User Manual

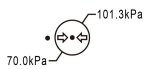
V Series Portable Oxygen Concentrator

(Model: V5, V5C, V6, V6C)

Document No.: SP-1.5501.0009 Version: 2.0

CAUTION: Federal (U.S.) Law restricts this device to sale by or on the order of a physician.

Symbol Instructions

Symbol	Description	Symbol	Description
WARNING	Risk of injury or damage serious injury	**CAUTION**	Risk of minor injury or discomfort
	Refer to the user manual		Power On/Off
	Read accompanying documents carefully		Menu/Confirm
	Do not discard casually		Alarm sound switch button
	Keep dry		Increase flow rate pulse
	Fragile items		Decrease flow rate pulse
	This side up	3	Current set pulse, 1-6, C gear adjustment
	Reusable		Battery Level Icon
	Stacking Limit		Alarm Indicator with Sound
	Return		Alarm Indicator without Sound
IP22	Ingress Protection Rating	**96%**	Real-time Oxygen Concentration Monitoring
	No Open Flames		Do Not Disassemble
	Do Not Use Oil or Grease		No Smoking
	BF Type Device		Class II Device
	Temperature Limit		Humidity Limit
	Altitude Limit	MD	Medical device
	Magnetic Resonance unsafe		Manufacturer
	Date of manufacture		

Rx ONLY	U.S. Federal Regulation Restricts this Device to Sale by Order of Physician. May also be applicable in other Countries.

Table of Contents

1 1 Device Introduction

1.1 Model Name

V5, V5C, V6, V6C.

1.1.1 Device Classification

- Classified by type of protection against electric shock: Class II device.
- Classified by degree of protection against electric shock: BF type.
- Classified by degree of protection against ingress of liquids: IP22.
- Classified by mode of operation: Pulse mode and Continuous mode.

1.1.2 Intended Use, Contraindications and Applicable condition

a) Intended Use

The V series Portable Oxygen Concentrator provides a high concentration of supplemental oxygen to patients requiring respiratory therapy on a prescriptive basis in a home, institutional, or travel environment. The device is not intended for life support, nor does it provide any patient monitoring capabilities.

b) Contraindications

This device is to be used as an oxygen supplement and is NOT intended to be life sustaining or life supporting. ONLY use this device if the patient is capable of spontaneous breath and is able to inhale and exhale without the use of a machine.

- Severe carbon monoxide poisoning patients are prohibited.
- Patients with oxygen toxicity or oxygen allergy are prohibited.
- DO NOT use this device in tracheotomized patients.
- DO NOT use this device in persons whose breathing during normal resting is unable to trigger the device.

c) Environment

This device can be used in home, institutional, and travel/mobile environments. Before use, it is necessary to read the user manual and follow the guidance of a professional doctor within the specified technical specifications.

d) Applicable patient

Adult.

1.2 Device Principle

This machine utilizes the physical principle of pressure swing adsorption with a molecular sieve to adsorb nitrogen and other gas components Device to increase oxygen concentration. During operation, the device injects compressed air into a sealed adsorption tower containing a molecular sieve, causing the pressure inside the tower to rise. As the environmental pressure increases, the molecular sieve adsorbs a large amount of nitrogen from the compressed air, while the oxygen in the compressed air remains in gaseous form and is collected through certain pipelines. This process is commonly referred to as the “adsorption”

process. When the molecular sieve in the container reaches the saturation critical state of nitrogen adsorption, the adsorption tower is backflushed and depressurized. As the environmental pressure decreases, the molecular sieve. The ability of the molecular sieve to adsorb nitrogen decreases, and nitrogen is released from the inside of the molecular sieve back into the atmosphere. This process is usually referred to as “desorption”. To ensure continuous and stable oxygen production, oxygen concentrators often use two (or more) molecular sieve adsorption towers. By controlling the separation valves through software algorithms, one adsorption tower is in the adsorption process while the other is in the desorption process. The two towers work alternately to complete the continuous oxygen production process.

