

EVOLUTION™

OXYGEN CONSERVER

CHAD®
drive™

PRODUCT INFORMATION AND INSTRUCTIONS

OM-900



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GENERAL INFORMATION

This manual provides the information necessary to operate the EVOLUTION™ electronic oxygen conserver with built-in regulator in accordance with a physician's prescription.

The EVOLUTION™ conserver can be used with any CGA 870 post-valve cylinder (see Fig. A) at home or away from home to provide your specific oxygen requirements. It requires two (2) 1.5 volt AA alkaline batteries for operation.

Statements in this manual preceded by the following words are of special significance:



WARNING!

Indicates there is a possibility of injury to you or others.

CAUTION!

Indicates there is a possibility of damage to the device or to other property.



NOTE

Indicates points of particular interest or emphasis that allow for more efficient and convenient operation of the equipment.

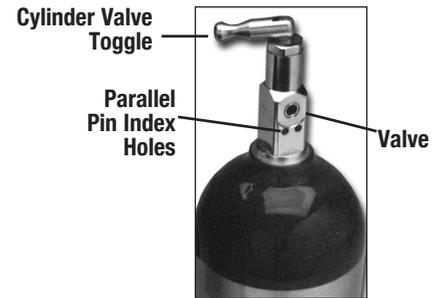


FIGURE A
CGA 870
Post-Valve Cylinder

IMPORTANT SAFETY RULES & PRECAUTIONS

Read this instruction manual carefully to ensure your complete understanding before operating your EVOLUTION™ electronic conserver. This manual is part of the unit and must be available at all times. Use the unit for the designated purpose only (see “Purpose” on page 7).

For your own safety and that of your patients, please observe the following points:

OPERATING THE UNIT



WARNING!

Failure to observe the following warnings may result in damage to the unit or injury to life or limb:



- **Smoking near oxygen equipment is strictly prohibited.** While using your EVOLUTION™ conserver, your clothes may come into contact with oxygen-enriched air, making your clothes more flammable. This also applies for a time after use, until the increased oxygen concentration has escaped from your clothing. For this reason, you must keep cigarettes, matches, burning tobacco and open flames, such as lighted candles or fireplaces, away from the area where the system is being stored or operated.
- Avoid the creation of any spark, such as static electricity caused by any type of friction, near the oxygen equipment.

 **NOTE: Oxygen will not burn; however, it does vigorously accelerate the burning of any flammable material.**

- Cannula tubing is a disposable accessory that should be replaced periodically following normal usage. Continue reuse of cannula tubing may cause contamination which may lead to respiratory distress. Disposable tubing should be disposed of in accordance with local ordinances and/or regulations for disposal. Replacements are available through your homecare provider. (OC-401S, case of fifty (50) 4 ft [1.52m] cannulas or equivalent).

IMPORTANT SAFETY RULES & PRECAUTIONS



WARNING! (Cont.)

Please remember that this is for your own safety!

- **Keep all parts free of oil and grease.** Hydrocarbon compounds such as oil, grease, petroleum-based products, cleaning agents containing alcohol, hand cream or adhesive bandages can cause explosive reactions if they come into contact with highly compressed oxygen. Please wash and dry your hands properly prior to operating your oxygen equipment.
- Never use aerosol sprays near the oxygen equipment.
- Do not use in the presence of flammable anesthetic mixture.
- Keep your oxygen equipment at least 5 ft. (1.5 m) away from any electrical appliance.
- Be sure to turn off the oxygen supply by closing the cylinder valve when not in use.
- Do not use cannula tubing that is longer than 7 ft. (2.13 m).
- Do not use a mask or pediatric or other low-flow cannula tubing when operating the unit.
- Do not use the EVOLUTION™ conserver as a handle for carrying your oxygen cylinder.

CAUTION!

- To prevent the unit from overheating, do not place it near any heating devices and do not expose it to direct sunlight. Do not expose the unit to extreme temperatures.
- Your EVOLUTION™ conserver must not be immersed in liquid or cleaned with liquid agents. Prevent water or other liquid substances from entering the unit.
- Protect your EVOLUTION™ conserver from the cold and from continued exposure to water, such as rain.
- Please observe the section “Hygienic Preparation” on page 16 in order to avoid infection or bacterial contamination.
- Prevent dust or any small particles from entering the unit.
- Take care not to get entangled in the nasal cannula tube, which could impede movement and lead to discomfort around the throat.
- Your EVOLUTION™ conserver is protected against interference. To ensure safety of use, however, do not use a mobile phone in the immediate vicinity of the unit.

