INOGEN ONE® G3

USER MANUAL



inogen®

English

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1 Intended Use, Contraindications and General Precautions

Intended Use

The Inogen One® G3 Oxygen Concentrator is used on a prescriptive basis by patients requiring supplemental oxygen. It supplies a high concentration of oxygen and is used with a nasal cannula to channel oxygen from the concentrator to the patient. The Inogen One® G3 may be used in home, institution, vehicle, on an airplane and various mobile environments.

CAUTION	USA Federal law restricts this device to sale by or on the order of a physician. May also be applicable in other countries.
CAUTION	Nasal cannula should be rated for 5 liters per minute to ensure proper patient usage and oxygen delivery.
WARNING	Availability of an alternate source of oxygen is recommended in case of power outage or mechanical failure. Consult your equipment provider for type of back-up system recommended.
CAUTION	It is the responsibility of the patient to make back-up arrangements for alternative oxygen supply when traveling; Inogen assumes no liability for persons choosing not to adhere to manufacturer recommendations.

The expected life for the Inogen One® G3 Oxygen System is 5 years, with the exception of the sieve beds (metal columns) which have an expected life of 1 year and the batteries, which have an expected life of 500 full charge/discharge cycles.

Contraindications

WARNING This device is NOT INTENDED to be life sustaining or life supporting.

CAUTION Under certain circumstances, the use of non-prescribed oxygen therapy can be hazardous. This device should be used only when prescribed by a physician.

CAUTION Additional monitoring or attention may be required for patients using this device who are unable to hear or see alarms or communicate discomfort. If the patient shows any signs of discomfort, a physician should be consulted immediately.

CAUTION The Inogen One® G3 is not designed or specified to be used in conjunction with a humidifier, nebulizer or connected with any other equipment. Use of this device with a humidifier, nebulizer or connected with any other equipment may impair performance and/or damage the equipment. Do not modify the Inogen One® G3 Concentrator. Any modifications performed on the equipment may impair performance or damage equipment and will void your warranty.

General Precautions

WARNING The device produces enriched oxygen gas which accelerates combustion. Do NOT ALLOW SMOKING OR OPEN FLAMES within 10 feet of this device while in use.

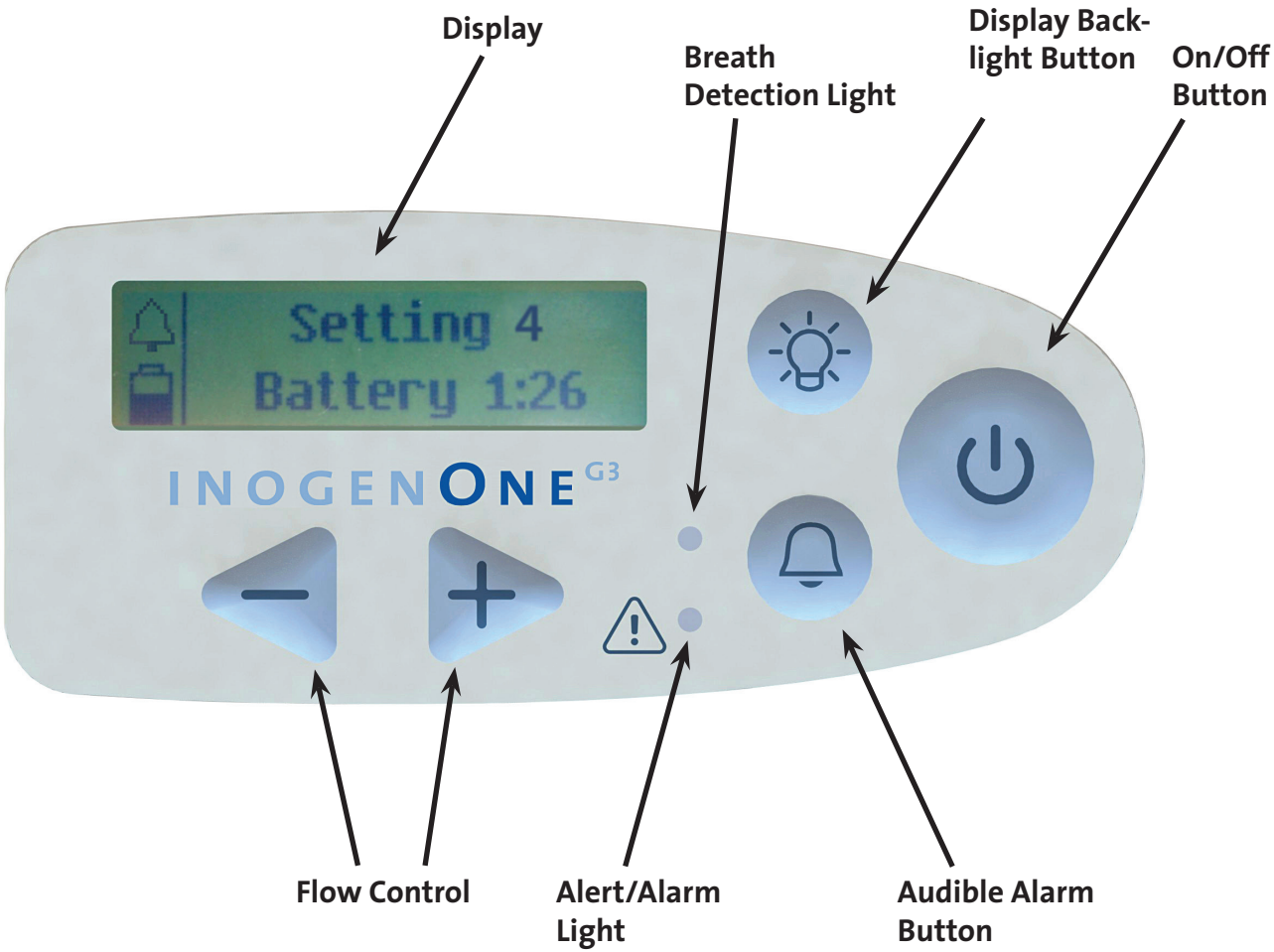
WARNING Do not submerse the Inogen One® G3 or any of the accessories in liquid. Do not expose to water or precipitation. Do not operate in exposed rain. This could lead to electrical shock and/or damage.

CAUTION Do not use oil, grease, or petroleum-based products on or near the Inogen One® G3.

CAUTION Never leave the Inogen One® G3 in an environment which can reach high temperatures, such as an unoccupied car in high temperature environments. This could damage the device.

2 Description of the Inogen One® G3 Oxygen Concentrator

Important Parts of the Inogen One® G3 Oxygen Concentrator



User Controls



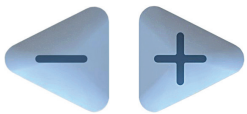
ON / OFF Button
Press once to turn “ON”; Press and hold for one second to turn “OFF”.



Audible Alarm Button
Pressing this button will toggle the Inogen One® G3’s breath detection audible alert on and off.

Breath Detection Alert Mode. The Inogen One® G3 will alert with audible and visual signals for “no breath detected” when this mode is enabled and no breath has been detected for 60 seconds. At 60 seconds, the device will enter into auto pulse mode and once another breath is detected, the device will exit auto pulse mode and deliver normally on inspiration. The display’s mode indication area will show a bell icon, flashing red or yellow light and display message when the alert is enabled.

If power is lost, the breath detection audible alert remains set in the user preferred mode.



Flow Setting Control Buttons
Use the – or + flow setting control buttons to select the setting as shown on the display. There are five settings, from 1-5.



Display Backlight Button
Push on; automatically turns off after 15 seconds.

User Interfaces



Display
This screen displays information regarding flow setting, power status, battery life and errors. If you would like to change the language on the Inogen LCD Screen contact your Equipment Provider for instructions.

User Interfaces (continued)

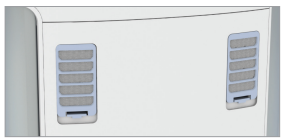
Indicator Lights
A red or yellow light indicates either a change in operating status or a condition that may need response (alarm). A flashing light is higher priority than non-flashing.



Audible Signals
An audible signal (beep) indicates either a change in operating status or a condition that may need response (alarm). More frequent beeps indicate higher priority conditions.

Input / Output Connections

Particle Filters
The filters must be in place at the intake end of the concentrator during operation to keep input air clean.



Cannula Nozzle Fitting
The nasal cannula connects to this nozzle for Inogen One® G3 output of oxygenated air.



DC Power In
Connection for external power from the AC power supply or DC power cable.



USB Port
Used for servicing only.



Power Supply Options



Single and Double Rechargeable Lithium Ion Batteries
The battery will power the Inogen One® G3 without connection to an external power source. When fully charged, a single battery will provide up to 4.7 hours of operation; a double battery will provide up to 10 hours of operation. The battery recharges when properly installed in the Inogen One® G3 and the concentrator is connected to AC or DC power. Recharging time is up to 5 hours for a single battery and 8 hours for a double battery. See information in the "Battery Care and Maintenance" section.

Power Supply

Overview
The Inogen One® G3 AC power supply (BA-301) is used to power the Inogen One® G3 concentrator from an AC power source.

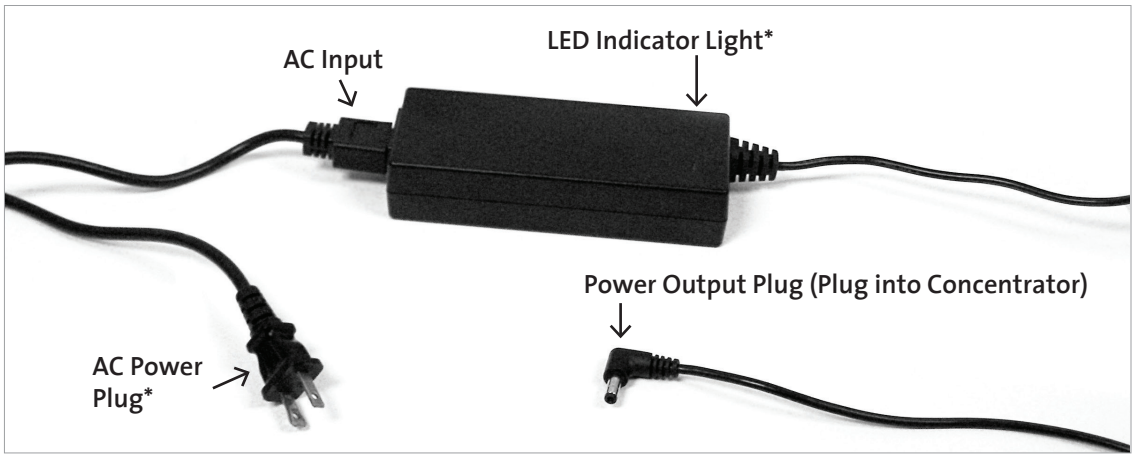
Description
The Inogen One® G3 AC power supply is specifically designed for use with the Inogen One® G3 Oxygen Concentrator (IO-300). The AC power supply provides the precise current and voltage required to safely power the Inogen One® G3 and is designed to operate from specified AC power sources. When used with AC power sources, the power supply automatically adapts to input voltages from 100V to 240V (50-60HZ) permitting use with most power sources throughout the world.

The AC power supply will charge the Inogen One® G3 Batteries when used with AC input power. Due to aircraft power limitations, the AC Power Supply cannot be used to charge the Inogen One® G3 Battery when used on an aircraft.

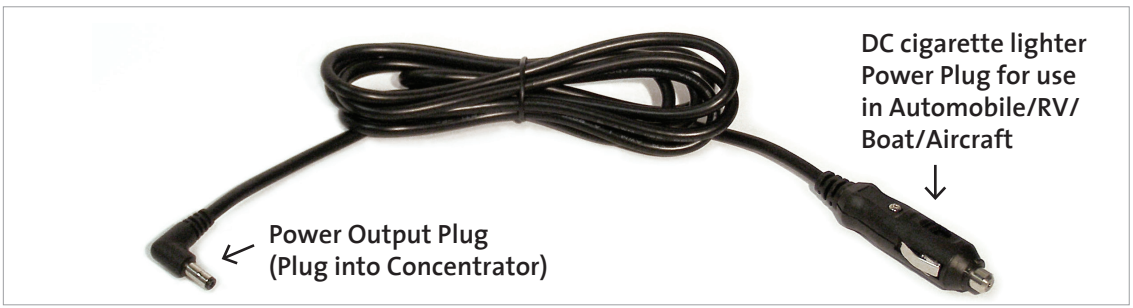
The AC power supply is used with the following components:
- Power supply with attached power output cable to connect to the Inogen One® G3
- AC power input cable

The DC power cable (BA-306) is specifically designed for use with the Inogen One® G3 Oxygen Concentrator (IO-300). The DC power input cable connects directly to the automobile cigarette lighter or auxiliary DC power supply. Refer to Chapter 3 for additional operating instructions for use with DC power source.

Inogen One AC Power Supply Model# BA-301



Inogen One G3 DC Power Cable Model# BA-306



* Actual product appearance may vary.

