

# January 2016 Med Tips

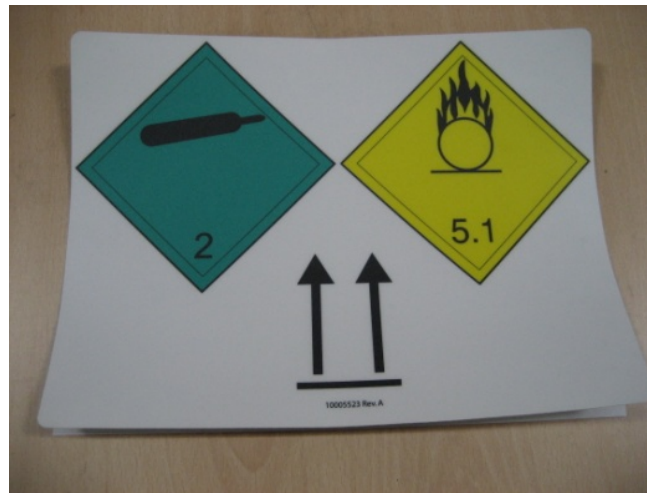
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## Helpful Hints and FAQs

### Large HAZMAT Label for Liquid Oxygen Reservoirs

Q: I am in need of a larger HAZMAT label for my CAIRE® LOX Reservoir. Is this something that you offer?

A: We do offer a larger HAZMAT label (8.78in H x 11.78in L) and the part number for this label is 10005523.



HAZMAT Label PN - 10005523

### Power Supply Usage When Traveling with a CAIRE POC

When traveling abroad with a CAIRE Portable Oxygen Concentrator, the user can operate the unit with the power supply that came with their unit as long as certain requirements are met. CAIRE power supplies will operate on AC voltages between 100 to 240VAC, and at 50-60Hz.

Examples:



FREESTYLE



FREESTYLE 5



ECLIPSE

The user can match the receptacle type from the region they are visiting to an AC power cord that can be purchased through most electronic stores or websites, or they can purchase a Universal Power Plug Set to use with their existing AC cord. The Universal Power Plug Set is ideal for international travel to Europe, UK, New Zealand, North/South America, Japan and Taiwan. Rated at 10A, it is capable of supporting the current demand of CAIRE portable concentrators.



Universal Power Plug Set - PN 5591-SEQ

### Pulse Trigger Criteria

The units listed below will deliver a pulse dose when the cannula pressure has dropped below the trigger point:

Spirit™ Acceptable Range: -0.1 to -0.32 cm H2O	HELIOS™™™ Acceptable Range: ≤ -0.135 cm H2O
Eclipse™ Acceptable Range: -.135 to -.37 cm H2O	Equinox™ Acceptable Range: -.135 to -.37 cm H2O
FreeStyle™™™ 3 Acceptable Range: ≤ -0.135 cm H2O	FreeStyle™™™ 5 Acceptable Range: ≤ -0.135 cm H2O
Focus™ Acceptable Range: ≤ -0.135 cm H2O	

### Eclipse™ Preventative Maintenance Kit

Q: I just ordered a Preventative Maintenance Filter Kit (5022-SEQ) for the SeQual® Eclipse™ and I am unable to find where one of the filters should go. Where is the fourth filter supposed to be installed?

A: The Eclipse™ PM Kit was updated in 2011 to accommodate the new product tank used in Eclipse™ 3 units manufactured after 2010 and all Eclipse™ 5 units. The update added the new style HEPA filter and o-rings to the PM kit in addition to the existing components. With the addition of these new parts, the kit can be used to perform the filter change on any Eclipse™ concentrator. After the preventative maintenance filter change is performed, there will be one filter left over. This is normal as the new cartridge style HEPA filter is used in current units and the older disc shaped filter (below in red) is used in older units.



Original Filter Kit



Additional New HEPA Filter and O-Rings

## Eclipse™ Battery Troubleshooting

### Symptom:

Eclipse™ has a FAIL 95 error message displayed on the screen. The FAIL 95 indicates that the Eclipse™ has shut off due to a "Battery Communication Error." -or- The Eclipse™ is alarming with a yellow light. The battery display is not showing that the battery is charging. It is giving an alarm code of 01 (Eclipse™ 2) or 001 (Eclipse™ 3 & 5) when the "no-smoking" icon is pressed. This error code indicates that the Eclipse™ "Cannot Charge the Battery Cartridge."

### Troubleshooting:

The first step is to reset the Eclipse™ to see if the failure or error code reoccurs. The Eclipse™ will not turn back on or deliver air until it is reset once the FAIL 95 error has occurred. The Eclipse™ is reset by first removing the power cartridge and any external power cords. This will cause the code to disappear from the screen and the red light to go off. Reconnect the power sources approximately 20 seconds later and the Eclipse™ should power back on as normal. If the fail or error code does not return after the warm-up time, then you can continue to use the Eclipse™ normally. If the FAIL 95 or alarm code occurs again, then there is a malfunction causing this error. This error can either be caused by a problem with the Eclipse™, or simply with a faulty battery. The easiest way to determine if the repeating error is caused by a fault with the Eclipse™ or the power cartridge is to try running the Eclipse™ with a second, or spare, battery cartridge. If the FAIL 95 or error code occurs again with the second battery, then the Eclipse™ itself will need to be serviced. Contact CAIRE Technical Support for more information. If the alarm condition does not occur with the second battery, then you have diagnosed the original battery as the faulty component. In this case, the faulty battery would need to be replaced.

