

10L STATIONARY OXYGEN CONCENTRATOR



WARNINGS



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



WARNING: There is a risk of fire associated with oxygen enrichment during oxygen therapy. Do not use the oxygen concentrator or accessories near sparks or open flames.

FOLLOW THESE SAFETY WARNINGS:

- This product should not be used in the presence of any flammable substance. This product should not be used with nitrous oxide.
- The oxygen concentrator should be kept at least 6.6 feet (2 meters) away from heat, sparks, or open flames.
- Smoking while wearing an oxygen cannula or face mask may cause facial burns and possibly death.
- Removing the cannula or face mask and placing it on any bedding, sofas or other cushions or fabrics may cause the materials to ignite.
- Do not expose to cigarettes or other lit tobacco products, other heat sources or flames of any type. Serious injury is possible, including death.
- **Smoking Safety:** Always turn off the concentrator and remove the cannula before smoking. Leave the room and smoke only in areas where no oxygen equipment is present. If you cannot leave the room, wait at least 10 minutes after turning off the device before smoking.
- **Tubing and Cord Awareness:** Be mindful of oxygen tubing and power cords at all times to prevent tripping, falling, or accidental entanglement.
- **Child Safety:** Use extra caution when oxygen equipment is around children. Keep them at a safe distance to prevent misuse, tampering, or choking hazards from small parts.
- **Pet Safety:** Keep pets away from the LM10A 10L Stationary Oxygen Concentrator. Bites, scratches, or contact with pet waste can damage the unit.
- **Pest Prevention:** Ensure your home environment is free of pests. Rodents and insects can damage the internal electrical components of the device. If you suspect infestation, contact your provider immediately.

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INDICATIONS FOR USE — The Oxygen Concentrator provides supplemental low-flow oxygen therapy for patients in the home, nursing homes, patient care facilities, and similar settings. This device is not intended to be life-sustaining and does not offer any patient monitoring capabilities.

Patient group: Adult, geriatric and pediatric.



WARNING: Under certain circumstances, oxygen therapy can be hazardous. Seeking medical advice before using an oxygen concentrator is advisable.

NOTE: Any serious Incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the countries/areas in which the user and/or patient is established.

IMPORTANT SAFEGUARDS

This instruction guide will acquaint you with the LM10A 10L Stationary Oxygen Concentrator. Please read and understand this user manual before operating your unit. This user manual contains essential safeguards throughout; pay special attention to all safety information. If you have any questions, please contact your provider prior to use.

INTENDED USE

The LM10A 10L Stationary Oxygen Concentrator provides supplemental oxygen to patients who are in need of supplemental oxygen as indicated and prescribed by their health care provider. The LM10A 10L Stationary Oxygen Concentrator can be used in the home or a healthcare facility. It is not intended to sustain or support life.

INDICATIONS AND CONTRAINDICATIONS

The LM10A 10L Stationary Oxygen Concentrator is indicated for use by patients with a prescription from their Provider. This device is not indicated for newborn or infant use. Use of this product by a child should be under the direct supervision of a trained patient caregiver.



WARNING: For your safety, use of the oxygen concentrator should be according to the prescription determined by your Provider. If you feel discomfort or experience a medical emergency while undergoing oxygen therapy, seek medical assistance immediately to avoid harm.



WARNING: The LM10A 10L Stationary Oxygen Concentrator is a prescription device intended to be used under the care of a Medical Professional. This user manual is intended to provide guidance on the safe operation of the device, but is not intended to replace the guidance of the Medical Professional.



WARNING: An alternate source of oxygen should be provided by your home care company in the case of power outage or mechanical failure.



WARNING: Do not use your oxygen concentrator in the presence of flammable gases. Exposure to combustible gases can result in rapid burning and cause property damage, bodily injury, or death. Do not use oil, grease, petroleum-based, or other flammable products with oxygen delivery accessories. Use only water-based, oxygen-compatible lotions or salves on your skin. Oxygen accelerates the combustion of flammable substances.



WARNING: Clean the cabinet, control panel, and power cord only with a mild household cleaner applied with a damp (not wet) cloth or sponge. Then wipe all surfaces dry. Do not allow any liquid to get inside the device. Please check that the cannula remains free of dust, waste, and particles.



WARNING: Do not operate the LM10A 10L Stationary Oxygen Concentrator in a confined space such as a closet, behind curtains or in an enclosed area which lacks sufficient ventilation. Failure to comply with this may cause the LM10A 10L Stationary Oxygen Concentrator to overheat and impair performance of the device.

Continued on next page

IMPORTANT SAFEGUARDS - CONTINUED



WARNING: The LM10A 10L Stationary Oxygen Concentrator should be placed in an area that is free of smoke, pollutants and other fumes.



WARNING: The LM10A 10L Stationary Oxygen Concentrator is designed to be used only with approved Rhythm Healthcare accessories. Failure to utilize designated accessories or replacement parts may cause damage to, or failure of, the device. Use of non-approved replacement parts and accessories can void the Warranty.



WARNING: Inspect the LM10A 10L Stationary Oxygen Concentrator before each use. If the unit has been dropped, damaged or exposed to water, it should not be used. Inspect the power cord and plug prior to use. If damage is present, do not utilize the LM10A 10L Stationary Oxygen Concentrator. If the above damage is present, please contact your Provider.



WARNING: Do not allow either the Air Intake or the Air Outlet vents to become blocked. Do not drop or insert any objects into any openings on the device. Failure to comply can cause the oxygen concentrator to overheat and impair performance.



WARNING: If you are experiencing discomfort or a medical emergency, please contact your Provider or call 911.



WARNING: Do not use the device in environments above an altitude of 6,561 feet (2,000 meters); outside of the intended operating temperature range of 41°F to 104°F (5°C to 40°C); or in environments exceeding 80% relative humidity. Doing so may cause a decrease in the device's oxygen concentration and other performance, affecting treatment effectiveness.



WARNING: The device cabinet should not be opened except by trained personnel. Failure to comply may void the Warranty.