IMPORTANT SAFETY RULES & PRECAUTIONS

CAUTION! (Cont.)

- Oxygen conserving systems only work reliably upon sufficiently strong inhalation. Therefore, please observe the following:
 - Do not use the EVOLUTION™ at night or while sleeping;
 - Do not use the EVOLUTION™ for babies or children;
 - Do not use the EVOLUTION™ if you only breathe through your mouth.
- Do not use the EVOLUTION™ if you breathe more than 40 times per minute.
- Closely observe the permissible ambient conditions listed in the “Technical Data” section on pages 21-23. Failure to observe them may lead to a fire risk or damage to the unit.
- Tighten all screwed unions by hand only. Do **not** use a tool.
- Do not use the EVOLUTION™ with a humidifier.
- Do not use if leaking or damaged.
- Always open the cylinder valve slowly.
- Be sure to carry extra AA-size alkaline batteries in the event they are needed.



NOTE:

- Always ensure that your oxygen cylinder is sufficiently full. We recommend always keeping a full spare cylinder in reserve.
- **Oxygen supplied by this equipment is supplemental only and is not intended for life support applications.**

ACCESSORIES/REPAIRS

CAUTION!

- Malfunctions and a lack of biocompatibility may result if third-party articles are used. Please bear in mind that in these cases any guarantee entitlement and liability shall lapse where accessories recommended in the instruction manual or original spare parts are not used.
- Servicing and repair work must only be carried out by the manufacturer (CHAD Therapeutics) or by trained personnel. Refer repairs to authorized personnel.

Please contact your Home Care Provider if you have any questions.

INTRODUCTION

PURPOSE

The EVOLUTION™ electronic conserver is designed for use as part of a portable ambulatory oxygen system for the purpose of facilitating long-term oxygen therapy (LTOT). It provides mobile LTOT patients with an extended operating time of their mobile system. The EVOLUTION™ conserver includes a combination of a low-pressure regulator and an oxygen conserver and is capable of delivering a precise amount of supplemental oxygen at the optimal point in the breathing cycle. Operationally, the EVOLUTION™ conserver greatly increases efficiency in the delivery of oxygen, maximizing the beneficial effects and eliminating unnecessary oxygen waste.

The EVOLUTION™ is not suitable for use during sleep.

The EVOLUTION™ is not suitable for children.

Use the unit exclusively for the purpose described above.

USER QUALIFICATION

Prior to beginning therapy, patients must be given instruction by qualified personnel on how to use the unit.

INTRODUCTION

FUNCTION

When we breathe, approximately one-third of the time is spent inhaling, and two-thirds exhaling. As a result, oxygen delivered by continuous flow is wasted during exhalation. By eliminating oxygen flow during exhalation, a two-thirds savings is possible. Additionally, the application of the EVOLUTION™ is based on the fact that only oxygen inhaled at the beginning of the breath actually reaches the alveoli and is absorbed by the body. The oxygen inhaled during the remainder of the breath is not used and is exhaled again. For this reason, the EVOLUTION™ only administers oxygen at the beginning of inhalation. This makes the oxygen source last longer. The EVOLUTION™ is designed to be an integral component of a lightweight, long-lasting ambulatory system.