### Symptom:

The Eclipse™ battery is not holding a charge. The battery is showing as being fully charged, but it is not lasting as long as it should.

### Troubleshooting:

Any time battery duration is suspected to be low the first step is to attempt to calibrate the battery cartridge. Often times, doing this can increase the capacity of a full charge and maximize the time that a full charge will last. You may want to reference the "Calibrate Battery" section in the corresponding procedure above. If the battery still does not last as long as it should after calibration, then the battery may be past its useful life. Perform the battery capacity test given above to determine if the battery needs to be replaced.

## Periodic Inspections for European CAIRE Liquid Oxygen Reservoirs and Portables

The ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road) and regulation EN1251-3 (Cryogenic vessels - Transportable vacuum insulated vessels of not more than 1000 litres) require that periodic inspections are performed on closed cryogenic vessels every 5 and 10 years. All CAIRE Liquid Oxygen Reservoirs and Portables fall under these requirements.

Charts European facilities in UK, Germany and Italy are fully accredited to perform the required inspections and also offer a further TPED accreditation service. Please contact customer service for further information.

This month CAIRE Liquid Oxygen Reservoirs and Portables manufactured in **January 2011 and January 2006** are due for inspections. The manufacture date of your equipment can be identified on the vessels data plate.

Please contact customer service for further information.

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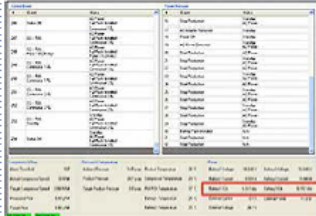



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## Accessories

	5022-SEQ	PM Kit for the SeQual Eclipse 1, 2, 3, and 5: Contains Air Intake Filter, Compressor Intake Filter, HEPA filter for either style product tank, 9V battery (with foam strip), and necessary zip ties.
	5535-SEQ	SeQual EDAT: Eclipse Data Acquisition Software. Real-Time diagnostic and quick-check computer program for all models of the SeQual Eclipse. Part number includes software, blue USB key, and necessary cable.
	7082-SEQ	Eclipse Power Cartridge: Compatible with all models of the Eclipse - Eclipse 1, Eclipse 2, Eclipse 3, and Eclipse 5.
	5591-SEQ	Universal Power Adapter: Universal Power Adapter with adapters to connect into standard wall outlets in Europe, UK, New Zealand, North/South America, China, Japan, and Taiwan. Compatible with all portable and stationary oxygen concentrators.
	5941-SEQ	Eclipse AC Power Supply: US-style power supply designed to recharge the Eclipse in a standard wall outlet. Compatible with Eclipse 2, Eclipse 3, and Eclipse 5 models.

## Product Information

### Eclipse™ Battery Calibration

CAIRE recommends that the Eclipse™ power cartridge (battery) be calibrated once monthly.

Calibration consists of completely draining and recharging the battery cartridge. This procedure is part of proper care for the lithium ion battery. Battery calibration will not only help to maximize the life of the battery cartridge, but will also ensure that a full charge lasts as long as it should when the patient is using the Eclipse™ on battery power. Patients can perform this procedure once monthly as part of their regular use of the Eclipse™. The best recommendation for providers is to perform this procedure every time the Eclipse™ returns to their shop (between patients, maintenance, etc.). Please see the battery calibration procedure below:

1. Install the power cartridge in the Eclipse™.
2. Remove external power cords and operate the Eclipse™ from the power cartridge.
3. Allow the Eclipse™ to completely discharge the power cartridge. Do not connect to AC power or turn off the Eclipse™ when it begins to alarm for low battery. Allow the Eclipse™ to run until it shuts off and no battery power is remaining.
4. Re-attach the external AC power source. Verify that the external power indicator is lit on the front panel of the Eclipse™. Leave the power cartridge installed. Charging should begin automatically when the battery reaches proper temperature.
5. Allow the power cartridge to completely charge, as indicated by the meter on the front display panel.

### QuietLife™ Concentrator and Impulse Elite Conserving Device - End of Service Life

Effective March 1, 2016, CAIRE will no longer be offering service options for the QuietLife™ Oxygen Concentrator or the Impulse Elite Conserving Device. This includes internal service offerings as well as service components QuietLife™ concentrator. Limited supplies of service components for the QuietLife™ Concentrator will be available for purchase until inventory on depleted.

### Eclipse™ Battery Capacity Test

The below procedure should be used to test the full capacity of the Eclipse™ power cartridge:

1. Install the power cartridge in the Eclipse™ and remove any AC or DC power cords.
2. Turn the Eclipse™ on and let it run on a continuous flow setting.
3. Allow the Eclipse™ to run until the unit completely shuts down. Do not turn the Eclipse™ off when it begins to alarm for a low battery. Let it continue to run until the battery is completely drained and the unit shuts off.
4. Remove the power cartridge (battery) from the Eclipse™ and allow it to cool for approximately 2 hours.
5. Fully recharge the battery using either an Eclipse™ connected to AC power or a desktop charger.
6. Install the fully charged power cartridge into an Eclipse™ and remove any external power cords.
7. Turn the Eclipse™ on and let it run at the desired continuous (LPM) flow rate for testing.