WARNING Do not use power supplies or power cables other than those specified in this user manual. The use of non-specified power supplies or power cables may create a safety hazard and/or impair equipment performance. Do not wrap cords around power supply for storage. Do not drive, drag or place objects over cord. Doing so may lead to damaged cords and a failure to provide power to the concentrator. To avoid danger of choking or strangulation hazard, keep cords and tubing away from children and pets.

Inogen One® G3 Accessories

WARNING	Do not use power supplies/adapters or accessories other than those specified in this user manual. The use of non-specified accessories may create a safety hazard and/or impair equipment performance.

Nasal Cannula

A nasal cannula must be used with the Inogen One® G3 to provide oxygen from the concentrator. A single lumen cannula up to 25 feet in length is recommended to ensure proper breath detection and oxygen delivery.



WARNING	To avoid danger of choking and strangulation hazard, keep tubing away from children and pets.

NOTE	Increasing the cannula length may reduce the perceived noise during oxygen bolus delivery.

NOTE	When using a cannula 25ft. in length with the Inogen One® G3, an increase in flow setting may be required.

Carry Bag (CA-300)



The carry bag provides protection while carrying the Inogen One® G3 with a handle and adjustable shoulder strap. The unit is inserted into place from the bottom of the carry bag. Take care to insert the Inogen One® G3 so that the display is seen through the plastic window and the cannula barb is accessible through the open cutout at the top of the bag. Inogen One® G3 intake and exhaust vents should be visible through the open mesh panels. The Inogen One® G3 can be operated using battery power during transport. The expandable zippered bottom is designed with an adjustable zipper for use with a single or double battery and provides easy access for battery changes. The expandable section is not intended for use as a storage compartment.

Inogen One® G3 Optional Accessories



External Battery Charger (BA-303)

1. Plug the External Battery Charger AC power supply cord into an electrical outlet.
2. Plug the External Battery Charger AC power supply into the battery charger.
3. Slide your charger onto the Inogen One G3 Battery by clicking and locking into the charger.
4. When the battery is in the correct position, a solid red light will indicate that the battery is charging.
5. When the green light illuminates, the battery is fully charged.

CAUTION	Avoid touching the recessed electrical contacts of the External Battery Charger; damage to contacts may affect charger operation.
NOTE	These contacts are not powered unless a battery is in place and charging.
NOTE	To completely remove power from the External Battery Charger, remove the plug.

Inogen One G3 Backpack (CA-350)
Alternative/optional way of carrying your Inogen One® G3, hands free, more comfort, out of your way with extra pockets for additional accessories.

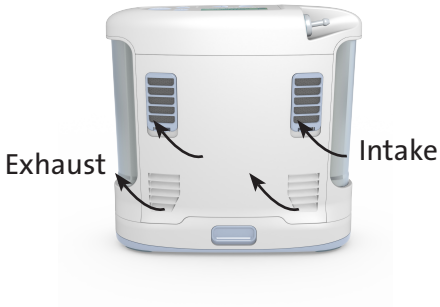


3 Operating Instructions

General Instructions

1. **Place the Inogen One® G3 in a well ventilated location.**

Air intake and exhaust must have clear access. Locate the Inogen One® G3 in such a way that any auditory alarms may be heard.

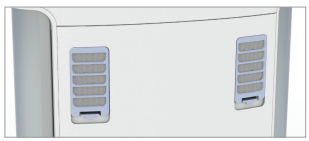


WARNING	Avoid use of the Inogen One® G3 in presence of pollutants, smoke or fumes. Do not use the Inogen One® G3 in presence of flammable anesthetics, cleaning agents or other chemical vapors.

CAUTION	Do not obstruct air intake or exhaust when operating the device. Blockage of air circulation or proximity to a heat source may lead to internal heat buildup and shutdown or damage to the concentrator.

CAUTION	The Inogen One® G3 Concentrator is designed for continuous use. For optimal sieve bed (columns) life, the product should be used frequently.

2. **Ensure both particle filters are in place.**



CAUTION	Do not operate the Inogen One® G3 without both particle filters in place. Particles drawn into the system may damage the equipment.

3. Install the battery.
Insert the Inogen One® G3 battery by sliding battery into place until the latch returns to the upper position.



CAUTION	The Inogen One® G3 battery acts as a secondary power supply in the event of a planned or unexpected loss of the AC or DC external power supply. When operating the Inogen One® G3 from an AC or DC external power supply, a properly inserted Inogen One® G3 battery should be maintained in the unit. This procedure will ensure uninterrupted operation and will operate all alarms and alerts in the event of a loss of the external power supply.

4. Connect the Power Supply.
Connect the AC input plug to the power supply. Connect the AC power plug to the power source and connect the power output plug to the Inogen One® G3. The green LED on the power supply will be illuminated and a beep will sound from the concentrator.



CAUTION	Ensure the power supply is in a well ventilated location as it relies on air circulation for heat dissipation. The power supply may become hot during operation. Make sure the power supply cools down before handling.
CAUTION	The power supply is not water resistant.
CAUTION	Do not disassemble the power supply. This may lead to component failure and/or safety risk.
CAUTION	Do not place anything in the power supply port other than the supplied wall cord. Avoid the use of electrical extension cords with the Inogen One® G3. If an extension cord must be used, use an extension cord that has an Underwriters Laboratory (UL) Mark and a minimum wire thickness of 18 gauge. Do not connect any other devices to the same extension cord.

NOTE	Under certain conditions (see Technical Specifications) the power supply may shut down. The green LED will blink or will no longer be illuminated. If this occurs, disconnect the power supply for at least 10 seconds and reconnect.

NOTE	When the power supply is disconnected from the AC outlet, also disconnect it from the concentrator to avoid unnecessary battery discharge.

5. Connect the nasal cannula tubing to the nozzle fitting.
Nozzle fitting is located on the top of the Inogen One® G3. Use of a single lumen cannula up to 25 feet in length is recommended to ensure proper breath detection and oxygen delivery. Additional titration may be needed to ensure proper oxygen delivery when using a particular cannula.



CAUTION	To ensure oxygen flow, ensure that the nasal cannula is properly connected to the nozzle fitting and that the tubing is not kinked or pinched in any way.

CAUTION	Replace the nasal cannula on a regular basis. Check with your equipment provider or physician to determine how often the cannula should be replaced.

6. Turn on your Inogen One® G3 by pressing the ON/OFF Button.
A single short beep will sound after the Inogen logo is displayed. "Please Wait" will appear while the concentrator starts up. The display will indicate the selected flow setting and power condition. Following a brief start-up sequence, a warm up period up to 2 minutes will initiate. During this time period the oxygen concentration is building to but may not have reached specification. Additional warm up time may be needed if your Inogen One® G3 has been stored in extremely cold temperatures.



7. Set the Inogen One® G3 Concentrator to the flow rate prescribed by your physician or clinician.
Use the + or – setting buttons to adjust the Inogen One® G3 to the desired setting. The current setting can be viewed on the display.

8. Position the nasal cannula on your face and breathe through your nose.



The Inogen One® G3 will sense the onset of inhalation and deliver a burst of oxygen at a precise time when you inhale. The Inogen One® G3 will sense each breath and continue to deliver oxygen in this manner. As your breathing rate changes, the Inogen One® G3 will sense these changes and deliver oxygen only as you need it. At times, if you inhale very quickly between breaths the Inogen One® G3 may ignore one of the breaths, giving the appearance of a missed breath. This may be normal as the Inogen One® G3 senses and monitors the changes in your breathing pattern. The Inogen One® G3 will normally sense the next breath and deliver oxygen accordingly.

A green light will flash each time a breath is detected. Make certain that the nasal cannula is properly aligned on your face and you are breathing through your nose.

WARNING	If you begin to feel ill or are experiencing discomfort while using this device, consult your physician immediately.

CAUTION	The Inogen One® G3 is designed to provide a flow of high purity oxygen. An advisory alarm, "Oxygen Low", will inform you if oxygen concentration drops. If alarm persists, contact your equipment provider.

General

To remove power, unplug the input cord from its source (i.e., AC wall outlet, DC car cigarette lighter adapter) and disconnect it from the Inogen One® G3.

CAUTION	Ensure the power supply is powered from only one power source (AC or DC) at any given time.

Additional Operating Instructions

For Use In Home with AC Power
For operation of the power supply using an AC power source, follow these instructions:

1. Connect the AC input to the power supply.
2. Connect the AC power plug to the power source and connect the power output plug to the Inogen One® G3. The green LED will be illuminated, indicating the power supply has input power.

Traveling with your Inogen One® G3 System

The Inogen One® G3 System makes travel by boat, car or train more convenient for oxygen users than ever before. Now you get the same quality performance and convenience while on the go that you're used to receiving from your Inogen One® G3 at home. Here are some useful and important instructions for maximizing performance and convenience when using your Inogen One® G3 while traveling.

You should begin planning for a trip with a checklist of items to remember. This checklist should include:

✓ AC power supply and DC power cable
✓ Extra Battery(s) if required
✓ Important phone numbers, such as those of your physician and home healthcare provider, or providers in the area you will be traveling
✓ Plan for backup oxygen in the event of a prolonged power outage or mechanical failure

For Use In Automobile/RV/Boat/Aircraft
For operation using a DC power source, follow these instructions:

1. Connect the DC power output plug to the Inogen One® G3.
2. Connect the DC power plug (Cigarette Lighter Adapter) to the power source.
3. The plug should insert into the socket without excessive force and securely remain in place.



4. Check the device display screen to confirm that an external power supply is connected. An icon of a battery with a lightning bolt or an AC power plug will be displayed on the screen, indicating that external power is connected and functioning properly.

WARNING	Ensure that the automobile power socket is adequately fused for the Inogen One® G3 power requirements (minimum 15 Amp). If the power socket cannot support a 15 Amp load, the fuse may blow or the socket may be damaged.
WARNING	The tip of the Cigarette Adapter Plug becomes HOT when in use. Do not touch the tip immediately after removal from an auto cigarette lighter socket.
CAUTION	Ensure the automobile power socket is clean of cigarette ash and the adapter plug fits properly, otherwise overheating may occur.
CAUTION	Do not use the power supply with a cigarette plug splitter or with an extension cable. This may cause overheating of the DC power input cable.
CAUTION	Do not jump start the automobile with the DC power cable connected. This may lead to voltage spikes which could shut down and/or damage the DC power input cable.
CAUTION	When powering the Inogen One® G3 in an automobile ensure the vehicle's engine is running first, before connecting DC cable into cigarette lighter adapter. Operating the device without the engine running may drain the vehicle's battery.
CAUTION	A change in altitude (for example, from sea level to mountains) may affect total oxygen available to the patient. Consult your physician before traveling to higher or lower altitudes to determine if your flow settings should be changed.

Traveling By Air

The FAA allows the Inogen One® G3 onboard all U.S. aircraft, here are a few points to make air travel easy.

Planning Your Flight

When flying with the Inogen One® G3, you must inform the airline that you will be using your Inogen One® G3 onboard the aircraft. You must also keep a signed statement from your physician with you that includes:

• Your ability to see/hear alarms and appropriately respond.

• When oxygen use is necessary (all or a portion of the trip).

• Maximum flow rate corresponding to the pressure in the cabin under normal operating conditions.

• Some airlines may equip their aircraft with onboard electrical power. You may have an opportunity to request a seat with a power port which can be used to power your Inogen One® G3. However, availability varies by airline, type of aircraft and class of service. You should check with your airlines for availability and always plan on having sufficient battery power for no less than 150% of the expected duration of the flight. Airlines may have specific requirements for battery life duration, so check with the airline before traveling.

• Your DC Power Cable is equipped with a commonly used cigarette lighter adapter. However, aircrafts use different power port configurations and it is difficult to determine which type of power port compatibility your aircraft may supply. It's a good idea to purchase an adapter, found at electronic and travel stores.

Before Your Flight

Here are some things to keep in mind the day your flight departs:

• Ensure your Inogen One® G3 is clean, in good condition and free from damage or other signs of excessive wear or abuse.

• Bring enough charged batteries with you to power your Inogen One® G3 for no less than 150% of the expected duration of the flight, plus a conservative estimate of unanticipated delays.

• Regional/Commuter airlines do not offer onboard electrical power. If your travel plans call for flights on regional airlines, bring enough charged batteries with you to power your Inogen One® G3 for no less than 150% of the expected duration of the flight, plus a conservative estimate of unanticipated delays.

• Arrive at the airport early. Airport security screening personnel may require extra time to inspect your Inogen One® G3.

• While waiting to board your flight, you may be able to conserve battery power by using the AC Power Supply to power your Inogen One® G3 from an electrical outlet in the airport terminal if available.

• You should inform the airline you will be using your Inogen One® G3. Have your physician letter with you and ready for inspection if requested.

During Your Flight

1. If using airline power port, remove the Battery from the Inogen One® G3 Oxygen Concentrator. Due to aircraft power limitations, the AC Power Supply cannot be used to charge the Inogen One® G3 Battery when onboard aircraft.
2. Connect the DC Power Plug for available airline power. Check with airline personnel to ensure compatibility.