1.2.1 Device Structure Composition

- The portable oxygen concentrator consists of the main unit and accessories.
- Main unit
  Include a compressor, molecular sieve, pressure sensor, electronic control information processing unit, oxygen concentration monitoring module, oxygen output control module, airflow direction control module, and nitrogen discharge control module.
- Accessories
  Include AC adapter, DC connector, nasal cannula, and AC power supply cord.
- Power supply parameters
  AC adapter: input: a.c.100-240V 50/60Hz 2.0-1.0A; output: 5V/3A,10.4V/3A, 20V/5A.
  DC connector: input: d.c.13.5-15.0V, output: d.c.13.5-15.0V, 10A.
- Internal power
  Standard battery: Voltage range, d.c.14.4V 8A Max, Nominal Capacity 6.8Ah.
  Long-lasting battery: Voltage range, d.c.14.4V 8A Max, Nominal Capacity 13.6Ah.

1.2.2 Operating Conditions

- Operating temperature: 41°F to 104°F（5℃-40℃）.
- Operating humidity: 0%-90%, non-condensing.
- Operating altitude: 0 to 10,000 ft (0~3048m).

1.2.3 Transportation and Storage Conditions

- Transportation and storage temperature: -13°F to 158°F（-25-70℃）.
- Transport and storage humidity: 0%-95%.
- Transport and storage altitude: 0 to 10,000 ft (0-3048m).

1.2.4 Software Information

- Software name: Portable Oxygen Concentrator V Series Control System.
- Software release version: V1.

1.3 Model specifications

Compatible with V5, V5C, V6, V6C.

2 Safety instructions

2.1 Warning

- For first-time use, please remove all packaging materials and place plastic bags and other items out of children's reach to prevent suffocation.
- Do not touch any live components such as plugs, power cords, or adapter connections with wet hands during use to avoid the risk of electric shock.
- Do not damage or bend the power cord, and do not use plugs with loose wires to avoid fire or electric shock.
- Smoking during oxygen therapy is dangerous and is likely to result in serious injury or death of the patient and others from fire.
- 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.
- To ensure receiving the therapeutic amount of oxygen delivery according to your medical condition, the V series must:

① be used with settings that have been individually determined or prescribed for you at your activity levels with your accessories.

② be used with the specific combination of parts and accessories that are in line with the specification of the concentrator or accessory manufacturer.

- Use only water-based lotions or salves that are oxygen-compatible before and during oxygen therapy. Never use petroleum-based or oil-based lotions or salves to avoid the risk of fire and burns.
- Do not lubricate fittings, connections, tubing, or other accessories of the oxygen concentrator to avoid the risk of fire and burns.
- Use of this device at an altitude above 10,000 ft（3048m）or outside a temperature of 41°F to 104°F（5-40℃）or a relative humidity above 90% is expected to adversely affect the flowrate and the percentage of oxygen and consequently the quality of the therapy.
- Use only spare parts recommended by the manufacturer to ensure proper function and to avoid the risk of fire and burns.
- Oxygen makes it easier for a fire to start and spread. Do not leave the nasal cannula or mask on bed coverings or chair cushions, if the oxygen concentrator is turned on, but not in use; the oxygen will make the materials more flammable. Turn the oxygen concentrator off when not in use to prevent oxygen enrichment.
- If you feel discomfort or are experiencing a medical emergency while undergoing oxygen therapy, seek medical assistance immediately to avoid harm.
- Geriatric, paediatric or any other patient unable to communicate discomfort can require additional monitoring and or a distributed alarm system to convey the information about the discomfort and or the medical urgency to the responsible care giver to avoid harm.
- Smoking during oxygen therapy is dangerous and is likely to result in facial burns or

death. Do not allow smoking or open flames within the same room as the oxygen concentrator or any oxygen-carrying accessories. If you smoke, you must always turn the oxygen concentrator off, remove the cannula and leave the room where either the cannula or mask or the oxygen concentrator is located. If unable to leave the room, you must wait 10 minutes after you have turned the oxygen concentrator off.

- Open flames during oxygen therapy are dangerous and are likely to result in fire or death. Do not allow open flames within 2m of the oxygen concentrator or any oxygen-carrying accessories.
- Beware of strangulation caused by the nasal cannula.
- The settings of the V series might not correspond with continuous flow oxygen.
- The settings of other models or brands of oxygen therapy device do not correspond with the settings of the V series.

