and will void the warranty.

**CAUTION** To ensure there is adequate flow to deliver oxygen, the length of the tubing must not exceed 50 feet (15.2m) when using Continuous Flow Mode, and must not exceed 7 feet (2.1m) when operating in Pulse Flow Mode for adequate breath detection.

**CAUTION** When operating the ECLIPSE on the cart, **DO NOT** bang, drop or bump the unit while in transport.

**CAUTION** The filter should be free of liquid water and dry to the touch before reinstallation, as excess moisture may impair the proper operation of the oxygen system.

**CAUTION** When the filter is removed, the Service Port is exposed. **DO NOT** attach any cables to this Service Port. It is for Service **ONLY**.

**CAUTION** **DO NOT** poke objects through the vent holes.

# Electromagnetic Compatibility

This equipment has been tested and found to comply with the limits for medical devices to the IEC60601-1-2: 2001-09 Electromagnetic Compatibility standard. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed according with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation distance between the equipment.
- Connect the equipment into an outlet on a circuit different from that which the other device(s) are connected.
- Consult the manufacturer or service technician for help.

## Guidance and Manufacturer’s declaration - electromagnetic emissions

The SeQual Technologies ECLIPSE Oxygen System is intended for use in the electromagnetic environment specified below. The customer or the user of the SeQual Technologies ECLIPSE Oxygen System should assure that it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment - Guidance
RF emissions CISPR 11	Group 1	The SeQual Technologies ECLIPSE Oxygen System uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The SeQual Technologies ECLIPSE Oxygen System is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

# Disposal of Equipment and Accessories

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Follow local governing ordinances and recycling plans regarding disposal of device components. **DO NOT** dispose of the Power Cartridge. Power Cartridges should be returned to your dealer/provider.

**MANUFACTURED BY:**

SeQual Technologies Inc.  
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**DEALER/PROVIDER NAME AND ADDRESS:**

**PHYSICIAN NAME AND ADDRESS:**

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Lysol® is a registered trademark of Reckitt Benckiser, UK.

**ECLIPSE™**

Model 1000 **User Manual**

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