• During taxi, takeoff and landing, stow your Inogen One® G3 under the seat in front of you. Your Inogen One® G3 will fit upright under most airline seats. However, if it doesn't fit you may turn it on its side with vents facing up.

• It is not necessary to turn off your Inogen One® G3 during taxi, takeoff and landing if your physician's written statement requires you receive oxygen during these periods.

CAUTION	A change in altitude (for example, from sea level to mountains) may affect total oxygen available to the patient. The Inogen One® G3 has been verified to provide oxygen to specification up to 10,000 ft. (3048 m). Consult your physician before traveling to higher or lower altitudes to determine if your flow settings should be changed.

After Your Flight

• Remember to recharge additional batteries you may have used prior to your next flight.

Traveling By Bus, Train or Boat

Contact your carrier to find out about power port availability.

Battery Operating Instructions

Ensure that the battery is in place and charged. Disconnect the Inogen One® G3 from its power source. While the Inogen One® G3 is operating on battery power, the battery will discharge. The display will indicate the estimated remaining percentage (%) or minutes of use.

When the concentrator detects that the battery life is low, with less than 10 minutes remaining, a low priority alert will sound. When the battery is empty, the alert will change to a high priority.

When battery life is low, do one of the following:

- Plug the Inogen One® G3 into an AC or DC power source using the AC power supply or DC cable.
- Replace the battery with a charged battery after turning off the Inogen One® G3 (by pressing the ON/OFF button). To remove battery press and hold the battery latch button and slide battery off the concentrator.
- If the battery is drained, charge the battery or remove it from the concentrator.

If the Inogen One® G3 is being powered by the AC power supply or DC power, batteries will charge during operation. Leaving your Inogen One® G3 plugged in past the full charge time will not harm the concentrator or the battery.

WARNING It is the responsibility of the patient to periodically check the battery and replace as necessary. Inogen assumes no liability for persons choosing not to adhere to manufacturers recommendations.

Normal Battery Charging

To ensure that your battery is properly charging, inspect that the correct AC and DC power output plug adapter is being used and that the adapter is properly inserted into the power outlet. Observe the display or lights that indicate charging status.

NOTE When starting to charge a fully discharged battery, the charging process may start and stop during the first few minutes.

Battery Care and Maintenance

Your Inogen One® G3 Lithium Ion Battery requires special care to ensure proper performance and long life. Use only Inogen One® G3 Batteries with your Inogen One® G3 Concentrator.

Keep Dry

Always keep liquids away from batteries. If batteries become wet, discontinue use immediately and dispose of battery properly.

Effect of Temperature on Battery Performance
The Inogen One® G3 single battery powers the Inogen One® G3 Concentrator up to 4.7 hours under most environmental conditions. To extend the run-time of your battery, avoid running in temperatures less than 41˚F (5˚C) or higher than 95˚F (35˚C) for extended periods of time.

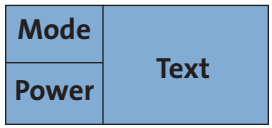
Battery Time Remaining Clock
The Inogen One® G3 continuously displays battery time remaining. This displayed time is only an estimate and the actual time remaining may vary from this value.

Please Follow These Important Guidelines to Maximize Battery Performance and Life:
- Store battery in a cool, dry place. Store with a charge of 40-50%.
- If using multiple batteries, make sure that each battery is labeled (1, 2, 3 or A, B, C, etc.) and rotate on a regular basis. Batteries should not be left dormant for more than 90 days at a time.

Battery Charge Indicator Gauge
When the single or double battery is not attached to the Inogen® One G3 Concentrator, you can check the battery gauge on the battery to determine the amount of charge available. Determine the amount of battery charge available by pressing the green battery icon button and observing how many LEDs illuminate.

4 LEDs Light: 75% to 100% full
3 LEDs Light: 50% to 75% full
2 LEDs Light: 25% to 50% full
1 LED Lights: 10% to 25% full
1 LED Blinks: Battery is less than 10% full and needs to be recharged

4 Inogen One® G3 Oxygen Concentrator Audible and Visible Signals



Display Icons

The Inogen One® G3 display is divided into three areas. The upper left corner of the display shows the breath detection alert status. The lower left corner indicates power source and battery charge level. The right side of the display contains text information, such as flow setting, battery time remaining and error notifications.

Power Status Icons

These icons are examples of those shown in the display's power status window when the Inogen One® G3 is operating on battery power.

Icon	Meaning
	Battery is empty.
	Battery has less than 10% charge remaining. This icon flashes.
	Battery has approximately 40% to 50% charge remaining.
	Battery is full.

Power Status Icons (continued)

The icons below are examples of those shown when the Inogen One® G3 is operating from an external power supply and charging the battery. The lightning bolt indicates that an external power supply is connected.

Icon	Meaning
	Battery is charging with charge level between 60% and 70%.
	The battery is fully charged and is charging as necessary to maintain its charge.
	Battery is charging with charge level less than 10%.
	The Inogen One® G3 is operating from an external power source with no battery present.

Mode Icons

These are the icons shown in the display's mode window.

Icon	Meaning
	The breath detection audible alarm has been enabled.
	The breath detection audible alarm is disabled. This is the default condition.

Display Text

NOTE	When two conditions occur simultaneously, the condition with the higher priority will be displayed.

Informational Messages

The following information displays are not accompanied by any audible feedback or any visual change in the indicator lights.

Message Display & Text	Condition/Action/Explanation
inogen	The Inogen logo is displayed at startup.
Setting X Please Wait	Displayed during warm up. "X" represents the selected flow setting (eg., Setting 2).
Setting X Battery HH:MM	Default display when operating on battery power. "X" represents the selected flow setting (e.g., Setting 2). "HH:MM" represents the approximate time remaining on the battery charge (e.g., 1:45).
Setting X Charging xx (or) Battery Full	Default display when operating on an external power supply and the battery is charging. "xx%" represents the percent battery charge (e.g., 86%).
Setting X Battery xx%	Default display when the battery is not charging or when the time remaining is not available from the battery.
Charging xx% (or) Battery Full	Displayed when the concentrator is plugged in and being used to charge a battery (not being used for oxygen production). It is normal to see a fully charged battery read between 95% and 100% when external power is removed. This feature maximizes the useful life of the battery.

Notifications



WARNING Audible notifications, ranging from 55dba to 65dba depending on the users position, are to warn the user of problems. To insure that audible notifications may be heard, the maximum distance that the user can move away from it must be determined to suit the surrounding noise level.

Notifications (continued)

The Inogen One® G3 monitors various parameters during operation and utilizes an intelligent alarm system to indicate a malfunction of the concentrator. Mathematical algorithms and time delays are used to reduce the probability of false alarms while still ensuring proper notification of an alarm condition.

If multiple alarm conditions are detected, the highest priority alarm will be displayed.

The following notification messages are accompanied by a **single, short beep**.

Message Display & Text	Condition/Action/Explanation
Please Wait Shutting Down	On/Off button has been pressed for two seconds. Concentrator is performing system shut down.
HH:MM Vx.x:Serial Number	Audible Alarm button has been pressed for five seconds.

Low Priority Alerts

The following low priority alert messages are accompanied by a **double beep** and a **solid yellow light**.

Message Display & Text	Condition/Action/Explanation
Battery Low Attach Plug	Battery power is low, with less than 10 minutes remaining. Attach external power supply or power down and insert a fully charged battery.
Replace Columns	Column maintenance is required within 30 days. Contact your equipment provider to arrange for service.

Low Priority Alerts (continued)

Message Display & Text	Condition/Action/Explanation
Check Battery	Battery error has occurred. Check the connection of your battery and ensure that it is properly attached and latched on concentrator. If battery error recurs with same battery, stop using the battery and switch to a new battery or remove battery and operate concentrator using external power supply.
Oxygen Low	Concentrator is producing oxygen at a slightly low level (<82%) for a period of 10 minutes. If condition persists, contact your equipment provider.
Remove Battery to Cool	Battery has exceeded its charging temperature and charging has stopped. The battery will not charge while this alert is present but will begin to charge when the battery temperature returns to the normal operating range. If battery charging is desired sooner, remove the battery from the concentrator and allow it to cool in an open area for approximately 10-15 minutes. Then, re-insert the battery into the Inogen One® G3. If the problem still persists, contact your equipment provider.
Comm Error	Concentrator is producing oxygen but cannot report battery status. Replace battery. If condition persists, contact your equipment provider.
Service Soon	The concentrator requires servicing at the earliest convenience. The concentrator is operating to specification and may continue to be used. Contact your equipment provider to arrange for service.
Sensor Fail	The concentrator's oxygen sensor has malfunctioned. You may continue to use the concentrator. If the condition persists, contact your equipment provider.

Medium Priority Alerts

The following medium priority alert messages are accompanied by a **triple beep**, repeated every 25 seconds, and a **flashing yellow light**.

Message Display & Text	Condition/Action/Explanation
No Breath Detect Check Cannula	Concentrator has not detected a breath for 60 seconds. Check that cannula is connected to concentrator, there are no kinks in tubing and cannula is positioned properly in your nose.
Oxygen Error	Oxygen output concentration has been below 50% for 10 minutes. If condition persists, switch to your backup oxygen source and contact your equipment provider to arrange for service.
O2 Delivery Error	A breath has been recognized, but proper oxygen delivery has not been detected.
Battery HOT Warning	Battery has exceeded temperature limit while concentrator is running on battery power. If possible, move concentrator to a cooler location or power unit with an external power supply and remove battery. If condition persists, contact your equipment provider.

High Priority Alerts

CAUTION	If you are not near the Inogen One® G3 you may not be able to hear or see the high priority alerts. Make sure the Inogen One® G3 is in a location where the alerts and alarms will be recognized if they occur.

The following high priority alert messages are accompanied by a **five beep pattern**, repeated every 10 seconds and a **flashing yellow light**.

Message Display & Text	Condition/Action/Explanation
Battery Empty Attach Plug	Concentrator has insufficient battery power to produce oxygen. Attach external power supply or exchange battery, then restart unit if necessary by pressing On/Off button.
Battery HOT	Battery has exceeded temperature limit while concentrator is running on battery power. Concentrator has stopped producing oxygen. If possible, move concentrator to a cooler location, then turn power off and back on. Ensure air intake and outlet vents have clear access and particle filters are clean. If condition persists, switch to a backup source of oxygen and contact your equipment provider.
System HOT	Concentrator temperature is too high and oxygen production is shutting down. Ensure air intake and outlet vents have clear access and particle filters are clean. If condition persists, switch to a backup source of oxygen and contact your equipment provider.

High Priority Alerts (continued)

Message Display & Text	Condition/Action/Explanation
System COLD	This may result from the concentrator being stored in a cold environment (below 0°C (32°F)). Move to a warmer environment to allow the unit to warm up before starting it. If condition persists, switch to a backup source of oxygen and contact your equipment provider.
System Error	Concentrator has stopped producing oxygen and is shutting down. You should: 1. Switch to backup oxygen source 2. Contact your equipment provider

5 Troubleshooting

Solutions to some possible issues you may encounter are described in this section.

Inogen One® G3 Oxygen Concentrator

Problem	Possible Cause	Recommended Solution
Any problem accompanied by information on concentrator display, indicator lights and/or audible signals	Refer to Chapter 4	Refer to Chapter 4
Concentrator does not power on when On/Off button is pressed	Battery is discharged or no battery is present	Use external power supply or replace battery with one that is fully charged
	AC Power supply is not connected properly	Check power supply connection and verify green light is solid
	DC Cable is not connected properly	Check DC Cable connection at the Concentrator and at cigarette lighter or auxiliary DC power source
	Malfunction	Contact your equipment provider

Troubleshooting (continued)

Problem	Possible Cause	Recommended Solution
No oxygen	Concentrator is not powered on	Press On/Off button to power concentrator
	Cannula is not connected properly or is kinked or obstructed	Check cannula and its connection to concentrator nozzle

6 Cleaning, Care and Maintenance

Cannula Replacement

Your nasal cannula should be replaced on a regular basis. Consult with your physician and/or equipment provider and/or cannula manufacturer's instructions for replacement information. A single lumen cannula up to 25 feet in length is recommended to ensure proper breath detection and oxygen delivery.

Case Cleaning

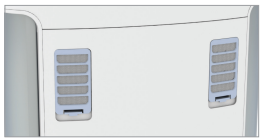
You may clean the outside case using a cloth dampened with a mild liquid detergent (such as Dawn™) and water.

WARNING Do not submerse the Inogen One® G3 or its accessories in water or allow water to enter into the case; this may lead to electrical shock and/or damage.

WARNING Do not use cleaning agents other than those specified in this User Manual. Do not use alcohol, isopropyl alcohol, ethylene chloride or petroleum based cleaners on the cases or on the particle filters.

Filter Cleaning and Replacement

Both particle filters must be cleaned weekly to ensure the ease of air flow. Remove filters from the front of the device. Clean the particle filters with a mild liquid detergent (such as Dawn™) and water; rinse in water and dry before reuse.



NOTE	It may be necessary to clean the particle filters more often in dusty environments.

To purchase additional particle filters contact your equipment provider or Inogen.