2.2 Caution

- Before first use, please check if the main unit and accessories are missing, damaged, or broken.
- Carefully read the user manual before use, ensure accessories are properly installed and operated correctly.
- Do not place heavy objects on this device to prevent damage.
- Do not place any part of your body near the located port or other heated parts for an extended period to avoid burns.
- Long-term operation in a humid environment may shorten the lifespan of the molecular sieve.
- The air inlet and outlet must have unobstructed pathways, ensure that any audible alarms can be heard, and the device must be used in an upright position.
- Please set the appropriate flow rate pulse as recommended by your doctor.
- When used by children or individuals with mobility issues, supervision is required.
- Only professional personnel from the maintenance center, such as authorized personnel or factory-trained staff, are allowed to perform repairs or adjustments.
- The maintenance or upgrade of device can only be carried out by maintenance personnel trained and authorized by our company.
- Using the device in a manner not specified may cause damage to the device and void the warranty.
- Do not modify this device without authorization from the manufacturer.
- It takes more than 4 hours for the device to be ready for its intended use from the minimum/maximum storage temperature.
- The air intake as well as the exhaust of the oxygen concentrator should be located in a well-ventilated area.
- the oxygen concentrator should be located so as to avoid pollutants or fumes.

3 Device features

3.1 Rated Flow Rate and Pulse

V6C Rated Flow Rate and Pulse Settings

Pulse Settings	1	2	3	4	5	6	C
Rated Flow Rate	210 mL/min	420 mL/min	630 mL/min	840 mL/min	1000 mL/min	1200 mL/min	1.2 L/min
Allowable tolerance for pulse 1-6 is ± 15%, allowable tolerance for C gear is ± 0.2L/min.							

Note:

V5 pulse settings select pulse 1-5.

V5C pulse settings select pulse 1-5 and C gear, with C gear being 1.2L/min.

V6 pulse setting selects pulse 1-6.

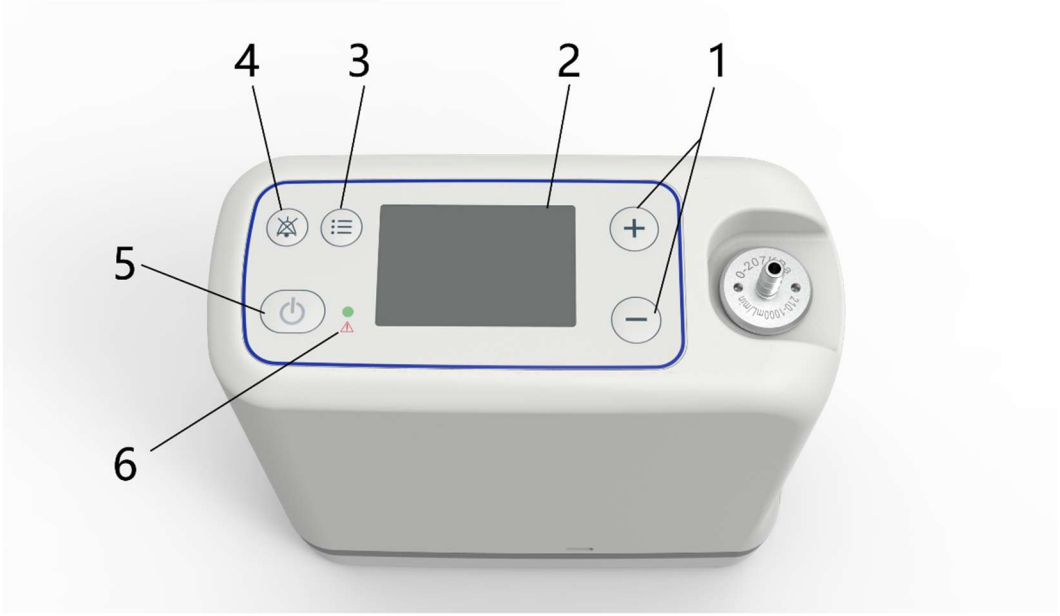
V6C pulse setting selects pulse 1-6 and C gear, with C gear being 1.2L/min.