DESCRIPTION OF PARTS & CONTROLS

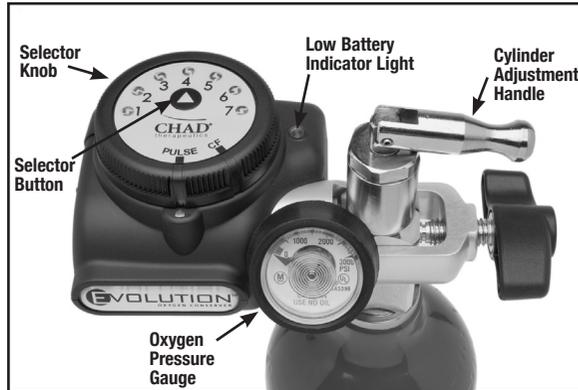


FIGURE B
 EVOLUTION™ Conservor
 Top View

OXYGEN INLET CONNECTION

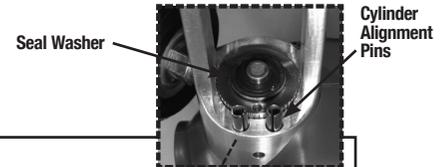
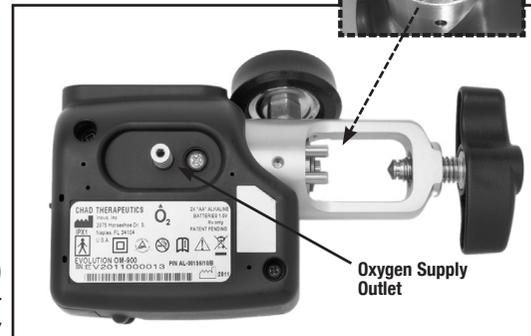


FIGURE C
 EVOLUTION™ Conservor
 Side View



FIGURE D
 EVOLUTION™ Conservor
 Bottom View



DESCRIPTION OF PARTS & CONTROLS

• **Low Battery Indicator Light:** The EVOLUTION™ conserver incorporates a visual indicator light that alerts you when a battery change is needed. The following signal will be displayed as your batteries become depleted:

Blinking red light - Low battery energy level. Replace batteries.

- **Cylinder Adjustment Handle:** This is used to attach the unit to any CGA 870 post-valve cylinder.
- **Selector Knob:** This enables the user to select their prescribed oxygen flow setting. It also enables s/he to select the continuous flow mode setting. The continuous flow mode setting (CF) is designed for emergency use only. The amount of oxygen delivered when using the EVOLUTION™ in continuous flow mode is preset at 2 LPM (liters per minute). When not in use, the cylinder should be turned off by turning the cylinder valve toggle counter clockwise.

The CF mode (continuous flow) is a mechanical override designed as a safety feature in case battery power fails. It is set at 2 LPM CF. When in the CF mode, the user can still change the LED display lights by pressing the Selector Button but it has no effect on oxygen output.

CAUTION! In the event that it is necessary to operate the unit in the continuous flow mode, DO NOT obstruct the flow of oxygen from the Oxygen Supply Outlet by placing your finger over the outlet or blocking the flow through the oxygen tubing in any way. Doing so may render the unit inoperable and/or damage the sensor in the unit.

 **NOTE: Remember that in continuous flow mode, the oxygen will be consumed at a much faster rate. Return to another source before depleting the oxygen cylinder.**

- **Battery Holder:** This compartment holds two (2) AA-size alkaline batteries.
- **Oxygen Pressure Gauge:** This enables the user to monitor the contents of the compressed oxygen cylinder.
- **Oxygen Supply Outlet:** Use this fitting to attach a standard cannula.
- **Cylinder Alignment Pins:** When assembling the unit, these parallel pins must go into the holes on the post valve.
- **Seal Washer:** This creates the interface between the valve and the EVOLUTION™ conserver. Besides offering a rugged interface, it also surrounds the oxygen path in a ring of stainless steel or brass.
- **Oxygen Inlet Connection:** Interface between cylinder valve and conserver that allows oxygen to flow into the regulator.

 **WARNING!** Use only a manufacturer-specified seal washer. Other seal washers may not be oxygen compatible and may cause an oxygen leak, creating an increased fire risk.

ASSEMBLY AND USE

- Make certain that your hands are free of oil, grease, and other contaminants.
- Inspect the unit to insure that it has a manufacturer-specified seal washer in good working condition attached to the inlet nozzle.
- Secure the cylinder in an upright position.
- Inspect the post valve of the cylinder and the EVOLUTION™ conserver to ensure they are free of contaminants. If any indication of damage or contamination is detected, DO NOT use the equipment and contact your Home Care Provider.



WARNING! Use ONLY a manufacturer-specified seal washer. Other seal washers may not be oxygen compatible and may cause an oxygen leak, creating an increased fire risk. Do not use the device if the manufacturer-specified seal washer is missing. Contact your Home Care Provider for assistance.

NON-PORTABLE USE:

The EVOLUTION™ conserver is designed to extend the life of portable oxygen supplies when away from the primary source. While the EVOLUTION™ conserver may be used with stationary oxygen cylinders, it should only be used while awake and reasonably attentive. The EVOLUTION™ conserver is not intended for use during sleep because, in the unlikely event of operational malfunction or dislodging of the cannula, the user could be unaware and not make the necessary corrections.

