

**EVOLUTION™**  
**MOTION**

**CHAD®**  
**drive™**

**PRODUCT INFORMATION  
AND INSTRUCTIONS**

**OM-900M**



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## GENERAL INFORMATION

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

The EVOLUTION™ MOTION 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.

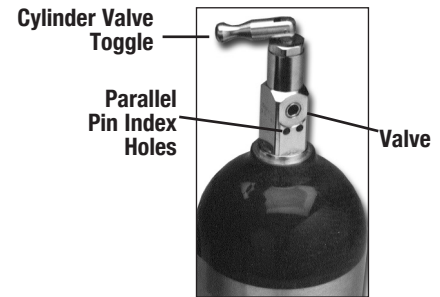


### **NOTE**

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

The CHAD Therapeutics EVOLUTION™ MOTION Model OM-900M is intended for prescription use only, to be used as part of a portable oxygen delivery system for patients that require supplemental oxygen up to 6 liters per minute, in their home and for ambulatory use.

**Federal law restricts this device to sale by or on the order of a physician.**



**FIGURE A**  
CGA 870  
Post-Valve Cylinder

# IMPORTANT SAFETY RULES & PRECAUTIONS

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Read this instruction manual carefully to ensure your complete understanding before operating your EVOLUTION™ MOTION 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™ MOTION 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.**

# IMPORTANT SAFETY RULES & PRECAUTIONS

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## **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™ MOTION 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™ MOTION 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™ MOTION conserver from the cold and from continued exposure to water, such as rain.
- Please observe the section “Hygienic Preparation” on page 17 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.

# IMPORTANT SAFETY RULES & PRECAUTIONS

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## CAUTION! (Cont.)

- Oxygen conserving systems only work reliably upon sufficiently strong inhalation. Therefore, please observe the following:
  - Do not use the EVOLUTION™ MOTION at night or while sleeping;
  - Do not use the EVOLUTION™ MOTION for babies or children;
  - Do not use the EVOLUTION™ MOTION if you only breathe through your mouth.
- Do not use the EVOLUTION™ MOTION if you breathe more than 40 times per minute.
- Closely observe the permissible ambient conditions listed in the “Technical Data” section on pages 23-26. 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™ MOTION 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

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## PURPOSE

The EVOLUTION™ MOTION 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™ MOTION 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™ MOTION conserver greatly increases efficiency in the delivery of oxygen, maximizing the beneficial effects and eliminating unnecessary oxygen waste.

The EVOLUTION™ MOTION is not suitable for use during sleep.

The EVOLUTION™ MOTION 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

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## FUNCTION

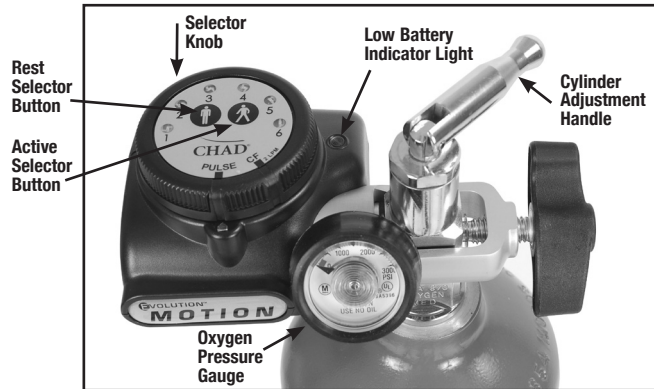
The EVOLUTION™ MOTION OM-900M oxygen therapeutic device, which combines a regulator, motion sensor, and an oxygen conserver, is designed for use as part of an ambulatory oxygen system.

When we breathe, approximately one-third of the time is spent inhaling, and two-third 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™ MOTION 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.

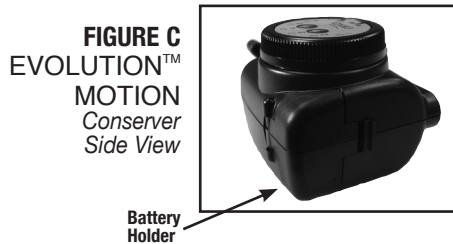
However, it is the addition of the patented motion-sensing technology which makes the OM-900M a unique therapeutic device. For those patients who have increased oxygen requirements based on their activity level, the OM-900M stores two selectable settings; one for rest and one for activity. By sensing the user's activity, the device can automatically switch from a lower setting in "Rest" mode to a higher setting in "Active" mode to meet the user's increased oxygen needs.