3.2 Features

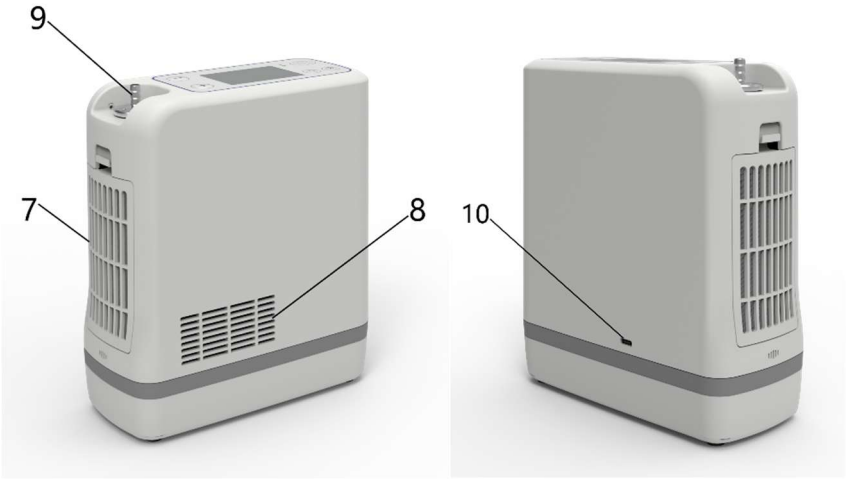
- Oxygen concentration ≥90%(V/V).
- 2.8-inch black and white dot matrix screen display, main unit weight 4.85lbs-5.73lbs（2.2kg-2.6kg）.
- Operating temperature range of the device is 41°F to 104°F（5°C to 40°C）, altitude range 0 to 10,000 ft（0 to 3048m，70.0kPa to 101.3kPa）.
- Operating noise: According to ISO 80601-2-69, the sound pressure does not exceed 60dBA.
- Battery level display, flow rate display, ventilation time, abnormal battery usage alarm.
- Fault indicator light indication, alarm indicator light warning.
- Fault status of important components such as compressor, fan, molecular sieve, and performance degradation alarm.
- Device usage environment mismatch alarm, output flow rate, oxygen concentration, and other performance anomaly alarms.
- Device internal pressure anomaly alarm, critical component temperature anomaly alarm.
- Multiple power supply modes, automatic switching between adapter power supply and internal power supply.
- Maximum output pressure of the oxygen concentrator: ≤199.3kPa（28.9 PSI）.
- Maximum recommended flow rate of the oxygen concentrator: 1200 mL/min (when set to pulse 6).
- The effect that the oxygen delivery settings of the oxygen concentrator should be periodically reassessed for the effectiveness of the therapy.
- Using this device at altitudes above 3048 meters or outside the temperature range of 41°F to 104°F（5°C-40°C）, or in relative humidity exceeding 90%, is expected to

adversely affect the flow rate and oxygen percentage, thereby impacting the quality of oxygen therapy. If the device is used immediately after being stored at temperatures outside the permissible operating range, it may adversely affect the operation of the device until the temperature returns to the permissible operating range. Wind or strong draughts can adversely affect accurate delivery of oxygen therapy.

4 Main Structure



No.	Function Description	No.	Function Description
1	Increase/Decrease level	4	Alarm sound switch button
2	Display screen	5	Power switch
3	Menu button	6	Alarm indicator light



No.	Function Description	No.	Function Description
7	Air inlet	9	Oxygen outlet
8	Heat dissipation port	10	Charging port

Lithium battery pack

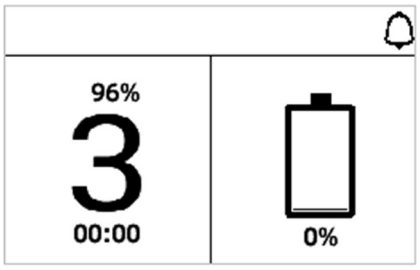
Note: It is normal for the exhaust port to emit hot air.

Note: Do not block the air inlet and exhaust port.

Note: The device illustration is for reference only, the specific pulse position is subject to the model.

5 Display and Button

5.1 Main Interface of Display Screen

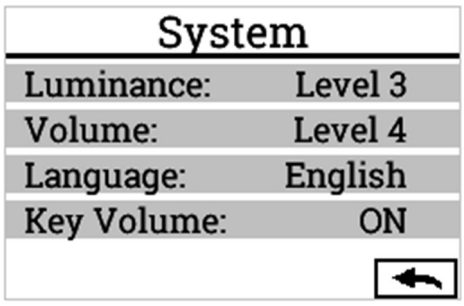


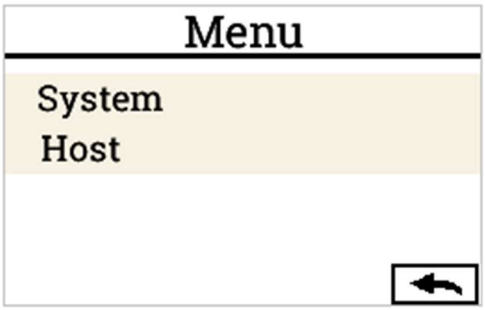
After pressing the power button, the main interface is displayed as follows:

- Flow rate pulse setting and current oxygen concentration indication.
- Current power supply status of the device, battery charge and discharge status indication, and battery level display.
- Ventilation operating time display after power on.
- Alarm item display and suggested actions to be taken.
- Device alarm sound status display.