Output Filter

The output filter is intended to protect the user from inhalation of small particles in the product gas flow. The Inogen One® G3 includes an output filter conveniently located behind the removable cannula nozzle fitting. Inogen requires that this filter be replaced between patients.

The output filter may be replaced by the equipment provider or by the owner using the Output Filter Replacement Kit (RP-107).

The Inogen One G3 Concentrator must be cleaned and disinfected as per the above instructions for each new patient. No special maintenance needs to be carried out by the patient. Your equipment provider performs maintenance operations to assure continued reliable service from your Inogen One G3. The manufacturer's instructions for the preventative maintenance of the devices are defined in the service manual. All work must be performed by trained technicians certified by the manufacturer.

DC Input Cable Fuse Replacement

The Cigarette Lighter DC power plug contains a fuse. If the DC input cable is being used with a known good power source and the unit is not receiving power, the fuse may need to be replaced.

To replace the fuse, follow these instructions and refer to the photograph below.

1. Remove the tip by unscrewing the retainer. Use a tool if necessary.
2. Remove the retainer, tip and fuse.
3. The spring should remain inside the Cigarette Lighter Adapter housing. If the spring is removed, make sure to replace the spring first before inserting the replacement fuse.

4. Install a replacement fuse, Inogen RP#125 (BUSS MDA-12) and reassemble the tip. Ensure the retainer ring is properly seated and tightened.



Cigarette Adapter Plug



Fuse



Retainer Tip



Retainer

CAUTION	For continued protection against risk of fire, only use fuse specified.

Inogen One® G3 Column Change Procedure

NOTE	Column change instructions are only to be used when maintenance is required and are not intended for practice purpose.

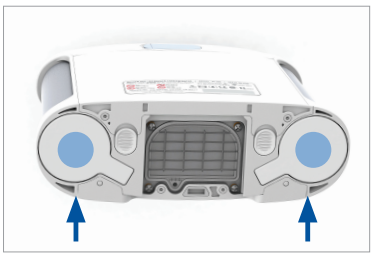
1. Turn off the Inogen One® G3 concentrator by pressing the power button to shut down the device.

2. Remove the Inogen One® G3 concentrator from the carry bag.

3. Remove the battery from the Inogen One® G3 concentrator.

4. Turn Inogen One® G3 over so that it is standing in the upside down position where the display panel is facing down and the bottom of the Inogen One® G3 is facing up.

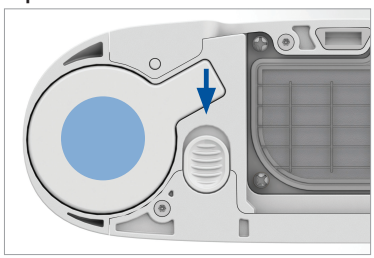
5. There are two columns (metal tubes) on the Inogen One® G3 concentrator and one is located on each side of the device.



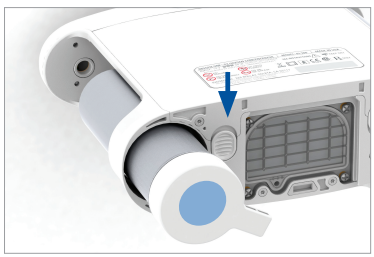
Inogen One® G3 Column Change Procedure (continued)

6. Remove column by pressing the latch button with thumb or finger.

Open and unlocked



7. While holding the button open, slide the column (metal tube) out by gripping the exposed aluminum surface with other hand.



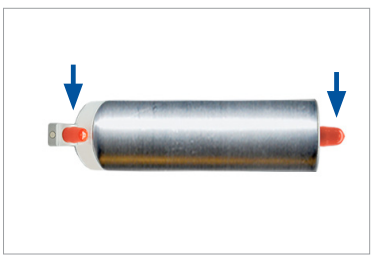
8. Remove the column (metal tube) completely from the Inogen One® G3.



9. Repeat steps 6-8 to remove the other column (metal tube).

Column (metal tube) Installation

10. Remove dust caps of new column (metal tube). Make sure there is no dust or debris where the dust caps were located.



Inogen One® G3 Column Change Procedure (continued)

11. Insert column (metal tube) into the Inogen One® G3 concentrator. Do not leave the column exposed; it should be inserted into the Inogen One G3 as soon as the dust caps have been removed.

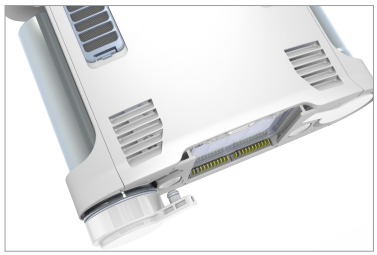
12. Push the column (metal tube) into the device such that the column (metal tube) is fully seated into the Inogen One® G3 concentrator. The spring loaded latch button should fully return to the closed position.

13. Repeat steps 10-12 to install the other column (metal tube).

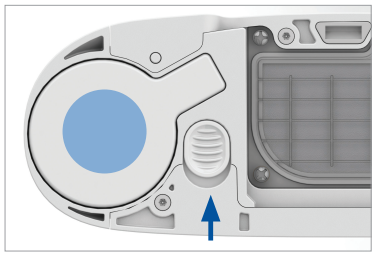
14. Connect the AC power supply cord to the Inogen One® G3 and plug the power supply AC cord into an electrical outlet. **Do Not Power on the Inogen One® G3 concentrator.**

15. Press and hold the light button for 10 seconds and screen will display "sieve reset" message. Release button once message is displayed on screen.

16. Press the bell button once and screen will display "sieve reset success".



Closed and locked





17. Press the power button to turn on the Inogen One® G3, and use normally.

WARNING Do not use any columns other than those specified in this user manual. The use of non-specified columns may create a safety hazard and/or impair equipment performance and will void your warranty.

Other Service and Maintenance



WARNING Do not disassemble the Inogen One® G3 or any of the accessories or attempt any maintenance other than tasks described in this user manual; disassembly creates a hazard of electrical shock and will void your warranty. Do not remove the tamper evident label. For events other than those described in this manual, contact your equipment provider for servicing by authorized personnel.

CAUTION Do not use lubricants on the Inogen One® G3 or its accessories.

Disposal of Equipment and Accessories

Follow your local governing ordinances for disposal and recycling of the Inogen One® G3 and accessories. If WEEE regulations apply, do not dispose of in unsorted municipal waste. Within Europe, contact the EU Authorized Representative for disposal instructions. The battery contains lithium ion cells and should be recycled. The battery must not be incinerated.

Maintenance Items List

- Inogen One® G3 single battery (model # BA- 300)
- Inogen One® G3 double battery (model # BA- 316)
- Replacement intake particle filters (model # RP- 301)
- Output Filter Replacement Kit (model # RP-107)
- Inogen One® G3 columns (model # RP-321)

For assistance, if needed, in setting up, using, maintaining, or to report unexpected operation or events, contact your equipment provider, or manufacturer.

7 Symbols Used On Concentrator and Accessories

Symbol	Meaning
WARNING	A warning indicates that the personal safety of the patient may be involved. Disregarding a warning could result in significant injury.
CAUTION	A caution indicates that a precaution or service procedure must be followed. Disregarding a caution could lead to a minor injury or damage to equipment.
	See User Manual for Instructions.
	U.S. Federal Regulation Restricts this Device to Sale by Order of Physician. May also be applicable in other Countries.
	AC Power
	DC Power
	No Smoking while device is in use.
	No Open Flames (Concentrator); Do not incinerate (Battery).
 	Refer to instruction manual/booklet.
	Manufacturer
EC REP	Authorized Representative in the European Community

Symbol	Meaning
	Keep Dry
	Indoor or Dry Location Use Only, Do Not Get Wet
	Use No Oil or Grease
	Do Not Disassemble (contact your equipment provider for servicing by authorized personnel)
	Do Not Dispose of In Unsorted Municipal Waste
	Type BF Applied Part, Not Intended for Cardiac Application
	Class II Device
	Electrical Safety Agency Certification Logo
	Complies With Applicable EU Directives Including Medical Device Directive

User Interface Label

Symbol	Meaning
	ON / OFF Button
	Display Backlight Button
	Increase Flow Setting
	Decrease Flow Setting
	Audible Alarm Button

8 Inogen One® G3 System Specifications

Inogen One® G3 Concentrator

Dimensions: With single battery	L / W / H : 8.75 in. (22.2 cm.) / 3.0 in. (7.6 cm.) / 7.25 in. (18.4 cm.) L / W / H : 8.75 in. (22.2 cm.) / 3.0 in. (7.6 cm.) / 8.25 in. (21 cm.)
Weight:	4.8 pounds (2.19 Kg.) (includes single battery)
Noise:	39 dBA (on setting 2) for the 5 setting model 42 dBA (on setting 2) for the 4 setting model
Warm-Up Time:	2 minutes
Oxygen Concentration:	90% - 3% /+ 6% at all settings
Flow Control Settings:	5 settings: 1 to 5
Power: AC Power Supply: DC Power Cable: Rechargeable Battery:	 AC Input: 100 to 240 VAC 50 to 60 Hz Auto-Sensing: 1.0A DC Input: 13.5-15.5VDC,10A Max. Voltage: 12.0 to 16.8 VDC
Battery Duration:	Up to 4.7 hours with single battery Up to 10 hours with double battery
Battery Charging Time:	Up to 5 hours for a single battery Up to 8 hours for a double battery
Environmental Ranges Intended for Use:	Temperature: 41 to 104˚F (5 to 40˚C) Humidity: 0% to 95%, non-condensing Altitude: 0 to 10,000 ft (0 to 3048 meters)
Environmental Ranges Intended for Shipping and Storage:	Temperature: -13 to 158˚F (-25 to 70˚C) Humidity: 0% to 95%, non-condensing Store in a dry environment Altitude: 0 to 10,000 ft (0 to 3048 meters)
Transportation:	Keep Dry, Handle With Care

Inogen One® G3 Concentrator (continued)

Tested by Independent Laboratory:	Safety: IEC 60601-1 CAN/CSA C22.2 No. 60601-1 Electromagnetic Compatibility: IEC 60601-1-2 RTCA DO 160

Classifications

Mode of Operation:	Continuous Duty
Type of Protection Against Electrical Shock:	Class II
Degree of Protection to Concentrator Components Against Electrical Shock:	Type BF Not intended for cardiac application
Degree of Protection to Concentrator Components Against Ingress of Water While Used Outside of Carry Bag:	IP20 - Not protected from dripping water. Protected against ingress of solid objects ≥ 12.5 mm.
Degree of Protection to Concentrator Components Against Ingress of Water While Used Inside of Carry Bag:	IP22 - Vertically dripping water shall have no harmful effect & protect against ingress of solid objects ≥ 12.5 mm. diameter when the enclosure is tilted at an angle up to 15˚ from its normal position
Degree of Protection to Concentrator Exterior Provided by the Carry Bag:	IP02 - Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15˚ from its normal position
Degree of Safety for Application in Presence of Anesthetic Gases:	Not suitable for such application

ELECTROMAGNETIC COMPATIBILITY

This CE Marked equipment has been tested and found to comply with the EMC limits for the Medical Device Directive 93/42/EEC [EN 55011 Class B and EN 60601-1-2]. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation.

Guidance and Manufacturer's Declaration - Electromagnetic Immunity:

The Concentrator is intended for use in the electromagnetic environment specified below. The user of the Concentrator should make sure it is used in such an environment.

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 150 kHz to 80 MHz 3V/m 80 MHz to 2.5 GHz	3 Vrms 3V/m	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. Recommended separation distance: $d=1.2\sqrt{P}$ 150 kHz to 80 MHz $d=1.2\sqrt{P}$ 80 MHz to 800 MHz $d=2.3\sqrt{P}$ 800 MHz to 2.5 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey [a], should be less than the compliance level in each frequency range[b]. Interference may occur in the vicinity of equipment marked with the following symbol:
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	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 EC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/ output lines	± 2 kV for power supply lines ± 1 kV for input/ output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the [ME EQUIPMENT or ME SYSTEM] requires continued operation during power mains interruptions, it is recommended that the [ME EQUIPMENT or ME SYSTEM] be powered from an uninterrupted power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical hospital or home environment.

NOTE	At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE	These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

NOTE	U_T is the a.c. main voltage prior to application of the test level.

[a]: Field strength from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the concentrator is used exceeds the applicable RF compliance level above, the concentrator should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the device.

[b]: Over the frequency range 150 kHz to 80 MHz, the field strengths should be less than 3V/m.

Recommended Separation Distances between Portable and Mobile RF Communications Equipment and This Device:

This concentrator is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The user of the concentrator can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and this concentrator as recommended below, according to the maximum output power of the communications equipment.

Rated Maximum Power Output of Transmitter (W)	**Separation Distance According to Frequency of Transmitter (M)**		
	150 kHz to 80 MHz d=1.2√P	**80 MHz to 800 MHz** d=1.2√P	**800 MHz to 2.5 GHz** d=2.3√P
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	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 *d* in meters (m) 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	At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE	The guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

Guidance and Manufacturer's Declaration – Electromagnetic Emissions
The concentrator is intended for use in the electromagnetic environment specified below. The user of the concentrator should assure that it is used in such an environment.