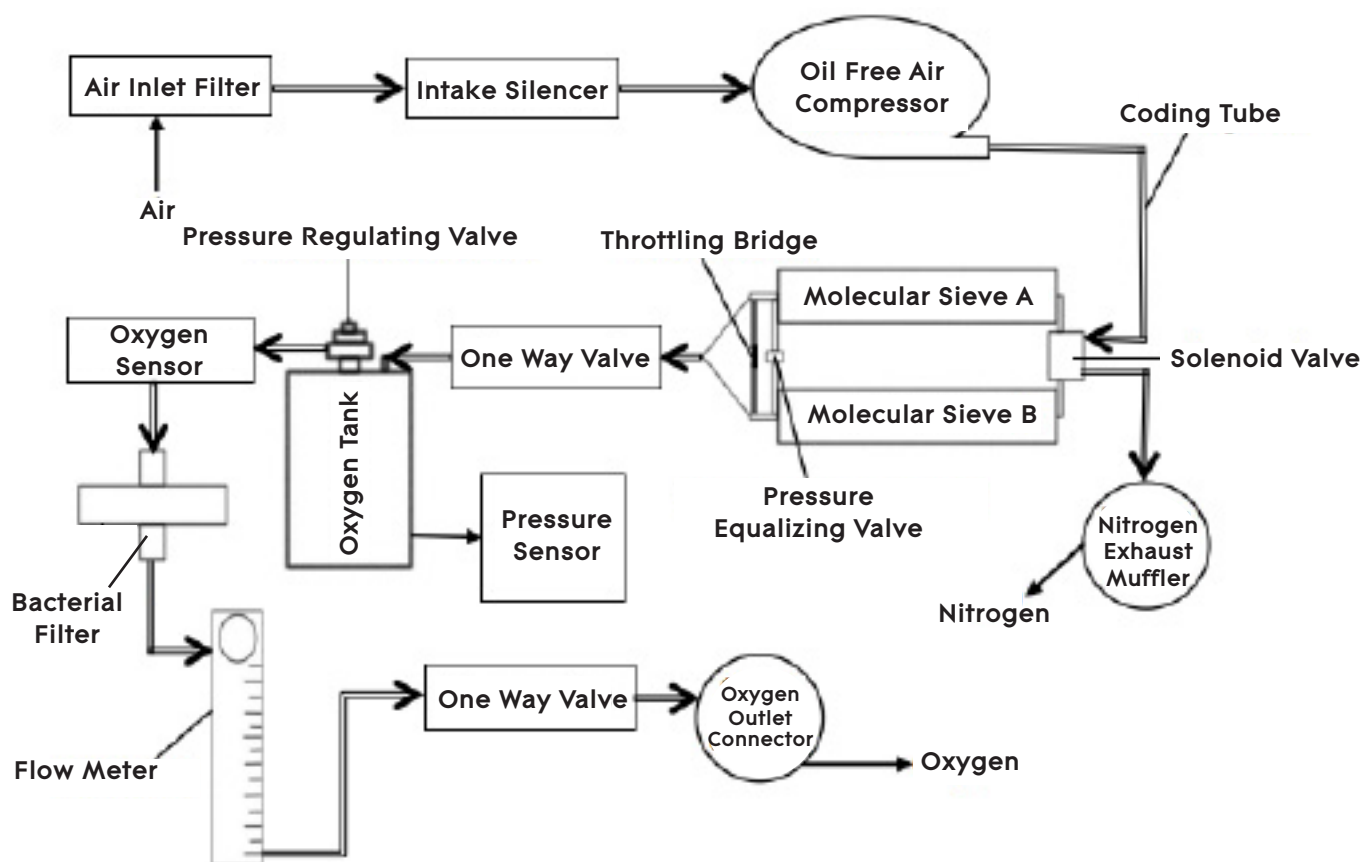


WARNING: The LM10A 10L Stationary Oxygen Concentrator is for single patient use only.



CAUTION: If an alarm triggers or malfunction of the oxygen concentrator happens, consult the troubleshooting section in this manual or contact your equipment provider. Failure to follow all manufacturer's instructions may void the Warranty.

PNEUMATIC DIAGRAM FOR REFERENCE



IMPORTANT PARTS OF YOUR CONCENTRATOR

Familiarize yourself with your oxygen concentrator before operating.

Before using this product, ensure you have the following items:

- 1 x User Manual
- 1 x 10L Stationary Oxygen Concentrator
- 1 x Humidifier Bottle
- 1 x Humidifier Bottle Adapter
- 1 x Nasal Cannula
- 1 x Small Mesh Filter
- 1 x Filter Door

NOTE: Please use a nasal cannula that is listed under FDA medical devices. The nasal cannula can be found using the "Federal Code of Regulations. 868.5340 Nasal oxygen cannula". Please use correct sizing when using Nasal Cannula.

The recommended size is:

L1	.6in / 15mm $\pm$ 20%
L2	.8in / 12mm $\pm$ 20%
External diameter	.22in / 5.5mm $\pm$.02" / 0.5mm
Length	6.5ft / 2,000mm $\pm$ 10%

IMPORTANT PARTS OF YOUR CONCENTRATOR - CONTINUED

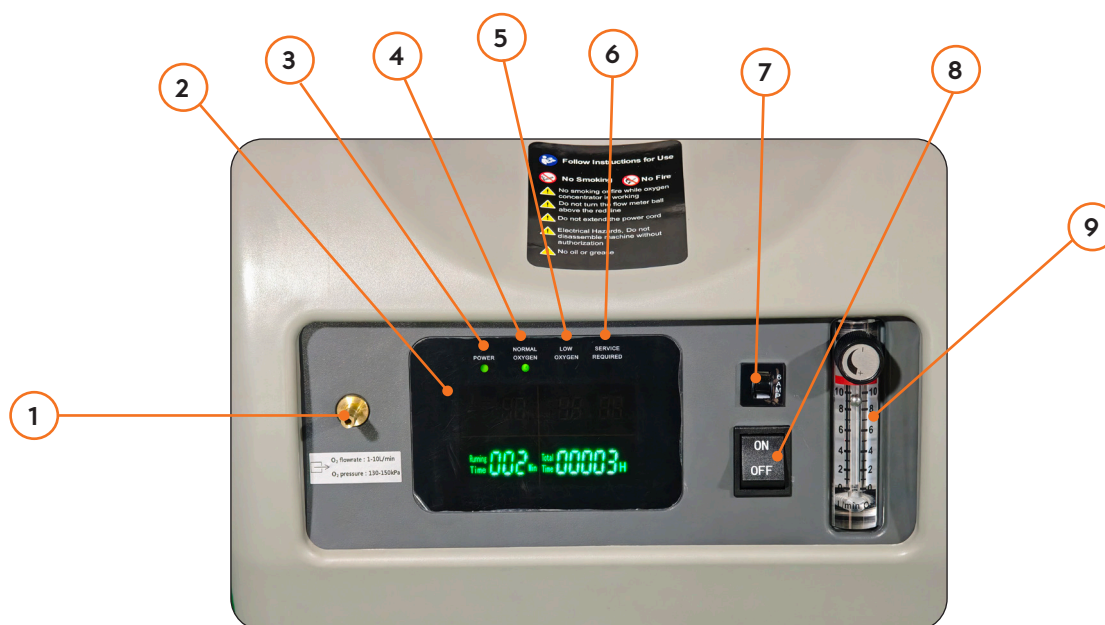


Figure 1

1. Oxygen Outlet
2. Display Monitor
3. Power Indicator Light (Green)
4. Normal Oxygen Indicator Light (Green: O₂ over 82%)
5. Low Oxygen Indicator Light (Yellow: After 2 Minutes of O₂ less than 82% or Pressure Failure)
6. Service Required Indicator Light (Red)
7. Fuse/Circuit Breaker
8. ON/OFF Power Switch
9. Flow meter