ASSEMBLY AND USE

INSTALLING ALKALINE BATTERIES

The EVOLUTION™ conserver uses advanced technology that prolongs battery life through efficient power use. With normal use of four (4) hours per day at any setting, your batteries should last a minimum of 2 years.

Two (2) AA alkaline batteries are packaged in the box with your EVOLUTION™ conserver. Follow these easy steps to install them:

- STEP 1:** While holding the unit in one hand, gently press down on the battery door with your thumb and open the hinge door away from the EVOLUTION™ label. [Fig E1 and E2]
- STEP 2:** Drop the batteries into the slot, making sure they are inserted in the proper direction as indicated by the (+) and (-) symbols. [Figs E3]
- STEP 3:** Rotate the door cover back in place until a “click” is heard.

Changing
Alkaline
Batteries

FIGURE E1



FIGURE E2



FIGURE E3



NOTE: The EVOLUTION™ conserver is packaged with batteries inside. A special seal is used at the positive terminal to prevent battery oxidation. If it has not already been removed by your Home Care Provider, be sure to remove the seal before using the unit for the first time.

ASSEMBLY AND USE

MONITORING BATTERY ENERGY LEVEL:

The EVOLUTION™ conserver is equipped with a low battery indicator light that alerts you when a battery change is needed. The following signal will be displayed as your batteries become depleted: **Blinking red light** – Low battery energy level. Replace batteries.



Disposal of Batteries: Do not dispose of used batteries in the household waste. Contact a public waste disposal authority for proper disposal instructions.

INSTALLING THE SYSTEM:

STEP 1: Loosen the cylinder adjustment handle.

STEP 2: Lower the EVOLUTION™ conserver over any CGA 870 post-valve cylinder with the alignment pins toward the holes on the cylinder neck [Fig. F].

STEP 3: Align the two (2) pins and seal washer with the corresponding holes on the cylinder post valve.

STEP 4: While holding the unit in place, tighten the cylinder adjustment handle by turning clockwise [Fig. F].

NOTE: Tighten only by hand. The use of a tool to tighten the handle may damage the unit.

CAUTION! If you are unable to eliminate leaks by manually tightening the cylinder adjustment handle, replace the seal washer. If leaks persist, the unit must be returned for service.

STEP 5: Attach a standard cannula to the oxygen supply outlet. See page 14 for an illustration demonstrating the proper positioning of the nasal cannula.



FIGURE F
Attaching the EVOLUTION™ conserver to the cylinder

ASSEMBLY AND USE

OPERATING INSTRUCTIONS:

STEP 1: Make sure the EVOLUTION™ conserver is set to the “PULSE” position. Battery saving technology has eliminated the need for an “OFF” position. The unit will go to “Sleep Mode” after three minutes of non-use. The unit will turn on again when an inspiration is detected or the Selector Button is pressed.

STEP 2: To reduce the risk of rapid oxygen recompression and fire, **OPEN THE CYLINDER VALVE SLOWLY** and completely so that the pressure gauge moves slowly as it indicates the cylinder pressure.

STEP 3: Listen for leaks. If a leak is present, close the cylinder valve, check the seal washer, and reinstall. If the leak persists, **DO NOT USE THE EQUIPMENT**. Contact your supplier for repair.

STEP 4: To select the setting on the EVOLUTION™ conserver (1-7) that corresponds to the appropriate delivery setting, press and hold the Selector Button  in the center of the Selector Knob until the appropriate LED display light is illuminated.

 **NOTE: To check your current setting, press and release the Selector Button in the center of the Selector Knob**

STEP 5: Place the nasal cannula into position with the prongs in the nostrils and begin breathing. [Fig. G] The EVOLUTION™ conserver will now start to deliver oxygen. The amount of oxygen delivered is determined by the setting. Adequate oxygen delivery will be achieved because of the precise time in the breathing cycle that the pulse of oxygen is delivered.

 **NOTE: To help prevent possible damage to the unit, keep the EVOLUTION™ conserver in a carrying bag. Several bags are available for use with different cylinder sizes and configurations.**

STEP 6: When finished using the system, turn off the oxygen supply cylinder valve and continue breathing through the nasal cannula until no further oxygen is detected.

STEP 7: Remove the nasal cannula.

STEP 8: When not in use, store in a clean, dry location.