8. Using a stopwatch or timer, record the time it takes for the Eclipse™ to completely shut down.
9. Take this time recorded in Step 8 and compare it to the full capacity operating time of a new power cartridge in the table below. If this time is less than 80% of the full capacity of a new power cartridge, it is recommended that the battery be taken out of service.

CONTINUOUS FLOW SETTING	NEW BATTERY FULL CAPACITY OPERATING TIME	MINIMUM OPERATING TIME (80% OF NEW BATTERY)
0.5 LPM	4.4 HOURS (4:24)	3.5 HOURS (3:30)
1.0 LPM	3.7 HOURS (3:42)	3.0 HOURS (3:00)
2.0 LPM	2.0 HOURS (2:00)	1.6 HOURS (1:36)
3.0 LPM	1.3 HOURS (1:18)	1.0 HOURS (1:00)

### FreeStyle™ Power Connector

The FreeStyle™ and FreeStyle™ 5 concentrators are the only CAIRE concentrators that utilize a power supply cord that will lock in place. Due to this locking mechanism, care needs to be taken when attaching and removing the power supply cable from the concentrator.



It is very important to instruct the users of the FreeStyle™ and FreeStyle™ 5 the correct way to connect and disconnect the power supply cable.

To insert the cable into the concentrator, make sure the locking button is oriented upward and push the connector in until it locks in place. Do NOT use force when inserting the power supply cable.

To remove the power supply, press firmly and hold the locking button as shown below and pull directly outward. This will allow the cord to be removed freely without any resistance.

If the locking mechanism is not used, the power connection may become damaged if the power supply cable is forcefully removed. Damage may also occur if the cable is manipulated, twisted, or used in any manner other than recommended.



## HELIOS™ Portables Quick Connect CPC Fitting

The HELIOS™ Plus (H300) and HELIOS™ Marathon (H850) liquid oxygen portable units are manufactured without the Quick Connect CPC Fitting and its related tubing and fittings. The purpose of the CPC connector is to connect the portable directly to the HELIOS™ reservoir, allowing the patient to breathe directly from the HELIOS™ reservoir using the conserver from the HELIOS™ portable. The CPC Connector is now available as an optional addition and may be ordered via the CPC Connector Upgrade Kit, PN: 20748595.



CPC Connector Kit, PN: 20748595

**Don't miss out on our upcoming Service Schools!**

## **CAIRE Service School Training Seminar August 22 – 26, 2016 at Ball Ground, GA, United States**

**CAIRE offers Service Schools covering both LOX and Concentrator lines.**

Each class is a comprehensive program that focuses on the technical and service aspects of the CAIRE family products. Class time is divided between lecture and hands-on workshops. The seminars will help the student develop a better understanding of how liquid oxygen equipment or concentrators work, how to identify the symptoms and causes of potential problems and how to use the technical information that is available in the Technical Manuals. Attendance at CAIRE's Service Schools is free, but registration is mandatory. Registration forms must be received one week prior to the start of the class in order to guarantee availability and materials.

### **Concentrator Service School topics include:**

- Concentrator hazards and safety precautions
- Principles of pressure, flow and saturation
- Functions of the major components of a portable/stationary concentrator
- Theory of operation
- Hands-on experience with the concentrators
- Set up and use of test equipment
- Troubleshooting, repair and performance verification/testing procedures with hands-on experience

**LOX Service School topics include:**

- Liquid oxygen (LOX) hazards and safety precautions
- Principles of pressure, flow and liquid oxygen saturation
- Functions of the major components of a liquid oxygen system
- HELIOS™ system theory of operation
- Reservoir and portable filling procedures with hands-on experience
- Set up and use of test equipment
- Troubleshooting, repair and performance verification/testing procedures with hands-on experience

**2016 Training Dates**

August 22 - 26, 2016

Concentrator Training: August 22, 23 & 24 in Ball Ground, GA

LOX Training: August 25 & 26 in Ball Ground, GA

November 14 -18, 2016

Concentrator Training: November 14, 15 & 16 in Ball Ground, GA

LOX Training: November 17 & 18 in Ball Ground, GA

September 14-15, 2016 and 28-29, 2016

LOX Training: September 14-15 in Wuppertal, Germany

LOX Training: September 28-29 in Padova, Italy

To register for Service School, please email:

[techservice.usa@chartindustries.com](mailto:techservice.usa@chartindustries.com) for USA Training

[jim.gibson@chartindustries.com](mailto:jim.gibson@chartindustries.com) for European Training

**2016 Trade Shows**

Show	Date	Location
Pulmonary Horizons	August 12-14, 2016	New York City, NY
European Respiratory Society	September 3-7, 2016	London, UK
Medtrade Fall	November 1-3, 2016	Atlanta, GA