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

INOGEN ONE® G3
用户手册



inogen®

中文版

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1 预期用途、禁忌和一般预防措

预期用途

Inogen One® G3氧气浓缩器适用于需要辅助供氧的患者根据处方使用。氧气浓缩器供应高浓度的氧气，并结合鼻插管将氧气从浓缩器输送给患者。Inogen One® G3适合在家庭、病房、车辆、飞机和各种移动环境下使用。

小心	美国联邦法律规定，本设备只能由医师或凭医嘱销售。此规定也可能适用于其他国家。
小心	鼻插管的额定速率应为5升/分钟，确保患者正确使用和输氧。
警告	建议提供替代氧气源，以免停电或出现机械故障。有关推荐的备用系统类型，请向您的设备提供商咨询。
小心	患者在旅行时有责任进行替代氧气源的备用安排；对于不遵守制造商建议的患者，Inogen不承担任何责任。

Inogen One® G3供氧系统的预期寿命为5年，筛床和电池除外，筛床（金属柱）的预期使用寿命为1年，电池的预期使用寿命为500次完整充电/放电循环。

禁忌

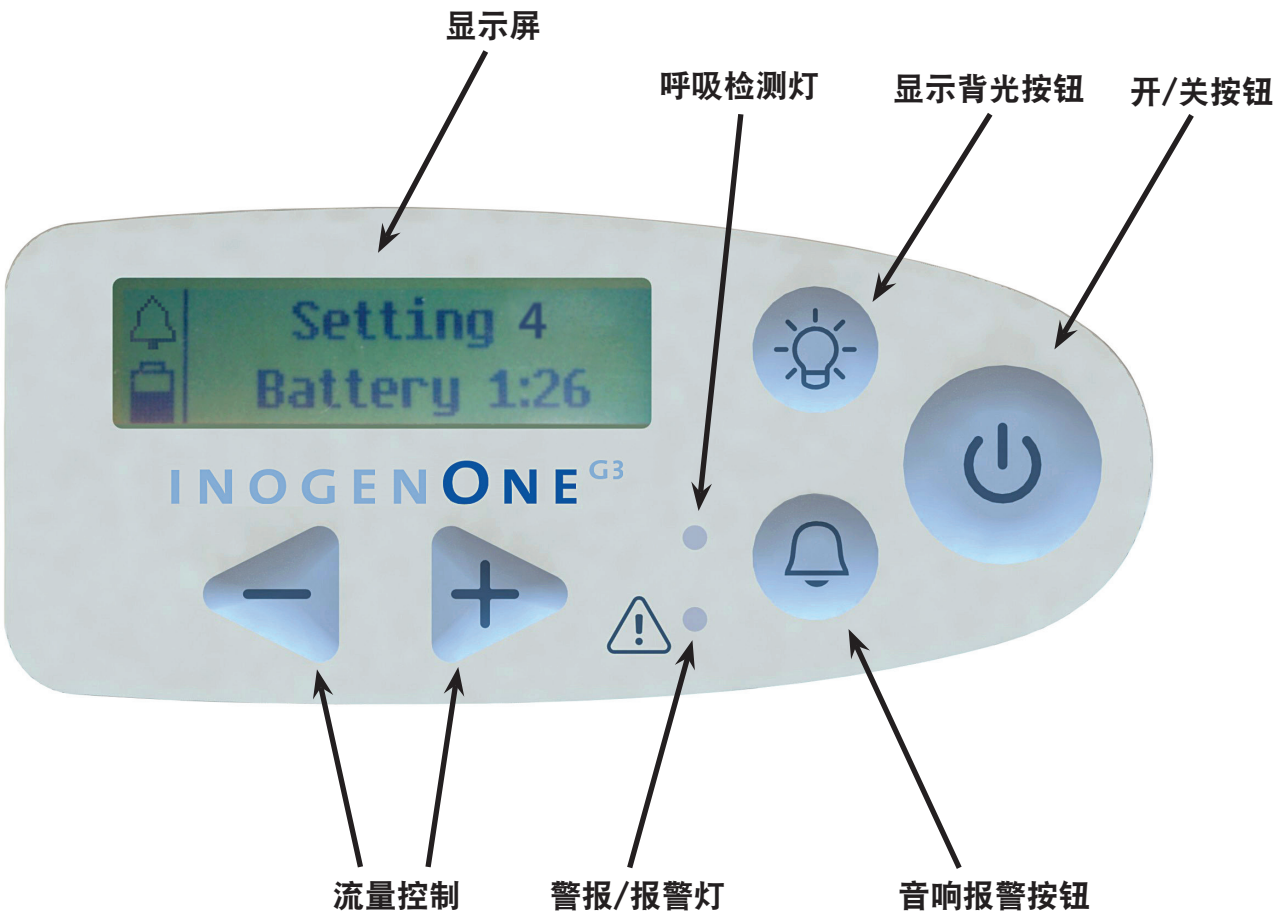
警告	本设备不作维持生命或支持生命之用。
小心	在某些情况下，使用非处方的氧气治疗可能会造成危害。只能根据医师开出的处方使用本设备。
小心	对于使用本设备但无法看到或听到报警或表达不适的患者，可能需要对其进行额外的监测或关注。如果患者表达任何不适症状，应立即咨询医师。
小心	Inogen One® G3未设计或指定与加湿器、雾化器配合使用或与任何其他设备连接使用。将本设备与加湿器、雾化器配合使用或与任何其他设备连接使用可能会削弱性能和/或损坏设备。切勿改造Inogen One® G3浓缩器。对设备进行任何改造都可能会削弱性能或损坏设备，并导致保修失效。

一般预防措施

警告	本设备产生会加速燃烧的富氧气体。在使用时，切勿在本设备10英尺范围内吸烟或使用明火。
警告	切勿将Inogen One® G3或任何配件浸入液体中。切勿暴露于水或降雨。不要在雨中操作。这可能会导致电击和/或损坏。
小心	切勿在Inogen One® G3上或附近使用机油、油脂或石油产品。
小心	切勿将Inogen One® G3置于可能达到高温的环境下，例如，高温环境下的无人车内。这可能导致本设备损坏。

2 Inogen One® G3 氧气浓缩器的说明

Inogen One® G3氧气浓缩器的重要部件



用户控制装置



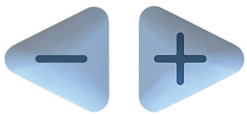
开/关按钮
按一次打开；按住一秒钟将其关闭。



音响报警按钮
按下此按钮将打开和关闭Inogen One® G3的呼吸检测音响警报。

呼吸检测警报模式。在启用此模式且在60秒内未检测到呼吸时，Inogen One® G3发出“未检测到呼吸”警报和声光信号。
在60秒时，本设备将进入自动脉冲模式，一旦检测到再次呼吸，本设备将退出自动脉冲模式，并在患者正常吸气时输氧。
显示屏的模式指示区域将显示警铃图标，当警报启用时，闪烁红灯或黄灯并显示消息。

如果断电，呼吸检测音响警报将保持在用户首选模式下。



流量设置控制按钮
使用 – 或 + 流量设置控制按钮选择显示屏上显示的设置。
从1到5共三种设置。



显示背光按钮
按下打开；在15秒后自动关闭。

用户界面



显示屏
该屏幕显示流量设置、电源状态、电池寿命和错误相关信息。
如果要更改Inogen LCD屏幕上的语言，请联系设备提供商以获取相关说明。

用户界面（续）

指示灯
红或黄灯指示运行状态发生变化或可能需要响应的情况（警报）。闪烁的灯光的优先级高于不闪烁的灯光。



声音信号
声音信号（哔哔声）指示运行状态发生变化或可能需要响应的情况（警报）。更频繁的哔哔声的情况的优先级更高。

输入/输出连接

颗粒过滤器
在运行期间，必须将该过滤器置于浓缩器的进气端，以保持输入空气的清洁。



插管喷嘴接头
鼻插管连接到该喷嘴，以便Inogen One® G3输出含氧空气。



DC电源输入
从AC电源或DC电源电缆连接外接电源。



USB端口
仅用于维修。



电源选项

单节和节双可充电锂离子电池
电池为Inogen One® G3供电，无需连接到外接电源。充满电后，单节电池最长可供运行4.7小时；双节电池最长可供运行10小时。在Inogen One® G3中正确安装电池并将浓缩器连接到AC或DC电源，电池就会重新充电。单节电池最长可充电5小时，双节电池最长可充电8小时。参见“电池保养和维护”章节中的信息。



电源

概述
Inogen One® G3交流电源（BA-301）用于从交流电源为Inogen One® G3浓缩器供电。

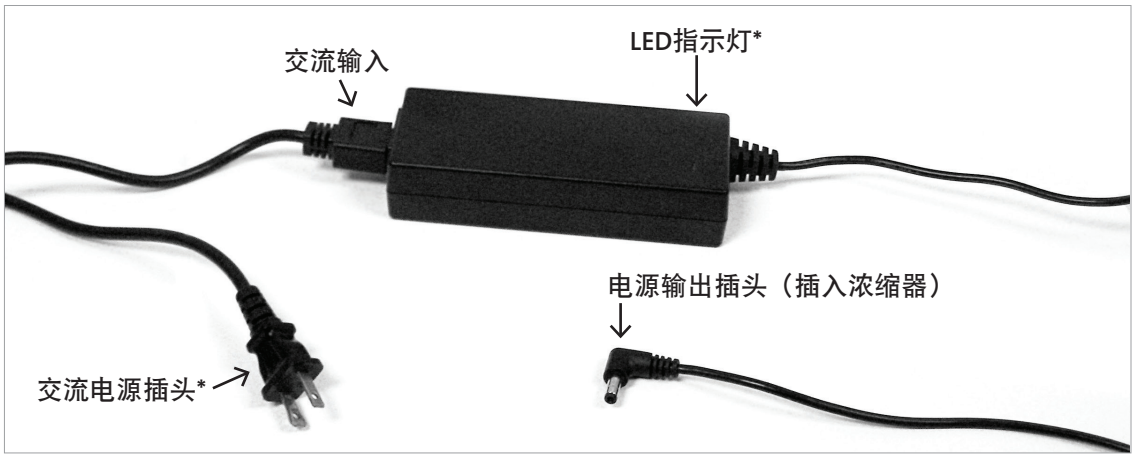
说明
Inogen One® G3交流电源专门设计为配合Inogen One® G3氧气浓缩器（IO-300）使用。交流电源提供为Inogen One® G3安全供电所需的精确电流和电压，并且其设计可利用规定的交流电源运行。配合交流电源使用时，电源会自动适应100V至240V（50-60HZ）的输入电压，因此可与世界各地的大多数电源结合使用。

配合交流输入电源使用时，交流电源将Inogen One® G3电池充电。由于飞机功率限制，在飞机上使用时，不能使用交流电源为Inogen One® G3电池充电。

交流电源与以下组件配合使用：
- 电源，带连接到Inogen One® G3的已连接电源输出电缆
- 交流电源输入电缆

直流电源电缆（BA-306）专门设计用于Inogen One® G3氧气浓缩器（IO-300）。直流电源输入电缆直接连接到汽车点烟器或辅助直流电源。有关结合直流电源使用的其他操作说明，请参阅第3章。

Inogen One交流电源型号# BA-301



Inogen One G3直流电源电缆型号# BA-306



* 实际产品外观可能会有所不同。

警告 请勿使用本用户手册规定以外的电源或电源电缆。使用规定外的电源或电源电缆可能会造成安全隐患和/或损害本设备的性能。储存时，切勿将电源线缠绕在电源上。切勿驱动、拖动电源线或将物品放在电源线上。否则可能会导致电源线损坏且无法为浓缩器供电。为避免窒息或绞窄危险，将电源线和管子放置在远离儿童和宠物的位置。

Inogen One® G3配件

警告	请勿使用本用户手册规定以外的电源/适配器或配件。使用规定外的配件可能会造成安全隐患和/或损害本设备的性能。

鼻插管

Inogen One® G3必须使用鼻插管才能从浓缩器提供氧气。建议使用长度达25英尺的单腔插管，以确保进行正确的呼吸检测和输氧。



警告	为避免窒息或勒死危险，将管子放置在远离儿童和宠物的位置。
注	增加插管长度可降低氧气团输送期间的感觉噪声。
注	在Inogen One® G3中使用25英尺长的插管时，可能要增加流量设置。

携带包（CA-300）

携带包中包含手柄和可调肩带，可用于携带Inogen One® G3，同时可提供保护。本设备从携带包的底部插入到位。注意插入Inogen One® G3时，确保能通过塑料窗看到显示屏，并可通过袋顶部的开放式切口接触到插管倒钩。应通过开放式网格面板可以看到Inogen One® G3进气口和排气口。可以在运输过程中使用电池操作Inogen One® G3。可扩展的拉链式底部设计有可调整的拉链，可使用单节电池或双节电池，并可方便更换电池。可扩展部分不能用作置物箱。