Figure 1.1
Operation Warning Label

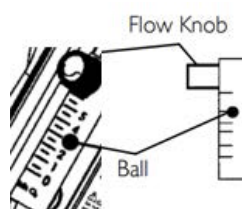


Figure 1.2
Flow meter Control Knob

- 10. The Small Mesh Screen and Air Inlet Filter prevent dirt, dust, and lint from entering your unit
- 11. The Filter Door prevents dirt, dust, and lint from entering your unit
- 12. Exhaust Vent

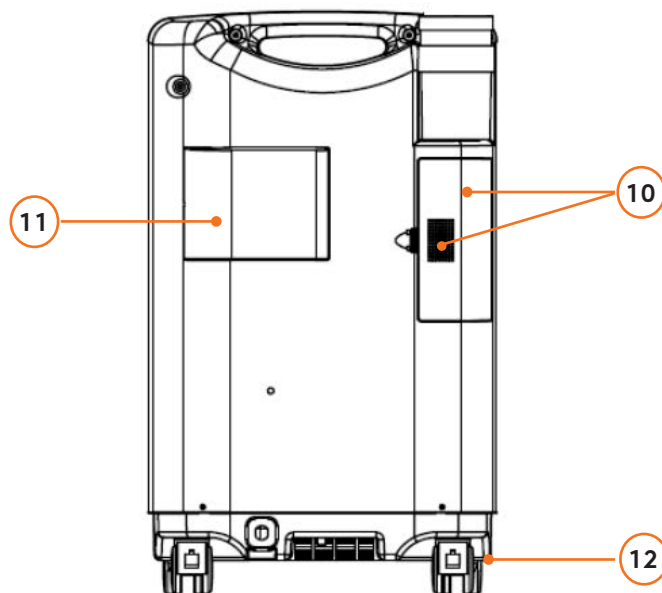


Figure 3

NOTE: Turn the flow rate knob to the setting prescribed by your provider.
Recommended flow rate is between 1.0 L/Min (Liters per minute) and 10 L/Min.

NOTE: To properly read the flow meter, look at the indicator lines on the flow meter tube, which show Liters per minute oxygen flow. Turn the flow rate knob until the float ball rises to the line of the prescribed flow rate. Center the float ball on the line.



Never set the flow higher than 10 L/Min.

Filter Door
(LM10A-25)



Figure 3.1
Back of device

Air Inlet Filter (LM10A-ILF)

Small Mesh Screen (LM10A-42)



Figure 3.2
Back of device (Right side)

SETTING UP YOUR OXYGEN CONCENTRATOR

1. Place the LM10A 10L Stationary Oxygen Concentrator in an area free of lint, dust and direct light sources including sunlight. These conditions may degrade the performance of the device.



Portable and mobile RF communication equipment may affect the performance of the LM10A 10L Stationary Oxygen Concentrator, and there may be strong electromagnetic interference when using, such as near mobile phones, microwave ovens, etc.

NOTE: Do not connect the LM10A 10L Stationary Oxygen Concentrator to an electrical outlet that is controlled by a switch. No other appliances should share the wall outlet with the LM10A 10L Stationary Oxygen Concentrator. Do not use extension cords with the LM10A 10L Stationary Oxygen Concentrator.



WARNING: Device operation above or outside of the voltage, temperature, humidity and/or altitude values specified may decrease oxygen concentration levels and may cause damage to the unit.



WARNING: The LM10A 10L Stationary Oxygen Concentrator should be placed in a position where the plug to the device is easy to access in case the device needs to be unplugged quickly.

2. Your Provider has prescribed the use of a nasal cannula, catheter or face mask. In most cases, these are already attached to the oxygen tubing. If they are not attached, please follow the manufacturer's instructions for use.



WARNING: Please use oxygen tubing no longer than 50 ft (15.2 meters) in length. Use of tubing longer than 50 ft (15.2 meters) may result in a decrease in the flow and/or purity of oxygen delivered.

NASAL CANNULA

Connect the cannula to the oxygen outlet (described further in the next section) and position the nasal cannula on your face, as shown below (Figure 4, 5, 6, 7), and breathe normally through your nose.

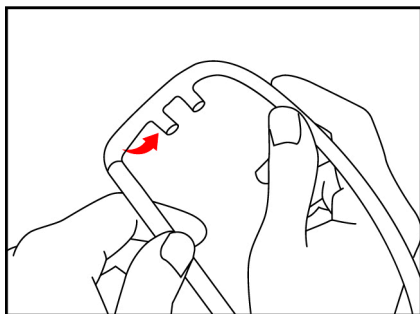


Figure 4

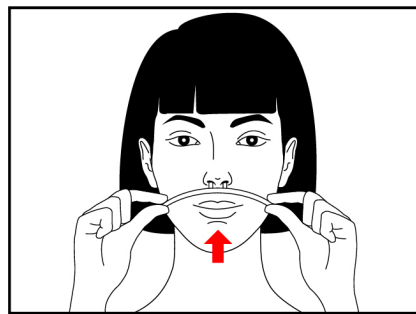


Figure 5



Figure 6

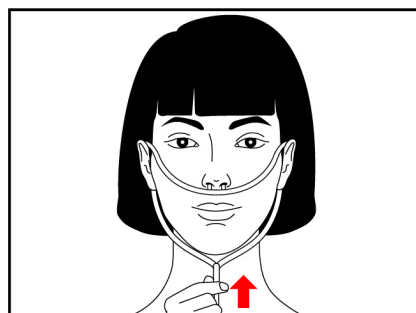


Figure 7

Replace the cannula and oxygen supply tubing regularly, as recommended by your Provider. Clean and replace the cannula as instructed by your Provider.

NOTE: Ensure the nasal cannula is fully inserted and securely positioned. Proper placement is essential for the Oxygen Concentrator to accurately detect inhalation and deliver oxygen effectively. During each breath in, you should hear or feel oxygen flowing through the nasal prongs.

BEFORE OPERATING YOUR OXYGEN CONCENTRATOR

1. Before operating your unit always check to ensure the Small Mesh Screen and Filter Door (located on the back of your unit) is clean. See cleaning instructions in the “Caring and Periodic Maintenance” on page 16.
2. Attach the appropriate oxygen accessories to the oxygen outlet.

OXYGEN TUBING CONNECTION:

3. Thread the oxygen outlet connector onto the oxygen outlet.
4. Attach the oxygen tubing directly to the connector. (Figure 6)

Ensure all connections are secure.

Your Provider has prescribed either a nasal cannula, catheter, or face mask. In most cases, they are already attached to the oxygen tubing. If not, follow the manufacturer’s instructions for attachment.



Figure 8

CONNECTING NASAL CANNULA



CAUTION: Replace the cannula as instructed by your Provider.

Check with your Provider to determine how often the cannula should be replaced.

Always follow cannula manufacturer’s instructions for proper use.

5. Connect the cannula tubing to the oxygen outlet connector as shown in Figure 6.
6. To connect the cannula to the patient, position the cannula tips in patient’s nostrils and pass tubing over both ears and under chin. Follow manufacturer’s instructions. Slide adapter up tubing to adjust for comfort and fit. See page 12 for proper fit of nasal cannula.

Once the cannula is secured, breathe normally through the nose. The device will deliver the oxygen during inhalation.