Fig. G
Proper Positioning of
Nasal Cannula

OXYGEN CYLINDER DURATION

Because the total delivery of oxygen via the EVOLUTION™ conserver is related to breathing rates, it is user adaptive in that the total oxygen delivered per minute will automatically adjust with user need, as expressed by increased or decreased breathing rates. For example, at all settings, twice as much oxygen per minute will be delivered if one breathes twenty (20) times per minute as compared with ten (10) times per minute. The table below provides useful information to be used as a guide.

| | SETTING | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Continuous Flow 2 LPM |
|---------------|-----------------|--|------|------|------|------|-----|-----|-----------------------|
| CYLINDER TYPE | CYLINDER VOLUME | Estimated Cylinder Duration in Hours (Based on 20 breaths per minute) | | | | | | | |
| M2 | 36 liters | 3.0 | 1.5 | 1.0 | 0.8 | 0.6 | 0.5 | 0.4 | 0.3 |
| M4(A) | 113 liters | 9.4 | 4.7 | 3.1 | 2.4 | 1.9 | 1.6 | 0.7 | 0.9 |
| M6(B) | 164 liters | 13.7 | 6.8 | 4.6 | 3.4 | 2.7 | 2.3 | 1.9 | 1.4 |
| ML6 | 171 liters | 14.3 | 7.1 | 4.8 | 3.6 | 2.9 | 2.4 | 2.0 | 1.4 |
| M7 | 198 liters | 16.5 | 8.3 | 5.5 | 4.1 | 3.3 | 2.8 | 2.3 | 1.7 |
| M9(C) | 246 liters | 20.5 | 10.3 | 6.8 | 5.1 | 4.1 | 3.4 | 2.9 | 2.1 |
| D | 425 liters | 35.4 | 17.7 | 11.8 | 8.9 | 7.1 | 5.9 | 5.0 | 3.5 |
| E | 680 liters | 56.7 | 28.3 | 18.9 | 14.2 | 11.3 | 9.4 | 8.1 | 5.7 |

CARE AND MAINTENANCE

The EVOLUTION™ conserver is designed for a long and accurate life; however, as with any electronic device, prudent care is required. The unit should be kept clean and free from moisture and dust, as well as extreme temperature. Do not expose the unit to water, such as when bathing or swimming. It is advisable to keep the device in a carrying bag to afford a degree of protection.

HYGIENIC PREPARATION

The unit and its accessories must be hygienically prepared at regular intervals. Also carry out a functional check after the hygienic preparation (see “Functional Check” on page 18).

INTERVALS

The unit and its accessories must be cleaned at the intervals listed below. We also recommend carrying out disinfection at these intervals. Please refer to the instructions supplied with the disinfectant used. You are advised to use suitable gloves for disinfection work (e.g. household or disposable gloves).

| INTERVAL | COMPONENT | CLEANING | DISINFECTION |
|-------------|---------------|--|-------------------|
| As required | Case/Fittings | Wipe down with a lint-free cloth | Wipe disinfection |
| As required | Carrying Bag | Hand wipe using warm water and mild soap | Wipe disinfection |

CARE AND MAINTENANCE

PROCEDURE

Carry out hygienic preparation of the unit and accessories as described on page 16. We recommend using a 0.5% TERRALIN solution for wipe disinfection. Follow the instructions enclosed with the disinfectant.



WARNING!

- Take special care that no liquids enter the unit, as this may cause damage.
- You should **under no circumstances** use a cleaning agent. Cleaning agents containing alcohol or grease pose a fire risk in combination with compressed oxygen.
- Pay special attention to the oxygen inlet and outlet to make sure they remain free of dust, etc. If the oxygen inlet connection becomes contaminated with dirt, oil, or grease, **DO NOT USE OR ATTEMPT TO CLEAN**. Contact your supplier for service or repair.

CAUTION!

- The carrying bag must never be washed in a washing machine, spin-dried or dried in a laundry drier.



NOTE:

- You are advised to use suitable gloves (e.g. household or disposable gloves) for disinfection work.
- When cleaning your carrying bag, be careful not to scrub the plastic window and do not roughen the seams. Repeat cleaning, if necessary. Hang the bag in a well-ventilated area and allow to air dry. Do not hang in direct sunlight, as this may cause its external fabric to fade.

PATIENT CHANGE

Carry out a wipe disinfection on the unit's surfaces before you hand the unit over to a new patient.