Inogen One® G3可选配件



外接电池充电器（BA-303）

1. 将外接电池充电器交流电源线插入电源插座中。
2. 将外接电池充电器交流电源插入电池充电器中。
3. 通过卡住并锁定到充电器中，将充电器滑到Inogen One G3电池上。
4. 当电池处于正确位置时，红灯常亮表示电池正在充电。
5. 当绿灯亮起时，表示电池充满电。

小心	避免触摸外接电池充电器的嵌入式电触点；触点损坏可能会影响充电器的运行。
注	除非电池放置到位并充电，否则这些触点不通电。
注	要完全断开外接电池充电器的电源，请拔掉插头。

Inogen One G3背包（CA-350）

携带Inogen One® G3的替代/可选方式，免提、更舒适且带有额外的口袋，可放置附加配件。

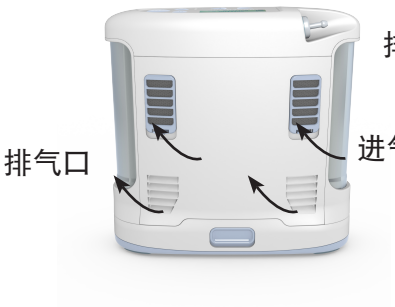


3 操作说明

一般说明

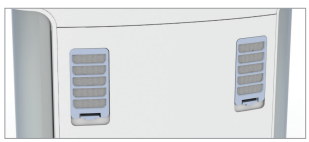
1. **将Inogen One® G3放置在通风良好的地方。**

进气口和排气口必须有畅通的通道。
Inogen One® G3的定位应确保可以听到任何音响报警。



警告	避免在含有污染物、烟雾或烟气的环境中使用Inogen One® G3。禁止在含有易燃麻醉剂、清洁剂或其他化学蒸汽的环境中使用Inogen One® G3。
小心	操作本设备时不要阻塞进气口或排气口。阻塞空气循环或靠近热源可能导致内部热量积聚并导致浓缩器关闭或损坏。
小心	Inogen One® G3浓缩器的设计可确保连续使用。为优化筛床（圆柱）的使用寿命，应经常使用本产品。

2. **确保将两个颗粒过滤器放置到位。**



小心	如果两个颗粒过滤器未放置到位，请勿操作Inogen One® G3。吸入到系统中的颗粒可能会损坏本设备。

3. 安装电池。
将电池滑到位，插入Inogen One® G3电池，直到闩锁返回到上部位置。



小心	当交流或直流外接电源计划断电或意外断电时，Inogen One® G3电池可用作辅助电源。当使用交流或直流外接电源操作Inogen One® G3时，应在本设备中始终正确插入Inogen One® G3电池。该程序将确保不间断的运行，外接电源断电时，可发出所有报警和警报。

4. 连接电源。
将交流输入插头连接到电源。将交流电源插头连接到电源，并将电源输出插头连接到Inogen One® G3。电源上的绿色LED将亮起，浓缩器会发出哔哔声。



小心	确保电源位于通风良好的地方，因为电源依靠空气循环进行散热。电源可能会在运行期间变热。处理前确保电源已冷却。
小心	电源不防水。
小心	不要拆解电源。这可能导致组件故障和/或安全风险。
小心	除了提供的墙壁电源线之外，请勿在电源端口放置任何物品。避免在Inogen One® G3上使用延长电源线。如果必须使用延长电源线，请使用带有保险商实验室（UL）标志且最小电线厚度为18号的延长电源线。切勿将任何其他设备连接到同一根延长电源线上。

注	在某些情况下（参见技术规格），电源可能会关闭。绿色LED将闪烁或不再亮起。如果发生这种情况，将电源断开至少10秒钟，然后重新连接。

注	当电源从交流电源插座断开时，也请将其从浓缩器上断开，以免造成不必要的电池放电。

5. 将鼻插管连接到喷嘴接头。

喷嘴接头位于Inogen One® G3顶部。建议使用长度达25英尺的单腔插管，以确保能正确进行呼吸检测和输氧。使用特定的插管时，可能需进行额外的调整，确保正确的输氧。



小心	为确保氧气流量，确保将鼻插管正确连接到喷嘴接头，并确保管子没有扭结或受到挤压。

小心	应定期更换鼻插管。请咨询设备提供商或医师，以确定更换插管的频率。

6. 按下开/关按钮，打开Inogen One G3。

显示Inogen标志后，会发出一声短促的哔哔声。浓缩启动时会出现“请稍候”消息。显示屏将指示所选的流量设置和电源状况。经过简短的启动序列后，将开始最多2分钟的预热。在此期间，氧气浓度增加，但可能还达不到技术规格值。如果Inogen One® G3储存在非常寒冷的温度下，可能需要预热更长时间。



7. 将Inogen One® G3浓缩器设置为由医师或临床医生规定的流量。

使用 + 或 - 设置按钮将Inogen One® G3调整到所需的设置。可以在显示屏上查看当前设置。

8. 将鼻插管放在脸上，通过鼻子呼吸。

Inogen One® G3可以感知吸氧的起始时间，并在您吸气的准确时间提供一阵氧气。Inogen One® G3会感应每次呼吸，并继续以这种方式输氧。当呼吸频率发生变化时，Inogen One® G3会感应到变化，并仅在需要时输氧。有时，如果您在两次呼吸之间吸气很快，Inogen One® G3可能会忽略其中一次呼吸，显得呼吸不畅。这可能是正常现象，因为Inogen One® G3会感应和监测呼吸模式的变化。Inogen One® G3通常会感应下一次呼吸并相应地输氧。



每次检测到呼吸时，绿灯都会闪烁。确保鼻插管正确对准您的脸，您应确保通过鼻子呼吸。

警告	如果您在使用本设备时感觉不舒服或感到不适，请立即咨询您的医师。
小心	Inogen One® G3旨在提供高纯度氧气流量。如果氧气浓度下降，将发出“氧气流量低”音响警报，以此通知您。如果报警仍然响起，请联系您的设备提供商。

概述

要断开电源，从电源（即交流电源插座和直流汽车点烟器适配器）上拔掉输入电源线，并将其从Inogen One® G3断开。

小心	确保在任何给定的时间仅由一个电源（交流或直流）供电。

附加操作说明

使用家用交流电源操作

使用交流电源操作时，请遵循以下说明：

1. 将交流输入连接到电源。
2. 将交流电源插头连接到电源，并将电源输出插头连接到Inogen One® G3。绿色LED将亮起，指示电源有输入电源。

旅行时携带Inogen One® G3系统

Inogen One® G3系统使乘船、乘汽车或乘火车旅行的氧气用户比以往任何时候更方便。现在，在旅行时的质量性能和便利性与在家中使用Inogen One® G3时相同。以下是在旅行时使用Inogen One® G3时的有用且重要说明，可最大限度提高性能和便利性。

计划旅行时，应牢记检查表中的项目。该检查表应包括：

✓ 交流电源和直流电源电缆
✓ 额外电池（若需要）
✓ 重要的电话号码，例如，医师和家庭医疗服务提供商的电话号码，或您旅行前往地区的提供商
✓ 计划提供备用氧气，以免长时间停电或机械故障

在汽车/房车/船/飞机中使用

使用直流电源进行操作时，请遵循以下说明：

1. 将直流电源输出插头连接到Inogen One® G3。
2. 将直流电源插头（点烟器适配器）连接到电源。
3. 插头应插入到插座中，不要施加过大的力，但要能够安全地保持在原位。



4. 检查本设备的显示屏幕，确认外接电源已连接。屏幕上将显示带有闪电球或交流电源插头的电池图标，表示外接电源已连接且正常运行。

警告	确保汽车电源插座装上合适的保险丝，以符合Inogen One® G3电源要求（最低15安培）。如果电源插座无法支持15安培的负载，则保险丝可能会烧断或者插座可能会损坏。
警告	使用时，点烟器适配器插头的尖端会变得很热。从自动点烟器插座中拔掉后，请勿立即触摸尖端。
小心	确保汽车电源插座上无烟灰且适配器插头正确安装，否则可能会导致过热。
小心	请勿将电源与适配器插头分路器或延长电缆一起使用。这可能会导致直流电源输入电缆过热。
小心	连接直流电源电缆后，切勿跨接起动汽车。这可能会导致电压瞬间突增，进而可能会关闭和/或损坏直流电源输入电缆。
小心	在汽车中为Inogen One® G3供电时，确保车辆的发动机先运转，然后再将直流电缆连接到点烟器适配器上。在发动机运转的情况下操作本设备可能会导致车辆电池放电。
小心	海拔变化（例如，从海平面到山区）可能会影响输送给患者的总氧量。在去往海拔更高或更低的区域之前请咨询医师，以确定是否应更改流量设置。

乘飞机旅行

FAA允许在所有美国飞机上携带Inogen One® G3，这里提供几种方式让航空旅行更加简便。

规划您的航空旅行

携带Inogen One® G3乘飞机时，必须通知航空公司您将在飞机上使用Inogen One® G3。还必须随身携带您的医师签署的声明，其中包括：

• 您能够看到/听到报警并进行适当的回应。

• 需要使用氧气的时间（整个或部分行程）。

• 最大流量，对应于正常操作条件下机舱内的压力。

• 有些航空公司可能会在飞机上安装机载电源。您可能有机会要求占用带电源端口的座椅，以便为Inogen One® G3充电。然而，可用性因航空公司、飞机类型和服务等级而异。应向航空公司核实可用性，并务必提供足够的电池电量，可供在不低于150%的预计飞行时间内使用。航空公司可能对电池寿命有特定的要求，所以在旅行前务必与航空公司核实。

• 直流电源电缆配有常用的点烟器适配器。但是，飞机使用不同的电源端口配置，很难确定飞机可能提供哪种类型的电源端口兼容功能。在电子和旅行商店购买适配器不失为一个好主意。

航空旅行前

在飞机起飞当天，请注意以下一些事项：

• 确保Inogen One® G3清洁、状况良好且无损坏或其他过度磨损或滥用的迹象。

• 带上足够的充电电池，使Inogen One® G3的电量可供不低于150%的预计飞行时间再加上保守估计的意外延误时间使用。

• 区域/通勤航空公司不提供机载电源。如果您的旅行计划需要乘坐地区航空公司的航班，请带上足够的充电电池，使Inogen One® G3的电量可供不低于150%的预计飞行时间再加上保守估计的意外延误时间使用。

• 提前到达机场。机场安检人员可能需要额外的时间来检查您的Inogen One® G3。

• 在等待登机的过程中，在可能情况下可通过机场终端的电源插座使用交流电源为Inogen One® G3供电，来节约电池电量。

• 应通知航空公司您将在飞机上使用Inogen One® G3。携带医师声明并准备好在需要的情况下接受检查。

航空旅行途中

1. 如果使用飞机电源端口，请取出Inogen One® G3氧气浓缩器中的电池。由于飞机功率限制，在飞机上使用时，不能使用交流电源为Inogen One® G3电池充电。
2. 将直流电源插头连接到可用的机场电源。向机场工作人员核实兼容性。

• 在乘坐机场的士、飞机起飞和着陆期间，将Inogen One® G3存放在您前面的座椅下。Inogen One® G3可直立放置在大多数航空公司座椅下。但如果不合适，可以将其翻转到一侧，排气口朝上放置。

• 如果您医师的书面声明要求您在这段时间内输氧，则在乘坐机场的士、飞机起飞和着陆过程中无需关闭Inogen One® G3。

小心	海拔变化（例如，从海平面到山区）可能会影响输送给患者的总氧量。Inogen One® G3已经过验证，可在高达10,000 ft.（3048 m）的海拔下输氧。在去往海拔更高或更低的区域之前请咨询医师，以确定是否应更改流量设置。

航空旅行后

• 请记得在下次飞行前将可能已使用的额外电池充电。

乘公共汽车、火车或船旅行

联系运输公司，了解电源端口的可用性。

电池操作说明

确保电池在适当的位置且已充电。断开Inogen One® G3的电源连接。使用电池为Inogen One® G3供电时，电池将会放电。显示屏将显示估计的剩余百分比（%）或可用分钟数。

当浓缩器检测到电池电量较低且可用时间不足10分钟时，则会发出低优先级警报。当电量耗尽时，警报会变为高优先级。

电量较低时，执行下列操作：
- 使用交流电源或直流电缆将Inogen One® G3插入交流或直流电源中。
- 关闭Inogen One® G3（按下开/关按钮）后，用充好电的电池更换电池。要取下电池，按住电池闩锁按钮并将电池从浓缩器中滑出。
- 如果电池电量耗尽，将电池充电或从浓缩器中取出。

如果Inogen One® G3由交流电源或直流电源供电，电池将在运行过程中充电。在充满电后继续插入Inogen One® G3不会损坏浓缩器或电池。

警告 患者应定期检查电池并根据需要更换。对于不遵守制造商建议的患者，Inogen不承担任何责任。

正常电池充电
为确保电池正常充电，检查是否正在使用正确的交流和直流电源输出插头适配器，并将适配器正确插入到电源插座中。观察指示充电状态的显示屏或指示灯。

注 当开始将完全放电的电池充电时，充电过程可能会在开始的几分钟内开始和停止。

电池保养和维护
为确保正确的性能和延长使用寿命，需小心保养Inogen One® G3锂离子电池。
Inogen One® G3电池只能与InogenOne® G3浓缩器一起使用。