7. Remove the power cord completely from the Velcro strap, ensure the power switch is in the “Off” position, and insert the plug into the wall outlet; the unit is double insulated to guard against electric shock. Do not connect to an electrical outlet controlled by a wall switch.

NOTE: If the tubing is assembled correctly, when the flow setting more than 1 L/Min, you can feel the oxygen flowing through the cannula.

NOTE: Normal operation environment: Temperature 41°F to 104°F (5°C to 40°C) , Humidity: ≤80%, Atmospheric pressure 86 to 106 kPa (10.3 to 15.4 PSI). The time required for the machine to warm up from minimum storage temperature -30°F (-34°C) to be ready for intended use is at least 75 minutes; from its maximum storage temperature of 50°F (10°C) after use to its readiness, the time required is about 30 minutes.

1. Press the power switch to the "ON" position. When the unit is turned on the POWER and NORMAL OXYGEN lights will illuminate and the machine will begin the flow of oxygen. The concentrator requires a 2-minute warm-up period to reach the set flow rate and oxygen concentration.
2. **NOTE:** If an audible low-frequency vibration sound is detected, the unit is not operating properly. Refer to the Minor Troubleshooting chart on page 19 and contact your Provider if necessary.

NOTE: After 2 minutes, if LOW OXYGEN or SERVICE REQUIRED lights illuminate and the audible alarm sounds, the unit is not operating properly. Refer to Minor Troubleshooting chart on page 19 and contact your Provider if necessary.

3. **To Verify the Alarm System is Functioning Properly, Follow these Steps:**
 - After turning on the oxygen concentrator and allowing it to run for 2 minutes, shut off the gas flow by turning the flow meter knob clockwise until it stops.
 - The flow meter ball should align with the 0 L/min mark. Within 30 seconds, the machine should trigger a Low Flow alarm and display a red "SERVICE REQUIRED" indicator light.
 - Then, readjust the flow rate to approximately 1 L/min.
 - The alarm should clear within 60 seconds of continued operation.

NOTE: If a low-frequency vibration is detected, the unit is not operating properly. Refer to the Minor Troubleshooting chart on Page 19 and contact your provider if necessary.

NOTE: If the audible signal alarms and the unit is not operating, there is no power to the unit. Refer to the Minor Troubleshooting chart and contact your provider if necessary.

4. Check the flow meter to ensure that the flow meter ball is centered on the indicator line for your prescribed flow rate. Adjust as needed by turning the flow rate knob.

Flow Rate Adjustment:

- Turning clockwise (to the right), will decrease the flow. If you set it to 0 Liter/min, it will eventually stop the oxygen flow.
- Turning counterclockwise (to the left) will decrease the flow.
- Ensure the ball is centered on the line corresponding to the number of liters. The ball should not touch or exceed the red line (shown in Figure 9).
- Note: Setting the flow higher than the red line may cause the Concentrator to deliver oxygen concentration below the specified range and may cause the device to alarm with an E2 error code.



Figure 9



It is crucial to follow your oxygen prescription. Do not increase or decrease the flow of oxygen without first consulting your Provider.

NOTE: For prescriptions of 10 L/min, ensure the ball is centered on the 10-Liter line. The ball should not touch the red line. Setting the flow higher than 10 L/min may cause the oxygen concentration level to drop.

NOTE: The Low-Flow Alarm may activate if the flow meter ball is set below 1 L/min or if there is a system gas leak. The unit will continue to operate, but the SERVICE REQUIRED light will illuminate, and an audible alarm will sound. Adjust the flow meter to your prescribed flow rate.

5. Ensure all oxygen accessories are securely connected and that there are no gas leaks. To check for leaks, completely block the cannula—if properly sealed, the flow meter ball should drop to the zero (0) line.
6. Once confirmed, the LM10A 10L Stationary Oxygen Concentrator is ready for use. Properly position the nasal cannula (see Figure 5) and allow a 2-minute warm-up period for the device to reach the specified performance levels..

NOTE: The LM10A 10L Stationary Oxygen Concentrator is equipped with an oxygen sensor that monitors the oxygen concentration level. When the concentration is within the acceptable range, the NORMAL OXYGEN indicator (green light) will illuminate. If the concentration drops below the acceptable level, the green light will turn off and the LOW OXYGEN indicator (yellow light) will illuminate. In this case, switch to your backup oxygen system and refer to the Minor Troubleshooting section on page 19. Contact your Provider for further assistance.

NOTE: As an added safety measure, if oxygen purity continues to decline, the SERVICE REQUIRED indicator and audible alarm will activate. Contact your Provider immediately and switch to your backup oxygen system. Do not attempt to perform any maintenance yourself. For more information, refer to the Alarm and Alert System section.

CARING AND PERIODIC MAINTENANCE



WARNING: Before attempting any cleaning procedures, turn the unit “OFF”.



WARNING: Do not submerge this device in liquid. Do not expose to water or precipitation. Do not expose to dusty conditions.



CAUTION: Do not use cleaning agents other than those specified in this manual. Allow the cleaning solution to dry from the cleaned surface before use.

EXTERIOR CABINET

Clean the exterior cabinet with a soft cloth slightly dampened with soapy water or with anti-bacterial wipes (Isopropyl alcohol 70% solution).

IMPORTANT: You should clean the external cabinet of this device weekly. Accessories should be cleaned according to the manufacturer’s guidelines.

CANNULA

Replace the cannula and oxygen supply tubing regularly, as recommended by your Provider. Clean and replace the cannula as instructed by your Provider.

SMALL MESH SCREEN (LM10A-42) AND FILTER DOOR (LM10A-25)

The Small Mesh Screen and Filter Door should be inspected weekly. Upon visual inspection if they are dirty or dusty they should be rinsed with warm water. For a very dirty screen/door you may use a soft bristled brush. The Small Mesh Screen and Filter Door should be COMPLETELY dry before placing them back into the LM10A.



WARNING: Do not lubricate fittings, connections, tubing, or other accessories of the oxygen concentrator to avoid the risk of fire and burns.



WARNING: Do not attempt to operate the unit without the Air Inlet Filter (LM10A-ILF) the Bacterial Filter (LM10A-BF), the Small Mesh Screen (LM10A-42) and the Filter Door (LM10A-25) in place.

PERIODIC CLEANING AND MAINTENANCE

1. Clean the exterior cabinet every 7 days with a soft, clean and lint-free cloth slightly dampened with soapy water or with anti- bacterial wipes (Isopropyl alcohol 70% solution) and wipe it dry.
2. Check the cord, the plug on the back of the device, the power switch and the indicator light for possible damage.

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NOTE: THE FOLLOWING PROCEDURES SHOULD ONLY BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN.

1. Disconnect the power cord before opening the concentrator and remove all dust deposits inside the cabinet with an appropriate vacuum cleaner and replace the Bacterial Filter (LM10A-BF) with each Compressor servicing.

2. AIR INLET FILTER (LM10A-ILF)

Inspect the Air Inlet Filter in between patients and replace if needed. Change this filter if torn, damaged, as needed, or every three years.