Note: The main interface style and content may change depending on the presence of alarm information, alarm sound off status, faults, and pulse changes. The actual display is subject to the device’s operation status.

5.2 Display Screen Settings Interface



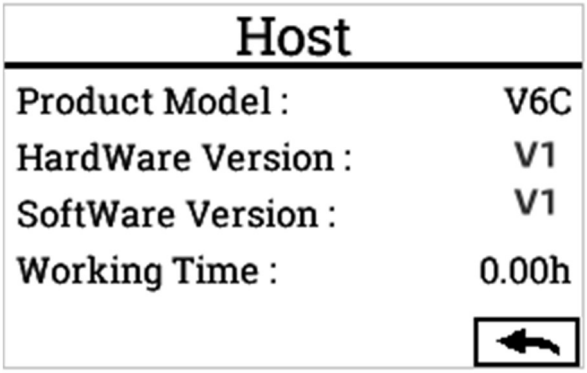


Interface Operation Logic	1. Press the pulse + or - button to move up or down;
	2. Short press the menu button to enter the selected state;
	3. Press the pulse + or - button to select the setting content;
	4. Short press the menu button again to exit the selected state;
	5. Press the pulse + or - button to select the return button, short press the menu button to return to the previous interface;

Option Introduction	Brightness	3 levels of brightness adjustable, levels 1-3; (Brightness increases from level 1 to 3)
	Volume	4 levels of volume adjustable, levels 1-4; (Volume increases from level 1 to 4)
	Language	Language settings can be adjusted
	Key Tone	On/Off, can enable or disable key tones

5.3 Device Information Interface

Taking V6C as an example



The content displayed when the device enters the information interface is as follows:

- View product model information.
- View hardware version information.
- View software version information.
- View cumulative operating time of the device.

5.4 Button Functions

5.4.1 Power Switch

When the device is off, press the button to power on the device.
When the device is working, press and hold the button for about 1 second to turn off the device.

5.4.2 Menu Button

In the main interface, pressing the menu button will display the menu interface, which includes system settings and device information. Pressing the menu button in non-main interfaces can activate the selected option.

5.4.3 Pulse Setting Button

In the main interface, use the “+” or “-” pulse setting buttons to select the pulse. The current pulse setting is displayed on the screen. In non-main interface, use the “+” or “-” pulse setting buttons to select the content in the interface.

5.4.4 Alarm sound switch button

Press the “alarm sound switch button” to turn off the alarm sound on the main unit. There will be no alarm sound when an alarm occurs.
(Press the “alarm sound switch button” to prompt the dialog box, press the “+” key to select “Yes”, then click the “Menu” key to confirm turning off the alarm sound; press the “-” key to select “No”, then click the “Menu” key to cancel turning off the alarm sound.)
Note: When the alarm sound is turned off, please pay close attention to the alarm information displayed on the screen and the alarm indicator light to avoid missing any alarm information.

6 Alarm indicators and information icons

Display position	Display icons		Instructions
Power indicator			Currently powered by adapter only
			Currently powered by battery only Remaining battery power
			Powered by adapter only and battery is charging Remaining battery power
			Current battery communication error
Pulse information	V5	1-5	Current selected flow rate pulse
	V5C	1-5, C	
	V6	1-6	
	V6C	1-6, C	
Alarm information			Alarm sound on/off
	00:00		Power-on operating time
			Multiple alarm information is currently being displayed in a loop
	Alarm information content		Current abnormal status alarm items and suggested measures
Oxygen Concentration	96%		Current oxygen concentration
Control panel	Alarm indicator light flashing		Yellow, the device has alarm information that needs attention
	Fault indicator light flashing		Red, the device or important components have a fault

7 Operating Instructions

7.1 Connect the Power Supply

Choose the appropriate power connection conditions based on the usage environment.

a) When using battery only

Install the dedicated battery into the device’s battery interface. Ensure the battery is securely installed.

b) When using AC power adapter

Firmly connect the AC power adapter and power cord, plug the terminal into the socket. The power indicator light on the adapter and the adapter icon on the screen will light up, indicating a normal power connection.