保持干燥
保持液体远离电池。如果电池变湿，立即停止使用并妥善处置。

温度对电池性能的影响
在大多数环境条件下，Inogen One® G3单节电池最长可供Inogen One® G3浓缩器使用4.7个小时。要延长电池的运行时间，避免在低于41˚F（5˚C）或高于95˚F（35˚C）的温度下长时间运行。

电池剩余使用时间时钟
Inogen One® G3会持续显示电池剩余使用时间。电池剩余使用时间仅为估计值，实际的电池剩余使用时间可能与该值不同。

请遵循下列重要指南，以最大限度地提高电池性能和寿命：
- 将电池存放在阴凉干燥的地方。储存时的剩余电量应约为40-50%。
- 如果使用多节电池，确保标记每节电池（1、2、3或A、B、C等）并定期旋转。电池每次的休眠时间不得超过90天。

电池充电指示表
当Inogen One® G3浓缩器未配置单节或双节电池时，可以检查电池上的电池电量表以确定所需的充电量。
按下绿色电池图标按钮观察LED点亮的数量，据此确定可用的电量。

4个LED点亮：75%至100%电量
3个LED点亮：50%至75%电量
2个LED点亮：25%至50%电量
1个LED点亮：10%至25%电量
1个LED闪烁：电池电量低于10%，需要充电

4 Inogen One® G3 氧气浓缩器声光信号

模式	文字
电源	

显示图标

Inogen One® G3的显示屏分为三个区域。显示屏的左上角显示呼吸检测警报状态。左下角指示电源和电池充电水平。显示屏的右侧包含文本信息，例如，流量设置、电池剩余使用时间和错误通知。

电源状态图标

这些图标为Inogen One® G3由电池供电时显示屏电源状态窗口中所显示图标的示例。

图标	含义
	电池电量耗尽。
	电池剩余充电时间少于10%。该图标闪烁。
	电池剩余充电时间约为40%-50%。
	电池已充满。

电源状态图标（续）

以下图标是Inogen One® G3使用外接电源供电并为电池充电时显示的图标的示例。闪电球表示已连接外接电源。

图标	含义
	电池正在充电，充电水平在60%到70%之间。
	电池已充满电，根据需要进行充电，以维持电量。
	电池正在充电，充电水平低于10%。
	Inogen One® G3由外接电源供电，电池未装上。

模式图标

这些是显示屏的模式窗口中显示的图标。

图标	含义
	呼吸检测音响报警启用。
	呼吸检测音响报警禁用。这是默认条件。

显示文本

注	当两个条件同时发生时，将显示优先级较高的条件。

信息消息

以下信息显示未伴有任何音响反馈或指示灯的任何视觉变化。

消息显示和文本	条件/操作/说明
inogen	在启动时显示Inogen标识。
设置X 请稍候	在预热期间显示。“X”表示选定的流量设置（例如，设置2）。
设置X 电池 HH:MM	使用电池电源供电时默认显示。“X”表示选定的流量设置（例如，设置2）。“HH:MM”表示电池充电的大致剩余时间（例如，1:45）。
Setting X Charging xx 设置X 充电xx （或）电池已充满	利用外接电源运行且电池正在充电时，默认显示。“xx%”表示电池充电百分比（例如，86%）。
Setting XX 设置X 电池xx%	当电池未充电或剩余时间已到时，默认显示。
Charging XX% 充电xx%（或） 电池已充满	当浓缩器插入且用于给电池充电（非用于制氧）时显示。当移除外接电源时，充满电电池的读数在95%和100%之间是正常现象。此功能可最大限度地延长电池的使用寿命。

通知

警告 音响通知（55dba-65dba，取决于用户位置）用于警告用户发生问题。为确保可以听到音响通知，必须确定用户可以离开的最大距离，以适应周围的噪声级。

通知（续）

Inogen One® G3监控运行过程中的各种参数，并使用智能报警系统指示浓缩器的故障。数学算法和时间延迟用于降低虚假报警的可能性，同时确保报警条件的正确通知。

如果检测到多个报警条件，将显示最高优先级的报警。

以下通知消息伴有**一声短促的哔哔声。**

消息显示和文本	条件/操作/说明
Please Wait Shutting Down 请稍候 正在关闭	按住开/关按钮两秒钟。浓缩器正在关闭系统。
HH:MM Vx.x：序列号	按住音响报警按钮已经5秒钟。

低优先级警报

以下低优先级警报消息伴随着**两声哔哔声**且黄灯常亮。

消息显示和文本	条件/操作/说明
Battery Low Attach Plug 电池电量低 请连接插头	电池电量低，剩余时间不足10分钟。连接外接电源或关闭电源并插入充满电的电池。
Replace Columns 更换 圆柱	应在30天内维护圆柱。联系您的设备提供商以安排维修。

低优先级警报（续）

消息显示和文本	条件/操作/说明
Check Battery 检查电池	电池出错。检查电池连接，确保电池正确连接且闩锁在浓缩器上。如果同一电池再次出错，停止使用该电池并切换到新电池或取出电池，并使用外接电源操作浓缩器。
Oxygen Low 氧气量低	浓缩器在10分钟的时间内产生稍低的氧气量（<82%）。如果此状况持续，请联系您的设备提供商。
Remove Battery to Cool 取出电池， 让其冷却	电池超出其充电温度，充电已停止。出现该警报时，电池不会充电，但当电池温度恢复到正常工作范围时，电池将开始充电。如果希望加快电池充电速度，将电池从浓缩器中取出，并在开阔区域中让其冷却大约10-15分钟。然后，将电池重新插入到Inogen One® G3中。如果此问题持续发生，请联系您的设备提供商。
Comm Error 通信错误	浓缩器正在制氧，但不能报告电池状态。更换电池。如果此状况持续，请联系您的设备提供商。
Service Soon 马上维修	浓缩器需要尽早维修。浓缩器按照规范运行，可以继续使用。联系您的设备提供商以安排维修。
Sensor Fail 传感器故障	浓缩器的氧气传感器发生故障。可以继续使用浓缩器。如果此状况持续，请联系您的设备提供商。

中等优先级警报

下列中等优先级警报消息伴有**三声哔哔声**，每25秒重复一次，且**黄灯闪烁。**

消息显示和文本	条件/操作/说明
No Breath Detect Check Cannula 未检测到呼吸 检查插管	浓缩器在60秒内未检测到呼吸。检查插管是否连接到浓缩器、管子是否扭结且插管是否正确放在鼻中。
Oxygen Error 氧气错误	氧气输出浓度低于50%，已持续10分钟。如果此状况持续，切换到备用氧气源，并联系您的设备提供商以安排维修。
O2 Delivery Error 氧气输送错误	识别到呼吸，但是未检测到正确的氧气输送。
Battery HOT Warning 电池高温警告	浓缩器利用电池运行时，电池超出温度限值。在可能情况下，将浓缩器移动到较冷的位置或使用外接电源供电，并取出电池。如果此状况持续，请联系您的设备提供商。

高优先级警报

小心	如果您不在Inogen One® G3附近，则可能无法听到或看到高优先级警报。确保将Inogen One® G3放置在可以识别警报和报警（若发生）的位置。

下列高优先级警报消息伴有**5声哔哔声**，每10秒重复一次，且**黄灯闪烁**。

消息显示和文本	条件/操作/说明
Battery Empty Attach Plug 电池电量耗尽 请连接插头	浓缩器的电池电量不足以制氧。连接外接电源或更换电池，必要时按下开/关按钮，重启本设备。
Battery HOT 电池高温	浓缩器利用电池运行时，电池超出温度限值。浓缩器停止制氧。如果可能，将浓缩器移动到较冷的位置，然后关闭电源并再次接通。确保进气口和排气口的通道畅通且颗粒过滤器清洁。如果此状况持续，切换到备用氧气源并联系您的设备提供商。
System HOT 系统高温	浓缩器温度太高，停止制氧。确保进气口和排气口的通道畅通且颗粒过滤器清洁。如果此状况持续，切换到备用氧气源并联系您的设备提供商。

高优先级警报（续）

消息显示和文本	条件/操作/说明
System COLD 系统低温	这可能是因为浓缩器储存在低温环境下（低于0°C（32°F））。移动到较热的环境中，让本设备在启动前预热。如果此状况持续，切换到备用氧气源并联系您的设备提供商。
System Error 系统错误	浓缩器停止制氧且停机。应该： 1. 切换到备用氧气源 2. 联系您的设备提供商

5 故障检修

本节中介绍您可能遇到的一些可能问题的解决方案。

Inogen One® G3氧气浓缩器

问题	可能的原因	推荐的解决方案
任何问题，伴有浓缩器显示屏上显示的信息、指示灯和/或声音信号	参考第4章	参考第4章
按下开/关按钮时，浓缩器未通电	电池已放电或未装上电池	使用外接电源或替换上充满电的电池
	交流电源未正确连接	检查电源连接并确认绿灯常亮
	直流电缆未正确连接	检查浓缩器、点烟器或辅助直流电源的直流电缆连接
	故障	联系您的设备提供商

故障检修（续）

问题	可能的原因	推荐的解决方案
无氧气	浓缩器未通电	按下开/关按钮，接通浓缩器
	插管未正确连接或发生扭结或阻塞	检查插管及其与浓缩器喷嘴的连接

6 清洁、保养和维

插管更换

应定期更换鼻插管。有关更换信息，请咨询您的医师和/或设备提供商和/或插管制造商的说明书。建议使用长度达25英尺的单腔插管，以确保进行正确的呼吸检测和输氧。

外壳清洁

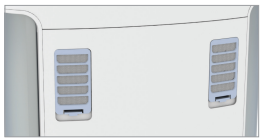
可以使用蘸有温和液体洗涤剂（例如，Dawn™）和水的抹布清洁外壳。

警告 不要将Inogen One® G3或其配件浸入水中或让水进入外壳中；这可能会导致电击和/或损坏。

警告 请勿使用本用户手册规定以外的清洁剂。请勿使用酒精、异丙醇、氯化乙烯或石油基清洁剂清洁外壳或颗粒过滤器。

过滤器清洁和更换

两个颗粒过滤器必须每周清洁一次，以便于空气流动。从本设备前部拆掉过滤器。使用温和的液体洗涤剂（例如，Dawn™）和水清洁颗粒过滤器；在水中冲洗并干燥后再使用。



注	在多尘环境中，可能要更频繁地清洁颗粒过滤器。

若要购买额外的颗粒过滤器，请联系您的设备提供商或Inogen。

输出过滤器

输出过滤器旨在保护用户免于产品气流中的小颗粒。Inogen One® G3配备输出过滤器，可方便地置于可拆卸插管喷嘴接头后方。Inogen要求在两名患者之间更换该过滤器。

输出过滤器可以由设备提供商或使用输出过滤器更换套件（RP-107）的所有者替换。

Inogen One G3浓缩器必须根据上述说明进行清洁和消毒后才能供新患者使用。患者无需进行任何特殊的维护。设备提供商执行维护操作，以确保Inogen One G3提供持续可靠的服务。维修手册中定义了本设备的制造商预防性维护说明。必须由经过制造商认证且经过培训的技术人员执行此类作业。

更换直流输入电缆保险丝

点烟器直流电源插头中包含保险丝。如果直流输入电缆配合已知性能良好的电源使用，但本设备未通电，则可能要更换保险丝。

若要更换保险丝，按照这些说明操作并参考下文说明。

1. 拧下保持器，取下尖端。必要时使用工具。
2. 拆掉保持器、尖端和保险丝。
3. 弹簧应保持在点烟器适配器外壳内。如果拆下弹簧，在插入更换的保险丝前，确保先要更换弹簧。

4. 安装更换的保险丝、Inogen RP#125 (BUSS MDA-12)并重新组装尖端。确保保持器环正确座合且拧紧。



点烟器适配器插头



保险丝



保持器尖端



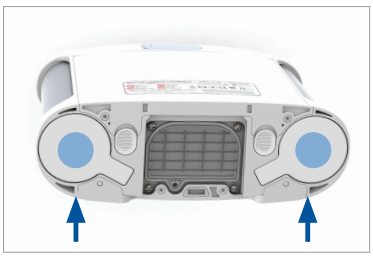
保持器

小心	为能够持续防火，只能使用规定的保险丝。

Inogen One® G3圆柱更换程序

注	只有在需要维护时才可使用圆柱更换说明，不能用于实践目的。

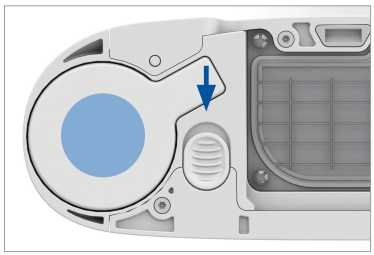
1. 按下电源按钮关闭设备，关闭Inogen One® G3浓缩器。
2. 从携带包中取出Inogen One® G3浓缩器。
3. 从Inogen One® G3浓缩器中取出电池。
4. 翻转Inogen One® G3，使其处于倒置位置，显示面板朝下，Inogen One® G3的底部朝上。
5. Inogen One® G3浓缩器上配有两个圆柱（金属管），装置每侧一个。