Follow these steps:

- a. Open the cabinet door.
- b. Pull out the old Air Inlet Filter from the Concentrator.
- c. Then insert the new Air Inlet Filter and close the cabinet door.

There are many different types of oxygen tubing, cannulas and masks that can be used with this device. You should contact your Provider for recommendations on which of these devices will be best for you. They should also give you advice on the proper usage, maintenance, and cleaning.

NOTE: Only use Rhythm Healthcare accessories with this unit. Using other accessories may impair the concentrator's performance and will void the warranty.

NOTE: If the Service required light illuminates and the audible signal beeps but the unit is not operating, there is no power to the unit. Refer to the Minor Troubleshooting chart and contact your Provider.

NOTE: Responsibly dispose of waste from unit using local authorities' appropriate methods and guidelines.

NOTE: To preserve the environment, disposal of the concentrator should use local authorities' appropriate methods.

HANDLING AND STORAGE BEFORE NEXT USE

- If the oxygen concentrator is not used daily or needs to be transported over long distances, store it in its original factory packaging to prevent moisture from affecting the molecular sieve.
- If stored for more than three months, run the machine in a normal operating environment for at least 30 minutes to ensure proper oxygen concentration, flow rate, and alarm functionality. If any issues arise, contact your Provider for repairs before using it again.
- Storage and Transportation Environment Requirements: Temperature -22°F to 158°F (-30°C to 70°C), Humidity 10% – 95% RH (no condensation), Atmospheric Pressure 50-106 kPa.
- Operating Environment Requirements: Temperature: 41°F to 104°F (5°C to 40°C), Humidity ≤ 80% RH (without condensation), Atmospheric Pressure 86-106kPa.

ALARM AND ALERT SYSTEM

1. The LM10A 10L Stationary Oxygen Concentrator includes a Technical alarm system with visual LED indicators, audible alarms and Error Codes displayed on the screen, which monitors the state of the device and alerts of abnormal operation, loss of essential performance or failures.
2. **LED INDICATORS (AN AUDIBLE ALARM WILL ACCOMPANY LED ILLUMINATION)**

LED Color	Blink Speed	Sound Alarm Interval	After turning on the machine and allowing for a 2 minute warm up period, check to ensure the alarm system is functioning
Red	Fast	Continuous Short Beeps, 4 Sec Interval	Turn flow meter knob clockwise to decrease the flow rate to 0 line. Sound pressure level about 60dB(A)
Yellow	Medium	Three Beeps, 16 Sec Interval	Turn flow meter knob counter clockwise to increase the flow rate to maximum line. Sound pressure level about 60dB(A)

3. THE ALARM SYSTEM

Error Code	Priority	Alarm Condition	Visual Signal	Auditory Signal
E1	High	After running for 2 minutes, oxygen concentration reaches $73\pm3\%$. Device continues to run.	Red, Blinking	Continuous Short Beeps, 4 Sec Interval
E2	Medium	After running for 2 minutes, oxygen concentration reaches 82%. Device continues to run.	Yellow, Blinking	Three Beeps, 16 Sec Interval
E3	Low	After running for 2 minutes, system pressure is too high. Device stops running.	Yellow, Solid	One Beep, 24 Sec Interval
E4	Low	After running for 2 minutes, system pressure is too low. Device continues to run.	Yellow, Solid	One Beep, 16 Sec Interval
E5	High	After running for 2 minutes, no signal detected from the Oxygen Sensor Circuit Board. Device continues to run.	Red, Blinking	Continuous Short Beeps 4 Sec Interval
E6	High	After running for 2 minutes, flow rate drops below 0.4 L/min. Device continues to run.	Red, Blinking	Continuous Short Beeps 4 Sec Interval
E7	Low	After running for 2 minutes, no signal from Display Circuit Board. Device continues to run.	Yellow, Solid	No Auditory Signal
/	High	Sudden power failure. Device shuts down immediately (within 1 second).	Red, Blinking	Continuous Short Beeps 4 Sec Interval

4. ACTIONS AFTER ALERT

If the oxygen concentration falls below the acceptable level, the green Normal Oxygen LED will turn off, while the yellow Low Oxygen or red LED will illuminate, and Error Code E2 will display. Switch to your backup oxygen system and refer to the Troubleshooting section in this guide. Contact your Provider for assistance.

If Error Code E6 displays after startup, the red LED illuminates, and an audible alarm sounds, adjust the flow rate knob until the float ball indicates an oxygen flow between 1 to 10 L/min. The alarm should stop; if it persists, contact your Provider.

In the event of a sudden power failure lasting less than 30 seconds, the alarm system will reset automatically.



WARNING: Patients who are unable to communicate discomfort require additional monitoring or observation while on oxygen therapy.

MINOR TROUBLESHOOTING

Issue	Probable Cause	Solution
A. Unit does not operate; the Power indicator is NOT illuminated when the power switch is "ON". Audible beep and Service Required light is flashing.	Power cord not properly inserted into wall outlet.	Check power connection at the wall outlet.
	No power at wall outlet.	Check your home circuit breaker and reset if necessary. Use a different wall outlet if the problem occurs again.
	Oxygen concentrator circuit breaker activated.	Press the concentrator circuit breaker button located above the power switch. Use a different wall outlet if the problem occurs again.
B. Unit operates; the Power indicator is illuminated when the Power switch is "On". Red Service Required light is illuminated. Audible beep may be sounding.	Air filter is blocked.	Check the Air Inlet Filter, Small Mesh Screen and Filter Door. If the Mesh Screen and Filter Door are dirty, please follow the cleaning instructions on page 16. Inspect the Air Inlet Filter (LM10A-ILF) in between patients and replace if needed. Change this filter if torn, damaged, as needed, or every three years. Replace the Bacterial Filter (LM10A-BF) with each Compressor servicing.
	Exhaust is blocked.	Check the exhaust area; ensure there is nothing restricting the unit exhaust.
	Blocked or defective cannula, catheter, face mask or oxygen tubing.	Disconnect the oxygen tubing from the Oxygen Outlet. If you feel oxygen coming from the Oxygen Outlet, clean or replace the tubing. After cleaning or replacing the cannula, catheter, or face mask tubing, reconnect it to the Oxygen Outlet. Normal oxygen flow should resume. If not, contact your Provider.
	Gas leakage	Check all connections for proper fit and possible leaks: Inspect the connection between the Oxygen Outlet and the tubing. Also, check all tubing connections for any signs of gas leakage. Replace any components as needed.
	Compressor Failure	Contact your Provider
	Sieve beds may be faulty or exhausted.	Contact your Provider
	Flow meter set too low.	Set flow meter to prescribed flow rate.
	Other	Contact your Provider
C. The Unit is turned ON, the Power Indicator light is illuminated, but a low-frequency vibration sound is heard.		Turn your unit "OFF", Switch to your reserve oxygen system, and contact your Provider immediately.
D. If any other problems occur with your oxygen concentrator.		Turn your unit "OFF", Switch to your reserve oxygen system, and contact your Provider immediately.
E. Red Service Required light is illuminated and an intermittent audible signal is sounding.	Flow Meter is not properly set.	Ensure that the flow meter is set to the prescription provided by your Provider.
	Air filter is blocked.	Check the Small Mesh Screen and Filter Door. If the Mesh Screen and Filter Door are dirty, please follow the cleaning instructions on page 16. If this doesn't solve your issue, call your Provider immediately and use your backup oxygen.
	Exhaust is blocked.	Check the exhaust area: ensure there is nothing restricting the unit exhaust. If this does not work, contact your Provider and use your backup oxygen.
F. Yellow light is on and the intermittent audible Signal is sounding	Flow meter is not properly set.	Ensure that the flow meter is set to the prescription provided by your Provider.
	Air filter is blocked.	Check the Small Mesh Screen and Filter Door. If the Mesh Screen and Filter Door are dirty, please follow the cleaning instructions on page 16. Inspect the Air Inlet Filter (LM10A-ILF) in between patients and replace if needed. Change this filter if torn, damaged, as needed, or every three years. Replace the Bacterial Filter (LM10A-BF) with each Compressor servicing.
	Exhaust is blocked.	Check the exhaust area. Ensure there is nothing restricting the unit exhaust. If this does not work, contact your Provider and use your backup oxygen.
	Blocked or defective cannula, catheter, face mask or oxygen tubing.	Detach cannula, catheter, or face mask. If proper flow is restored, clean or replace if necessary. Disconnect the oxygen tubing at the oxygen outlet. If proper flow is restored, check oxygen tubing for obstructions or kinks. Replace if necessary.
	Gas leakage	Check all connections for proper fit and possible leaks: Inspect the connection between the Oxygen Outlet and the tubing. Also, check all tubing connections for any signs of gas leakage. Replace any components as needed.