CARE AND MAINTENANCE

FUNCTIONAL CHECK

CHECKING FOR LEAKS

1. Close the valve on the oxygen cylinder.
2. Depressurize the EVOLUTION™ by inhaling several times using the nasal cannula. The gauge indicator should drop to zero.
3. Check that all screwed unions and tube connections are tight. If necessary, tighten them **by hand**.
☛ **NOTE: Do not use a tool.**
4. Ensure that the unit is set to the “PULSE” position.
5. Slowly open the valve on the oxygen cylinder until the needle in the gauge indicator no longer moves.
6. Close the cylinder valve again.
7. Observe the needle in the gauge indicator for approximately one minute.
 - If the needle remains in its position, everything is OK.
 - However, if the contents indicator shows a continuous decrease in pressure, there is a leak in the system. In this event, contact your Home Care Provider.

DISPOSAL



The Unit: Do not dispose of the unit in the household waste. Consult an authorized electronic waste recycling company for the proper disposal of the unit.



Disposal of Batteries: Do not dispose of used batteries in the household waste. Contact a public waste disposal authority for proper disposal instructions.

PRODUCTS, SPARE PARTS, ACCESSORIES

STANDARD PRODUCT

| ORDER NUMBER | DESCRIPTION |
|--------------|---|
| OM-900 | Standard EVOLUTION™ with CGA 870 Connection |

SPARE PARTS

| ORDER NUMBER | DESCRIPTION |
|--------------|--------------------------------------|
| RP-3040 | Black “S” Cylinder Adjustment Handle |
| FR-870G | Seal Washers (U.S. Only), bag of 10 |

ACCESSORIES

| ORDER NUMBER | DESCRIPTION |
|--------------|--|
| OP-150-800 | 3-in-1 carry bag, fits M4, M6, M7, and M9 cylinders |
| OP-150T | Horizontal carrying tote, fits M4, M6, M7 and M9 cylinders |

 **NOTE:** Only manufacturer-specified seal washers may be used with the EVOLUTION™ conserver. These accessories are available from your Home Care Provider.

TROUBLESHOOTING GUIDE

| PROBLEM | PROBABLE CAUSE | SOLUTION |
|----------------------|---|--|
| Unit does not pulse. | Software needs to be reset | Open the battery door and remove the batteries. Wait 10 seconds. Replace the batteries and close the battery door. |
| | Dead batteries. | Replace or recharge batteries. |
| | Batteries installed incorrectly (reversed). | Make sure battery polarity is correct. |
| | Dirty battery holder contacts. | Remove the batteries. Use rubbing alcohol and a cotton swab to clean contacts. |
| | Cylinder valve is closed. | Turn cylinder valve clockwise to open. |
| | Cylinder is empty. | Check the oxygen gauge. Replace the cylinder, if empty. |
| Short battery life. | Oxygen cannula is blocked or kinked. | Remove kinks. Clean or replace, if necessary. |
| | Non-alkaline batteries are used. | Make sure the batteries inside the unit are alkaline. |
| | Batteries are faulty. | Replace batteries. (See “Installing Alkaline Batteries” section on page 12.) |

Non-functioning units are subject to warranty provisions and the manufacturer repair/return policy. If necessary, call your Home Care Provider.

 **NOTE: Do not attempt to open the electronic compartment of the unit. If the case is opened or tampered with, the warranty is void.**

CLASSIFICATIONS AND SPECIFICATIONS

TECHNICAL DATA

SPECIFICATIONS

| EVOLUTION™ | |
|---|---|
| Product class according to 93/42/EEC | IIb |
| Dimensions (L x H x W) | 6.1" L (15.5 cm) x 2.5" H (6.4 cm) x 3.1" W (7.9 cm) |
| Weight | Approximately 14.9 ounces (422 grams) with batteries |
| Input pressure | 200 to 3000 PSI (13.8 bar to 206.8 bar) |
| Temperature range <ul style="list-style-type: none">• Operation• Storage | 14°F to 104°F (-10°C to 40°C) -40°F to 158°F (-40°C to 70°C) |
| Humidity range <ul style="list-style-type: none">• Operation• Storage | 15% - 95% non-condensing Up to 95% non-condensing |
| Operating Altitude | -1,000 to 10,000 feet -304.8 to 3,048 meters 700hPa - 1060hPa |
| Cannula | Standard nasal cannula, up to 7 ft. (2.13 m) |
| Regulator | Built-in, 25 ± 5 PSI (1.7 ± .3 bar) |
| Continuous flow emergency bypass setting | Factory preset at 2.0 ± 0.5 lpm |