Input requirements: AC voltage 100-240V, current 2.0-1.0A, frequency 50/60Hz.

Connect the output plug of the AC power adapter to the device’s DC power input interface.

After connecting the AC power adapter, the device will enter the standby interface.

c) When using the DC power cable

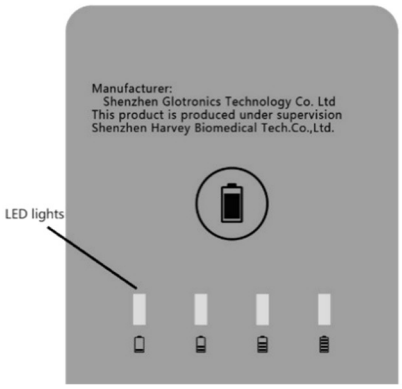
Connect the DC power input cable directly to the car cigarette lighter or auxiliary DC power source.

d) When using the battery.

Slide the battery into place and insert it until the latch returns to the upper position.

7.2 Battery power check

To check the battery power when it is not installed into the oxygen concentrator, press the battery icon. The battery level power indicators (<10% - 100%) will light up below the battery icon to indicate the battery power:



- 4 LEDs light on: power level is 75% to 100%.
- 3 LEDs light on: power level is 50% to 75%.
- 2 LEDs light on: power level is 25% to 50%.
- 1 LED lights on: power level is 10% to 25%.
- 1 LED blinks: power level is less than 10% full and needs to be recharged.

7.3 Warmup

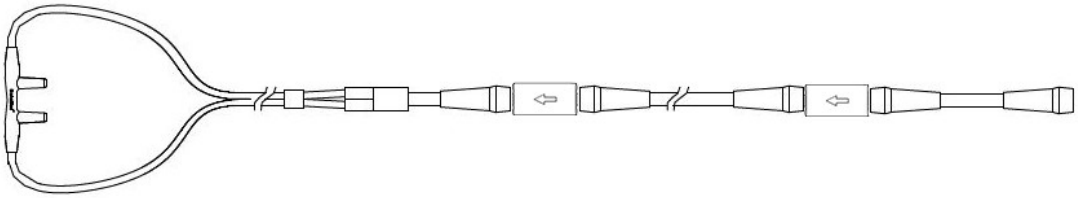
Press the “power switch” button. After hearing a 'beep' sound indicating the power-on prompt, the startup screen will appear. Once the system runs, the oxygen concentrator will enter the warmup state. The warmup time is less than 2 minutes. After warmup completion, the status of oxygen concentrator will meet normal usage requirements, you can wear the provided nasal cannula for normal use. The oxygen concentrator will continuously monitor the breathing status in real-time. Based on the actual breathing status, it will determine the timing for oxygen delivery and the single pulse flow rate. The oxygen concentrator will automatically deliver oxygen when it detects the user’s inhalation.

Note: During the warmup period, the concentrator will automatically deliver oxygen to expel internal air. At this time, the output flow rate and concentration of the oxygen may not meet the standards. Do not use the nasal cannula during this period.
Note: During the machine warm-up period, the device does not detect breathing status. Do not use the nasal cannula.
Note: During the warm-up and running process, the system will perform a self-check. If the device shows an alarm or fault indication, stop using it immediately and read the user manual for troubleshooting methods.

7.4 Connect nasal cannula

7.4.1 Nasal Cannula Assembly

Check that the nasal cannula and fire damper are clean and free from any damage or blockage. Check the seal of the connection port to ensure there is no gas leakage. Install the nasal cannula as shown in the diagram below. When connecting the nasal cannula and fire damper, be sure to follow the specific instructions and recommendations provided by the supplier. If there is any uncertainty or problem, you should immediately consult medical professionals or device suppliers.
Note: The fire damper is engraved with an arrow symbol, and the direction of the arrow should be followed when connecting as shown in the figure below.



Nasal Cannula Connection Diagram

7.4.2 Nasal Cannula Connection

Connect the bell end of the factory-equipped nasal cannula to the metal air outlet of the device, ensuring a reliable and leak-free connection. The position of the nasal cannula in the nostrils and the direction of its air outlet determine the oxygen content delivered to the patient’s respiratory system. Ensure the nasal cannula is not twisted or blocked to avoid triggering device-related alarms and affecting normal use.