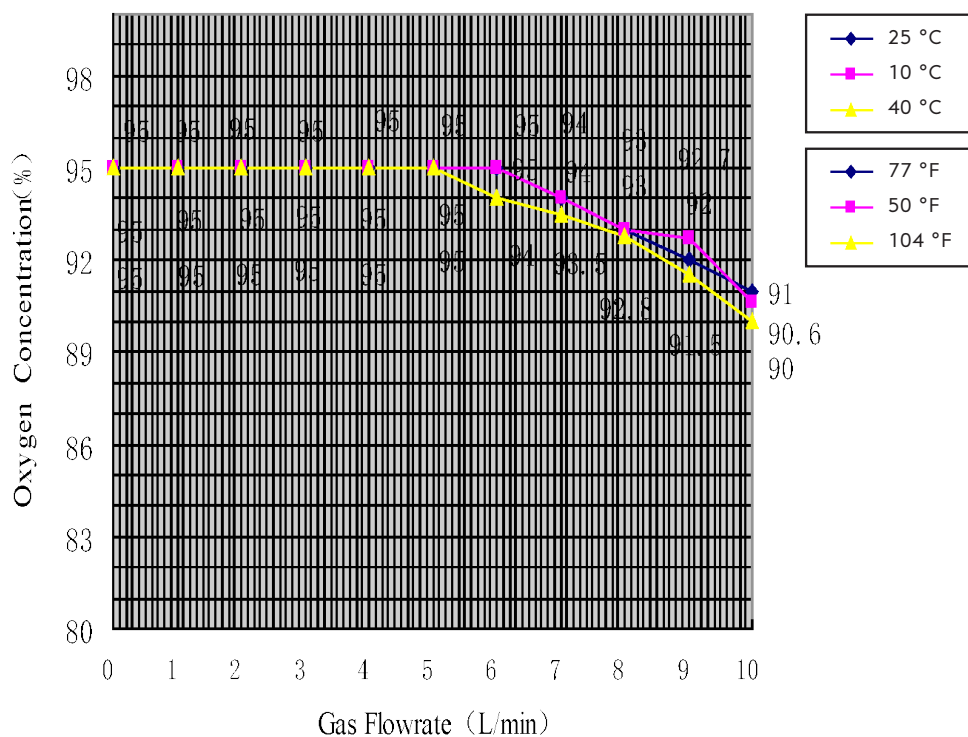
SPECIFICATIONS

Item	Rating
Delivery Rate	1 to 10 L/Min
Maximum Recommended Flow (@ nominal outlet pressures of zero and 7 kPa)	10 ± 10% L/Min
Outlet Pressure in Normal Conditions	130 - 150kPa, 18-22 PSI
Electrical Rating	LM10A 10L Stationary Oxygen Concentrator/115: 115VAC, 60Hz, 650VA
Oxygen Percentage	≥90 ± 3% @10 L/Min after warm-up period of 2 minutes.
Operating Environment Range	Temperature: 41°F to 104°F (5°C to 40°C) Humidity: ≤80% Atmospheric Pressure: 86 - 106kPa (10.3 - 15.4 PSI)
Operating Altitude (tested at 70°F/21°C only)	≤ 6,561 ft (2,000 meters)
The visible "low oxygen" indicator will activate at the following level	Less than 82% will activate the yellow "low oxygen" light after 2 minute warm-up time.
Maximum Limited pressure in Single Fault Condition	150 kPa ± 20 kPa (21.75 PSI ± 2.9 PSI)
Back pressure	0 kPa or 7kPa with cannula
Net Weight	50.7 lbs (23 kg)
Sound Level	≤60±2 dBA at 3 L/Min & 10L/Min
Dimensions	24.5" H x 14.6" W x 13.6" D (62 x 37 x 34.5cm)
Operating System	Time Cycle / Pressure Swing
Storage and Transport Conditions	Temperature: -22°F to 158°F (-30°C to 70°C) Humidity: 10% to 95% Atmospheric Pressure: 50 - 106 kPa (7.3 - 15.4 PSI)
Equipment Class and Type	Protection against electric shock: Class II Degree of Protection against electric shock: TYPE BF
Expected Service Lifetime	5 years
Warranty	3 Year Warranty, 15,000 Hours on the Compressor
Molecular Sieve System	Dimensions: 3.56" × 18.5" (90.5 x 470mm) for each set. Total 2 sets. Weight: 4.4 lbs (2 kg) for each set. Total 8.8 lbs (4 kg) Molecular Sieves Specification/type: SXS, 0.6mm