CLASSIFICATIONS AND SPECIFICATIONS

SPECIFICATIONS (Cont.)

| | |
|---|--|
| Oxygen delivery at level: | <u>Liter Flow Equivalency</u> |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| Continuous flow | 2 LPM \pm 0.5 LPM |
| Maximum breathing rate | 40 breaths per minute |
| Power supply <ul style="list-style-type: none">• Batteries | (2) x 1.5 V alkaline AA or LR6-type rechargeable batteries |
| Low battery indicator light: <ul style="list-style-type: none">• Blinking red light | Low battery energy level, replace batteries |

CLASSIFICATIONS AND SPECIFICATIONS

SPECIFICATIONS (Cont.)

| | |
|--|--------------------------------------|
| Classification according to EN 60601-1 <ul style="list-style-type: none">• Degree of protection against electric shock• Degree of protection against harmful ingress of water | Type BF IPX1 as per IEC 60529 |
| Electromagnetic compatibility (EMC) according to EN 60601-1-2 <ul style="list-style-type: none">• Radio interference suppression• Radio interference immunity | EN 55011 EN 61000-4-2 to 6, 8+11 |
| Vibrations | Within IEC 60068-2-64 |

CLASSIFICATIONS AND SPECIFICATIONS

SEPARATION DISTANCES

Recommended separation distances between portable and mobile RF Communications equipment and the EVOLUTION™.

The EVOLUTION™ is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the EVOLUTION™ can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications (transmitters) and the EVOLUTION™ as recommended below. According to the maximum output power of the communication equipment.

| Max Output Power (Watts) | Separation distance according to transmission frequency in meters | | |
|-----------------------------|---|--|---|
| | 150 kHz to 80 MHz $D = (3.5/V_1)(\sqrt{P})$ | 80 MHz to 800 MHz $D=(3.5/V_1)(\sqrt{P})$ | 800 MHz to 2.5 GHz $D=(7/V_1)(\sqrt{P})$ |
| 0.01 | 0.12 | 0.12 | 0.23 |
| 0.1 | 0.37 | 0.37 | 0.74 |
| 1 | 1.17 | 1.17 | 2.33 |
| 10 | 3.69 | 3.69 | 7.38 |
| 100 | 11.67 | 11.67 | 23.33 |

CLASSIFICATIONS AND SPECIFICATIONS

SYMBOLS KEY

| SYMBOL | MEANING |
|---|---|
|  | Warning, consult accompanying documents |
|  | Refer to the instruction manual |
| | TYPE PLATE |
|  | Year manufactured |
|  | Degree of protection against electric shock: type BF unit |
|  | Type of protection against electric shock: protection class II unit |
|  | Do not dispose of the unit in the household waste |
| SN | Serial number of the unit |
| IPX1 | The EVOLUTION™ is protected against dripping. A few drops of rain will not damage the unit, but you should protect it from continued exposure to water by keeping it in its bag or carrying it under your jacket. |
|  | Manufacturer |
|  | No smoking or open flames |
| CF | Continuous Flow |

LIMITED WARRANTY

The EVOLUTION™ oxygen conserver has been carefully manufactured and inspected and is warranted to be free from defects in workmanship and materials. Under this warranty, CHAD Therapeutics' obligation shall be limited to the replacement or repair of any such units or parts that prove, by CHAD's inspection, to be defective within two years from the date of purchase. Any abuse, operation other than the intended use of the product as outlined in this manual, negligence, accident or repair by other than authorized service professionals shall immediately void this warranty. This warranty does not extend to the battery or cannula.

CHAD Therapeutics will not accept damages or charges for labor, parts or expenses incurred in making field repairs, except upon written authorization prior to such action.

The foregoing warranty is exclusive and in lieu of all other express warranties. Implied warranties, if any, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, shall not extend beyond the duration of the express warranty provided herein. In no event shall CHAD Therapeutics be liable for loss of use or profit or other collateral, special or consequential damages.

The expected service life of this device is 5 years.

IMPORTANT INFORMATION TO RECORD

Your Name: _____

Date You Received Your Unit: _____

Prescribed Oxygen Flow Setting:

- At Rest: _____
- During Exercise: _____

Home Care Provider's Name: _____

Home Care Provider's Phone Number: (_____) _____

Physician's Name: _____

Physician's Phone Number: (_____) _____

Notes: _____

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