For these reasons, the EVOLUTION™ MOTION OM-900M is designed to be an integral component of a lightweight, long-lasting ambulatory system.

# DESCRIPTION OF PARTS & CONTROLS

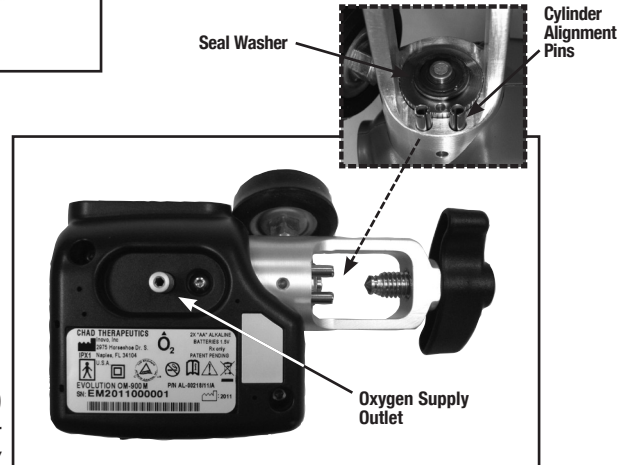


**FIGURE B**  
EVOLUTION™ MOTION Conservor  
*Top View*



**FIGURE C**  
EVOLUTION™ MOTION  
Conservor  
*Side View*

**FIGURE D**  
EVOLUTION™ MOTION Conservor  
*Bottom View*



## OXYGEN INLET CONNECTION

# DESCRIPTION OF PARTS & CONTROLS


• **Low Battery Indicator Light:** The EVOLUTION™ MOTION 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™ MOTION 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™ MOTION 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

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- 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™ MOTION 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™ MOTION conserver is designed to extend the life of portable oxygen supplies when away from the primary source. While the EVOLUTION™ MOTION conserver may be used with stationary oxygen cylinders, it should only be used while awake and reasonably attentive. The EVOLUTION™ MOTION 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™ MOTION 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 one (1) year.

Two (2) AA alkaline batteries are packaged in the box with your EVOLUTION™ MOTION 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™ MOTION 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™ MOTION 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™ MOTION 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™ MOTION 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™  
MOTION conserver to the cylinder



# ASSEMBLY AND USE

## OPERATING INSTRUCTIONS:

**STEP 1:** Make sure the EVOLUTION™ MOTION 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 Rest and Active settings on the EVOLUTION™ MOTION OM-900M conserver (1-6) that are equivalent to your oxygen prescription, press and hold the REST Selector Button  on the Selector Knob until the appropriate LED display light is illuminated. Next, press and hold the Active Selector Button  on the Selector Knob until the appropriate LED display light is illuminated.

 **NOTE:** To check your current settings, press and release the appropriate Rest or Active Selector Button

 **NOTE:** The Active setting can only be set equal to or greater than that of the Rest setting.

Because the EVOLUTION™ MOTION stores the settings from the last time it was used, you only have to complete this step before your first use or after you have made a change to your normal settings.

**STEP 5:** Place the nasal cannula into position with the prongs in the nostrils and begin breathing. [Fig. G] The EVOLUTION™ MOTION 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.



Fig. G  
Proper Positioning of  
Nasal Cannula

## ASSEMBLY AND USE

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### OPERATING INSTRUCTIONS (Cont.):

The Active setting should be used during exercise or activity and the Rest setting should be used when inactive or at rest. The Rest and Active settings should be selected in accordance with a physician's prescription or with a physician's approval.

The motion sensor will select Rest or Active mode in accordance with the below table.

ACTIVITY	RESULT
Motion occurs for less than 2 seconds	Remain in Rest mode
Motion occurs for more than 2 seconds	Switch to Active mode
If motion occurs between 2 and 4 seconds	Revert to Rest mode 10 seconds after motion ceases
If motion occurs for more than 4 seconds	Revert to Rest mode 50 seconds after motion ceases

 **NOTE:** To help prevent possible damage to the unit, keep the EVOLUTION™ MOTION 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.



## OXYGEN CYLINDER DURATION

Because the total delivery of oxygen via the EVOLUTION™ MOTION conserver is related to breathing rates and activity level, it is user adaptive in that the total oxygen delivered per minute will automatically adjust with user need. These cylinder durations can vary widely depending on whether more time is spent in Rest or Active mode and depending on breath rate.