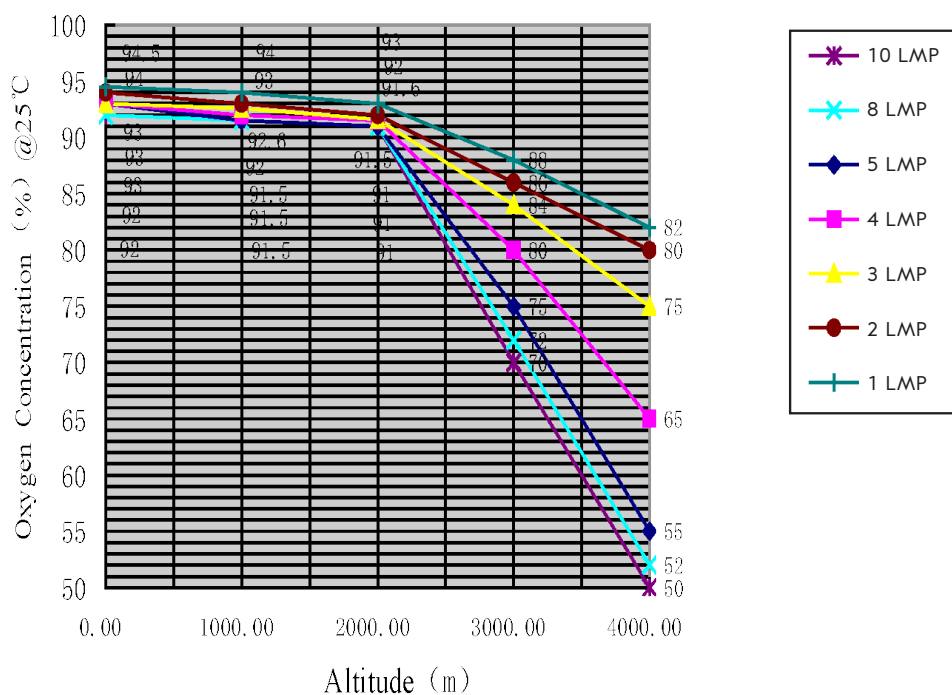
NOTE: The expected lifetime of the unit assumes it is used in full accordance with the instructions in this manual, including proper use, maintenance, storage, handling, and transport. Actual service life — particularly of components like the sieve beds and compressor — may vary depending on environmental conditions, usage frequency, and handling practices.

The following two charts about temperature, flow rate and oxygen concentration are for reference.

Temperature, Flowrate and Oxygen Concentration Chart



Altitude, Flowrate and Oxygen Concentration Chart



SYMBOLS

	Warning - Describes a hazard or unsafe practice that can result in severe bodily injury, death, or property damage
	Caution – Describes a hazard or unsafe practice that can result in minor bodily injury or property damage
	Consult the accompanying documents
	Type BF Equipment
	Class II Equipment, double insulated
	Do not use oil or grease
	Do not expose to open flames, sparks or heat sources
	Do not smoke near unit
	Do not disassemble
	Operating instructions
	See manual
SN	Manufacturer's serial number
	Date of manufacture

	Manufacturer
	Proper disposal of waste of electrical and electronic equipment required
	European CE mark with Notified Body No.2460
	FRAGILE - Contents of the transport package are fragile therefore it shall be handled with care.
	THIS WAY UP - Indicates correct upright position of the transport package.
IP21	Ingress Protection - Protected against finger access to hazardous parts; protected against vertically falling water drops.
IPX1	Drip proof equipment
	Keep away from rain and water. Transport package shall be kept away from rain.
	Non-ionizing electromagnetic radiation
Rx Only	Prescription use only
	MR unsafe
	Alarm audio off
	Indicates the item is a medical device

LIMITED WARRANTY

Rhythm Healthcare, LLC warrants the LM10A Oxygen Concentrator under the conditions and limitations stated below. Rhythm Healthcare, LLC warrants this equipment to be free from defects in workmanship and materials for three (3) years from the date of factory shipment to the original purchaser (typically the healthcare provider), unless contractually specified otherwise. This warranty is limited to the Buyer of new equipment purchased directly from Rhythm Healthcare, LLC, or one of its Providers, Distributors, or Agents. Rhythm Healthcare, LLC's obligation under this warranty is limited to product repair (parts and labor) at its factory or at an Authorized Service Center. The LM10A compressor is rated for a lifespan of 15,000 hours under normal operating conditions. Routine maintenance items, such as filters and mesh screens, are not covered under this warranty, nor does it cover normal wear and tear.

Warranty Claims

The original purchaser must submit any warranty claim to Rhythm Healthcare, LLC or to an Authorized Service Center. Upon verification of the warranty status, instructions will be issued. For all returns, the original purchaser must (1) properly package the unit in a Rhythm Healthcare, LLC's approved shipping container, (2) properly identify the claim with the Return Authorization Number, and (3) send the shipment freight prepaid. Service under this warranty must be performed by Rhythm Healthcare, LLC and/or an Authorized Service Center.

Note: This warranty does not obligate Rhythm Healthcare, LLC's to provide a loaner unit during the time that an oxygen concentrator is undergoing repair.

Note: Replacement components are warranted for the unexpired portion of the original Limited Warranty. This warranty shall be voided, and Rhythm Healthcare, LLC shall be relieved of any obligation or liability if:

- The device has been misused, abused, tampered with, or used improperly during this period.
- Malfunctions resulting from inadequate cleaning or failure to follow the instructions.
- The equipment is operated or maintained outside the parameters indicated in the operating and service instructions.
- Unqualified service personnel conduct routine maintenance or servicing.
- Unauthorized parts or components (i.e., regenerated sieve material) are used to repair or alter the equipment.
- Unapproved filters are used with the unit.

ELECTROMAGNETIC INFORMATION

Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the Electromagnetic Compatibility [EMC] information provided in this manual.



WARNING: Do not use near active high-frequency (HF) surgical equipment or within an RF-shielded room containing medical electrical (ME) equipment.



WARNING: Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.



WARNING: Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation."



WARNING: Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the equipment, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

NOTE: The EMC tables and other guidelines provide information to the customer or user that is essential in determining the suitability of the Equipment or System for the Electromagnetic Environment of use, and in managing the Electromagnetic Environment of use to permit the Equipment or System to perform its intended use without disturbing other Equipment and Systems or non-medical electrical equipment.

The LM10A 10L Stationary Oxygen Concentrator is intended for use in the electromagnetic environment specified below. The customer or the user of the Concentrator should assure that it is used in such environment.

Guidance and Manufacturer's Declaration – Electromagnetic Emissions

This equipment is intended for use in the electromagnetic environments specified below, and the purchasers or users shall ensure that it is used in these electromagnetic environments.

Emissions	Compliance
RF emissions (Radiated) CISPR 11	Group 1 Class B
RF emissions (Conducted) CISPR 11	Group 1 Class B
Harmonic emissions IEC 61000-3-2	Class A
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies

Table 1: Guidance and Manufacturer's Declaration – Electromagnetic Emissions

Emissions test	Compliance	Electromagnetic environment-guidance
RF Emissions CISPR 11	Group 1	The device 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 device is suitable for use in home healthcare environments, 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	Comply	

Table 2: Guidance and Manufacturer's Declaration - Electromagnetic Immunity

Immunity Test	IEC 60601-1-2 Test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	Comply	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV signal input/output 100 kHz repetition frequency	Comply	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±0.5 kV, ±1 kV differential mode ±0.5 kV, ±1 kV, ±2 kV common mode	Comply	
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % UT; 0,5 cycle. At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°. 0 % UT; 1 cycle and 70 % UT; 25/30 cycles; Single phase: at 0°. 0 % UT; 250/300 cycle	Comply	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Concentrator requires continued operation during power mains interruptions, it is recommended that the Concentrator be powered from an interruptible power supply or battery.
Power frequency magnetic field IEC 61000-4-8	30 A/m 50Hz	Comply	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Conducted RF IEC61000-4-6	3 V 0,15 MHz – 80 MHz 6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz	Comply	
Radiated RF IEC61000-4-3	10 V/m 80 MHz – 2,7 GHz 80% AM at 1 kHz	Comply	Field strengths outside the shielded location from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than 3 V/m. Interference may occur in the vicinity of equipment marked with the following symbol:
NOTE UT is the ac. mains voltage prior to application of the test level.			