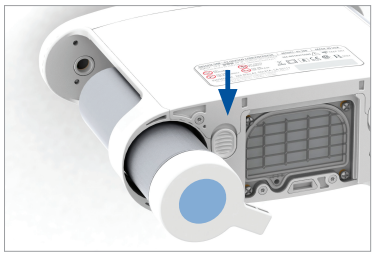
Inogen One® G3圆柱更换程序（续）

6. 用拇指或手指按下闩锁按钮，拆掉圆柱。

打开并解锁



7. 按住按钮，用另一只手抓住外露的铝质表面，滑出圆柱（金属管）。



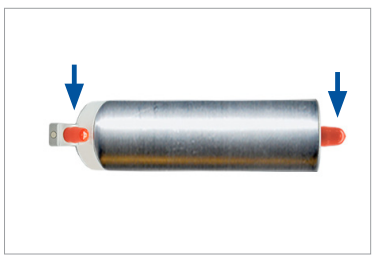
8. 从Inogen One® G3完全拆掉圆柱（金属管）。



9. 重复步骤6-8，拆掉另一个圆柱（金属管）。

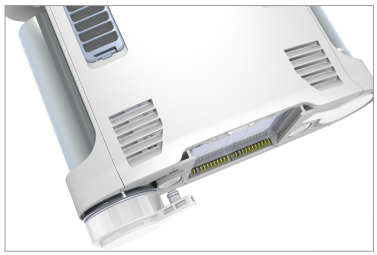
圆柱（金属管）安装

10. 拆掉新圆柱（金属管）的防尘盖。确保防尘盖所在的位置无灰尘或碎屑。



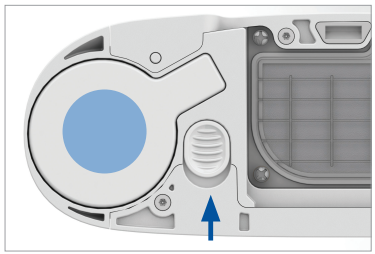
Inogen One® G3圆柱更换程序（续）

11. 将圆柱（金属管）插入Inogen One® G3浓缩器中。切勿将圆柱暴露在外；移除防尘盖后，应将圆柱立即插入Inogen One G3中。



12. 将圆柱（金属管）推入本设备中，使圆柱（金属管）完全座合在Inogen One G3浓缩器中。弹簧负载式闩锁按钮应完全返回到关闭位置。

关闭并锁定



13. 重复步骤10-12，安装另一个圆柱（金属管）。

14. 将交流电源线连接到Inogen One® G3，并将交流电源线插入电源插座中。切勿将Inogen One® G3浓缩器通电。



15. 按住指示灯10秒钟，屏幕将显示“筛复位”消息。屏幕上显示该消息后，松开按钮。

16. 再次按下警铃按钮，屏幕将显示“筛复位成功”。

17. 按住电源  按钮，打开Inogen One® G3并正常使用。

警告 请勿使用本用户手册规定以外的圆柱。使用规定外的圆柱可能会造成安全隐患和/或损害本设备的性能，并导致保修失效。

其他维修和维护

警告	除了本用户手册中描述的任务，请勿拆解Inogen One® G3或任何配件或尝试进行任何维护；拆解会引起电击危险，并导致保修失效。请勿取下防伪标签。如果发生本手册中所述之外的事件，请联系您的设备提供商，由授权人员进行维修。

小心	不要在Inogen One® G3或其配件上涂抹润滑剂。

设备和配件的处置

遵循您当地的管理条例来处置和回收Inogen One® G3和配件。如果WEEE法规适用，请勿在未分类的城市垃圾中处置。在欧洲范围内，请联系欧盟授权代表获取处置说明。电池中含有锂离子电池，应循环使用。不得焚烧电池。

维护项目列表

- Inogen One® G3单节电池（型号BA-300）
- Inogen One® G3双电池（型号BA-316）
- 更换进气颗粒过滤器（型号RP-301）
- 输出过滤器更换套件（型号RP-107）
- Inogen One® G3圆柱（型号RP-321）

如果在设置、使用、维护或报告意外操作或事件时需要帮助，请联系您的设备提供商或制造商。

7 浓缩器和配件上使用的符号

符号	含义
警告	“警告”表示可能会危害患者的人身安全。忽视“警告”可能会导致严重伤害。
小心	“小心”表示必须遵守预防措施或维修程序。忽视“小心”可能导致轻微伤害或设备损坏。
	参见用户手册中的说明。
	美国联邦法律规定，本设备仅限凭医嘱销售。此规定也可能适用于其他国家。
	交流电源
	直流电源
	本设备在使用中时，请勿吸烟。
	请勿靠近明火（浓缩器）； 禁止焚烧（电池）。
 	参考说明手册/小册子。
	制造商
	欧洲共同体授权代表

符号	含义
	保持干燥
	仅限在室内或干燥场所内使用，不得弄湿
	禁止使用油或润滑脂
	禁止拆解（联系设备提供商，由授权代表进行维修）
	请勿在未分类的城市垃圾中处置。
	BF型应用部件，不适用于心脏应用
	II级设备
	电气安全机构认证标志
	符合适用的欧盟指令，包括医疗设备指令

用户界面标签

符号	含义
	开/关按钮
	显示背光按钮
	增加流量设置
	降低流量设置
	音响报警按钮

8 Inogen One® G3 系统规格

Inogen One G3浓缩器

尺寸：含单节电池	L/W/H：8.75in.(22.2cm.)/3.0in.(7.6cm.)/7.25in.(18.4cm.) L/W/H：8.75in.(22.2cm.)/3.0in.(7.6cm.)/8.25in.(21cm.)
重量：	4.8磅（2.19 Kg.）（含单节电池）
噪声：	39 dBA（采用设置2时）：设置模式5 42 dBA（采用设置2时）：设置模式4
预热时间：	2分钟
氧气浓度：	90% - 3% /+ 6%，在所有设置下
流量控制设置：	5种设置1至5
电源：交流电源： 直流电源电缆： 可充电电池：	 交流输入：　100至240VAC 50 to 60 Hz 自动感应：　1.0A 直流输入：　13.5-15.5VDC，最大10A 电压：　12.0至16.8VDC
电池持续时间：	单节电池：最长4.7小时； 双节电池：最长10小时
电池充电时间：	单节电池：最长5小时； 双节电池：最长8小时
使用时的预期环境范围：	温度：41至104˚F（5至40˚C） 湿度：0%至95%，无凝结 海拔：0至10,000ft（0至3048m）
装运和存储时的预期环境范围：	温度：-13至158˚F（-25至70˚C） 湿度：0%至95%， 无凝结存储在干燥环境下 海拔：0至10,000ft（0至3048m）
运输：	保持干燥，轻拿轻放

Inogen One G3浓缩器（续）

由独立实验室 试验：	安全：IEC 60601-1 CAN/CSA C22.2，第60601-1号 电磁兼容性： IEC 60601-1-2 RTCA DO 160

分类

操作模式：	连续运行
电击防护类型：	II级
浓缩器组件的电击防护等级：	BF型 不适用于心脏应用
在携带包之外使用时浓缩器组件的防水等级：	IP20——无滴水防护。防止≥12.5mm的固体物质进入。
在携带包内使用时浓缩器组件的防水等级：	IP22——当外壳相对于其正常位置倾斜15时，垂直滴水应无有害影响，且可防止直径≥12.5mm的固体物质进入。
携带包向浓缩器外部提供的防护等级：	IP02——当外壳相对于其正常位置倾斜15时，垂直滴水应无有害影响。
存在麻醉气体时的应用安全等级：	不适用于此类应用

电磁兼容性

此标有CE的设备已经过试验，符合医疗设备指令93/42/EEC [EN 55011 B级和EN 60601-1-2]的EMC限制。这些限制旨在对典型医疗装置中的有害干扰提供合理的防护。

指南和制造商声明——电磁抗扰度：

该浓缩器旨在用于下文指定的电磁环境中。浓缩器的用户应确保在此类环境中使用浓缩器。

抗扰度试验	IEC 60601 试验级别	符合性水平	电磁环境——指南
传导RF IEC 61000-4-6 辐射RF IEC 61000-4-3	3 Vrms 150kHz 至80MHz 3V/m 80MHz 至2.5GHz	3 Vrms 3V/m	便携式和移动式RF通信设备与本设备的任何部件（包括电缆）之间的距离不得超过根据适用于发射机频率的公式计算的建议间隔距离。 建议间隔距离： d=1.2√P 150kHz至80MHz d=1.2√P 80MHz至800MHz d=2.3√P 800MHz至2.5GHz 其中，P是符合发射机制造商要求的发射机的最大输出功率额定值（W），d是建议间隔距离（m）。 由电磁现场测量值[a]确定的固定RF发射机的场强应小于各频率范围[b]的符合性水平。 在标有下列符号的设备附近可能会发生干扰：
静电放电（ESD） IEC 61000-4-2	±6kV，接触 ±8kV，空气	±6kV，接触 ±8kV，空气	地板应为木质、混凝土或瓷砖。如果地板覆盖有合成材料，则相对湿度应至少为30%。
电气快速瞬变/突发 EC 61000-4-4	±2kV，电源线 ±1kV，输入/输出线	±2kV，电源线 ±1kV，输入/输出线	电源质量应具有典型商业或医院环境中所有的质量。
浪涌 IEC 61000-4-5	±1kV，线间 ±2kV，线路对地电	±1kV，线间 ±2kV，线路对地电	电源质量应具有典型商业或医院环境中所有的质量。
电源输入线上的电压骤降、短暂中断和电压变化 IEC 61000-4-11	<5% U_T（U_T骤降>95%），0.5个循环 40% U_T（U_T骤降60%），5个循环 70% U_T（U_T骤降30%），25个循环 <5% U_T（U_T骤降>95%），5秒	<5% U_T（U_T骤降>95%），0.5个循环 40% U_T（U_T骤降60%），5个循环 70% U_T（U_T骤降30%），25个循环 <5% U_T（U_T骤降>95%），5秒	电源质量应具有典型商业或医院环境中所有的质量。如果[ME设备或ME系统]的用户在电源中断期间需要继续操作，则建议采用不间断电源或电池为[ME设备或ME系统]供电。
工频（50/60Hz）磁场 IEC 61000-4-8	3 A/m	3 A/m	在常规的医院或家庭环境中，工频磁场应处于典型位置特有的水平下。

注	在80 MHz和800 MHz时，应使用更高的频率范围。

注	这些指南可能不适用于所有情况。电磁传播受到结构、物体和人的吸收和反射的影响。

注	U_T 是在应用试验电平之前的交流电源电压。

[a]: 在理论上无法准确预测固定发射机的场强，例如，无线电（蜂窝/无绳）电话和陆地移动无线电基站、业余无线电、AM和FM无线电广播和电视广播。为评估固定RF发射机引起的电磁环境，应考虑进行电磁现场测量。如果在浓缩器使用位置测量的场强超过上述适用的RF符合性水平，则应观察浓缩器，以验证能否正常运行。如果观察到性能异常，则可能需要采取其他措施，例如，重新定向或重新定位本设备。

[b]: 在150kHz至80MHz的频率范围内，场强应小于3V/m。

便携式和移动式RF通信设备和本设备之间的建议间隔距离：

该浓缩器旨在在辐射RF干扰受到控制的电磁环境中使用。遵守通信设备的最大输出功率，浓缩器用户可通过维持下文建议的便携式和移动式RF通信设备（发射机）和本设备之间的最小间隔距离来帮助防止电磁干扰。

发射机的额定最大功率输出（W）	**根据发射机频率确定的间隔距离**		
	150kHz至80MHz $d=1.2\sqrt{P}$	**80MHz至800MHz** $d=1.2\sqrt{P}$	**800MHz至2.5GHz** $d=2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

对于具有上文未列出的额定最大输出功率的发射机，可以使用适用于发射机频率的公式估算建议间隔距离d（单位：m），其中P是符合发射机制造商说明的发射机的最大输出功率额定值（W）。

注	在80MHz和800MHz时，应使用更高频率范围下的间隔距离。

注	这些指南可能不适用于所有情况。电磁传播受到结构、物体和人的吸收和反射的影响。

指南和制造商声明——电磁辐射
该浓缩器旨在用于下文指定的电磁环境中。浓缩器的用户应确保在此类环境中使用浓缩器。

辐射试验	**符合性**	**电磁环境——指南**
RF辐射 CISPR 11	组1	浓缩器仅将RF能量用于其内部功能。因此，其RF辐射非常低，不会对附近设备造成任何干扰。
RF辐射 CISPR 11	B级	浓缩器适用于所有设施，包括家用设施和直接连接到为家用建筑供电的公共低压电网的设施。
谐波发射 IEC 61000-3-2	A级	
电压波动/闪烁发射 IEC 61000-3-3	符合	

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