To use the duration chart below, you can use an average of your Rest setting and your Active setting if you are using your device equally between the two setting options. For example, if your Rest setting is “2” and your Active setting is “4”, then your tank duration on an M6(B) cylinder at 20 breaths a minute would be approximately 4.6 hours. If you spend more time in rest mode, your duration would be higher, and if you breathe faster than 20 breaths per minute while active, the duration may be lower. This chart is intended to be used as a guide only and is an estimation of use times. Actual results may vary.

	SETTING	1	2	3	4	5	6	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	0.3
M4(A)	113 liters	9.4	4.7	3.1	2.4	1.9	1.6	0.9
M6(B)	164 liters	13.7	6.8	4.6	3.4	2.7	2.3	1.4
ML6	171 liters	14.3	7.1	4.8	3.6	2.9	2.4	1.4
M7	198 liters	16.5	8.3	5.5	4.1	3.3	2.8	1.7
M9(C)	246 liters	20.5	10.3	6.8	5.1	4.1	3.4	2.1
D	425 liters	35.4	17.7	11.8	8.9	7.1	5.9	3.5
E	680 liters	56.7	28.3	18.9	14.2	11.3	9.4	5.7

## CARE AND MAINTENANCE

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The EVOLUTION™ MOTION 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 19).

### 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

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## 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

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## FUNCTIONAL CHECK

### CHECKING FOR LEAKS

1. Close the valve on the oxygen cylinder.
2. Depressurize the EVOLUTION™ MOTION 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

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## STANDARD PRODUCT

ORDER NUMBER	DESCRIPTION
OM-900M	EVOLUTION™ MOTION 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™ MOTION 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.

## TROUBLESHOOTING GUIDE

PROBLEM	PROBABLE CAUSE	SOLUTION
Increasing Rest Mode setting changes Active Mode setting	The Active Mode setting must be equal to or higher than the Rest Mode setting	Select the Rest Mode setting first, then set the Active Mode according to your prescription
Stays in Active Mode while riding in an automobile	The device may be interpreting the car's motion as activity	The device has been designed to be very responsive to a user's activity. As a result, the device may interpret a person sitting in a car, bus, train, elevator or other forms of mobile transportation as activity. If you are a passenger, you may choose to adjust the Active Mode temporarily to equal your Rest Mode. If you are the driver, consult your physician to see if the Active flow setting is appropriate. NEVER adjust your settings while driving.
The Activity light does not illuminate during motion	The battery may be dead or depleted	Replace or recharge the batteries
	The activity time was not long enough to activate the activity sensor	Continue activity and monitor situation. The Activity light will illuminate after 3-4 seconds of activity
Sometimes the Activity light or Activity Mode stays on longer	Switching times between Rest and Active Modes are variable	The time in which the device switches from Active Mode back to Rest Mode varies depending upon the length of time the user remains active. The longer the user remains active, the longer the device takes to switch back to Rest Mode once the activity has stopped. This is proper operation of the unit.

# CLASSIFICATIONS AND SPECIFICATIONS

## TECHNICAL DATA

### SPECIFICATIONS

EVOLUTION™ MOTION	
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"><li>• Operation</li><li>• Storage</li></ul>	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"><li>• Operation</li><li>• Storage</li></ul>	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

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## SPECIFICATIONS (Cont.)

Oxygen delivery at level:	<u>Liter Flow Equivalency</u>
1	1
2	2
3	3
4	4
5	5
6	6
Continuous flow	2 LPM $\pm$ 0.5 LPM
Maximum breathing rate	40 breaths per minute
Power supply	
• Batteries	(2) x 1.5 V alkaline AA or LR6-type rechargeable batteries
Low battery indicator light:	
• Blinking red light	Low battery energy level, replace batteries

# CLASSIFICATIONS AND SPECIFICATIONS

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## SPECIFICATIONS (Cont.)

Classification according to EN 60601-1 <ul style="list-style-type: none"><li>• Degree of protection against electric shock</li><li>• Degree of protection against harmful ingress of water</li></ul>	Type BF  IPX1 as per IEC 60529
Electromagnetic compatibility (EMC) according to EN 60601-1-2 <ul style="list-style-type: none"><li>• Radio interference suppression</li><li>• Radio interference immunity</li></ul>	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™ MOTION.

The EVOLUTION™ MOTION is intended for use in the electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the EVOLUTION™ MOTION can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications (transmitters) and the EVOLUTION™ MOTION 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
	<b>TYPE PLATE</b>
	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™ MOTION 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

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The EVOLUTION™ MOTION 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.

## IMPORTANT INFORMATION TO RECORD

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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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# NOTES

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