Table 3: Guidance and Manufacturer's Declaration - Electromagnetic Immunity

Radiated RF IEC61000-4-3 (Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless	Test Frequency (MHz)	Band (MHz)	Service	Modulation	IEC 60601-1-2 Test Level (V/m)	Compliance level (V/m)
	385	380 – 390	TETRA 400	Pulse Modulation 18 Hz	27	27
	450	430 – 470	GMRS 460, FRS 460	FM $\pm$ 5 kHz deviation 1 kHz sine	28	28
	710	704 – 787	LTE Band 13, 17	Pulse Modulation 217 Hz	9	9
	745					
	780					
	810	800 – 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse Modulation 18 Hz	28	28
	870					
	930					
	1,720	1,700 – 1,990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse Modulation 217 Hz	28	28
	1,845					
	1,970					
	2,450	2,400 – 2,570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse Modulation 217 Hz	28	28
	5,240	5,100 – 5,800	WLAN 802.11 a/n	Pulse Modulation 217 Hz	9	9
	5,500					
	5,785					

Table 4: Guidance and Manufacturer's Declaration – Electromagnetic Immunity

The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Environment
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	Professional healthcare facility or Home Healthcare environment
Electrical fast transient/burst (EFT) IEC 61000-4-4	±2 kV for power supply lines ±1 kV for signal lines	±2 kV for power supply lines ±1 kV for signal lines	Professional healthcare facility or Home Healthcare environment
Surge IEC 61000-4-5	± 0.5kV, ± 1 kV line(s) to lines ± 0.5kV, ± 1 kV, ± 2 kV line(s) to earth	± 0.5kV, ± 1 kV line(s) to lines ± 0.5kV, ± 1 kV, ± 2 kV line(s) to earth	Professional healthcare facility or Home Healthcare environment
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% UT, 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0% UT, 1 cycle at 0° 70% UT, 25 / 30 cycle at 0° 70% UT, 25 / 30 cycle at 0° 0% UT, 250 / 300 cycle	0% UT, 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0% UT, 1 cycle at 0° 70% UT, 25 / 30 cycle at 0° 70% UT, 25 / 30 cycle at 0° 0% UT, 250 / 300 cycle	Professional healthcare facility or Home Healthcare environment
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Professional healthcare facility or Home Healthcare environment
Conducted RF IEC 61000-4-6	3 Vrms 0.15 MHz to 80MHz 6 Vrms in ISM bands between 0.15 MHz and 80MHz 6 Vrms in amateur radio bands between 0.15 MHz and 80MHz	3 Vrms 0.15 MHz to 80MHz 6 Vrms in ISM bands between 0.15 MHz and 80MHz 6 Vrms in amateur radio bands between 0.15 MHz and 80MHz	Professional healthcare facility or Home Healthcare environment
Radiated RF IEC 61000-4-3	3 Vrms 80 MHz to 2.7GHz 80% AM at 1KHz	3 Vrms 80 MHz to 2.7GHz 80% AM at 1KHz	Professional healthcare facility or Home Healthcare environment
NOTE - UT is the ac mains voltage prior to application of the test level: 25 / 30 and 250 / 300 cycle means 25 / 250 for 50 Hz system and 30 / 300 for 60Hz system. - The ISM (industrial, scientific and medical) bands between 0,15 MHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0,15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18,17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29,7 MHz and 50,0 MHz to 54,0 MHz. - Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radio, AM and FM radio broadcast, and TV broadcast cannot, theoretically, be predicted with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, consider conducting an electromagnetic site survey. If the measured field strength in the location the system is used exceeds the applicable RF compliance level listed in this table, necessary, such as reorienting or relocating the system. - At 80 MHz and 800 MHz, the higher frequency range applies. - These guidelines may not apply in all situations. Electromagnetic propagation is affected by the reflection from structures, objects, and people. Portable and mobile RF communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter			

Table 5: Recommended Separation Distances Between Portable and Mobile

RF communications equipment and the EQUIPMENT or SYSTEM – For EQUIPMENT and SYSTEMS that are not LIFE SUPPORTING.

Recommended separation distances between portable and mobile RF communications equipment and the OXYGEN CONCENTRATOR			
The OXYGEN CONCENTRATOR is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the OXYGEN CONCENTRATOR can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the OXYGEN CONCENTRATOR as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output of transmitter (W)	Separation distance according to frequency of transmitter feet (meters)		
	150 kHz to 80 MHz $d=1.2 \text{ meters} \times P^{1/2}$	80 MHz to 800 MHz $d=1.2 \text{ meters} \times P^{1/2}$	800 MHz to 2.7 GHz $d=2.3 \text{ meters} \times P^{1/2}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
11	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above the recommended separation distance in meters can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

Table 6: Test Specifications for ENCLOSURE PORT IMMUNITY to RF Wireless Communications Equipment

Test Frequency (MHz)	Band a) (MHz)	Service a)	Modulation b)	Maximum Power (W)	Distance (m)	Immunity Test Level (V/m)
385	380-390	TETRA 400	Pulse Modulation b) 18Hz	1.8	0.3	27
450	430-470	GMRS 460, FRS 460	FM c) ±5 kHz deviation 1 kHz sine	2	0.3	28
710	704-787	LTE Band 13,17	Pulse Modulation b) 217Hz	0.2	0.3	9
745						
780						
810	800-960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse Modulation b) 18Hz	2	0.3	28
870						
930						
1,720	1,700-1,900	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse Modulation b) 217Hz	2	0.3	28
1,845						
1,970						
2,450	2,400-2,570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation b) 217Hz	2	0.3	28
5,240	5,100-5,800	WLAN 802.11a/n	Pulse Modulation b) 217Hz	0.2	0.3	9
5,500						
5,785						
NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 meter. The 1 meter test distance is permitted by IEC 61000-4-3.						
a) For some services, only the uplink frequencies are included.						
b) The carrier shall be modulated using a 50% pulse duty cycle square wave signal.						
c) As an alternative to FM modulation, 50% pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.						

FDA 510(K)

This device has been cleared by the U.S. Food and Drug Administration (FDA) under 510(k) number K240840

RETURN AND DISPOSAL

This device must not be disposed of with household waste. It contains electrical and/or electronic components that should be recycled in accordance with local regulations.

Non-infectious used accessories (e.g., nasal cannulas) may be disposed of as regular residential waste. However, accessories that may be contaminated (e.g., a nasal cannula used by an infected individual) must be disposed of through an approved medical waste facility or service, following local disposal regulations.



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