Note: This device provides oxygen in a pulse mode. To use this device, it must be connected to a nasal cannula.
Note: To ensure the oxygen concentrator correctly detects breathing and delivers pulse oxygen, please ensure the nasal cannula is properly installed, without any kinks or blockages. The nasal cannula should not exceed 7.5 meters in length.
Note: After correctly connecting the nasal cannula, place your hand near the nasal cannula's outlet before use. If you do not feel airflow, check for leaks in the nasal cannula connection.
Note: Please follow the manufacturer's instructions for using the nasal cannula. Replace the nasal cannula according to the manufacturer's or device supplier's recommendations. Other attachments can be purchased from the device supplier.
Note: Do not use nasal cannulas that are not compatible with this device or purchased without the guidance of the device provider or professional medical personnel, as this may affect the normal operation of the device and the user's normal use.

7.5 Shutdown

When the oxygen concentrator is operating normally, long press the “power switch” button for about 1 second to automatically to shut down the device. If the device is only powered by the adapter without the battery inside, the screen will display the adapter connection. Please manually disconnect the AC adapter from the power socket after shutting down the oxygen concentrator, then unplug the machine end plug form the oxygen concentrator.

8 Device Maintenance

8.1 General information for maintenance

The maintenance cycle for the portable oxygen concentrator is approximately once a year. Only professional personnel from the maintenance center, authorized personnel, or staff trained by the manufacturer are allowed to perform repairs or adjustments.

- If the portable oxygen concentrator malfunctions, please contact the device supplier.
- To ensure the long-term use of this portable oxygen concentrator, users must follow the safety and maintenance instructions.
- If you need to replace accessories, please use the dedicated accessories provided by the device supplier.
- The service life of the portable oxygen concentrator is 5 years (under normal working conditions and proper maintenance).
- Use and replace the nasal cannula according to its instructions.
- After approximately 500 cycles, the power level of the standard battery or long-lasting battery drops below 80% or lower, and replacement of the battery is recommended.
- When the portable oxygen concentrator and its accessories exceed their service life, do not discard them casually. Please contact the relevant departments according to the local government regulations for proper disposal of the device and accessories or contact the device supplier and seller for handling.
- When requesting warranty service, if necessary, provide the device circuit diagram and repairable component information to the qualified technicians recognized by us.
- The production date of the portable oxygen concentrator is indicated on the label.
- Warranty instructions: see warranty card.

8.2 Service life

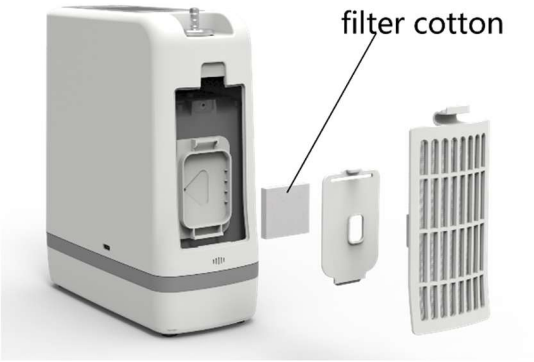
Category	Expiration date
Oxygen concentrator main unit	5 years
Molecular sieve	1 year of use
Nasal Cannula	The nasal cannula included with the device is disposable. Manufacturer: Shenzhen HarveyMed Technology Co., Ltd. Model: HVNC01 Listing No.: D546207 (510(k) exempt) If using nasal cannula from other manufacturers, please consult your doctor and/or device provider and/or cannula manufacturer for replacement information.
Battery	Standard battery: 500 full charge-discharge cycles; Long-lasting battery: 500 full charge-discharge cycles.

8.3 Device daily maintenance

8.3.1 Intake Filter Cotton Replacement

- Before replacement, please ensure the device is turned off, unplugged from the socket, and the battery is removed.
- Remove the intake filter screen and take out the intake filter cotton. The intake filter cotton may have accumulated a large amount of dust after long-term use. Please handle it carefully to avoid inhaling dust.
- Insert the new filter cotton in the correct direction and install the intake filter screen.
- For additional filter cotton, please contact the device supplier for purchase.

Pre-Filter Cover and Cotton Intake Filter can be purchased from your provider. In normal conditions, the air filter must be replaced after approximately 3 months of daily use. When subject to conditions with higher levels of dust or dirt, we recommend periodically checking the air filter. If filter is grey or brown color, replace it immediately.
Do not clean the Cotton Intake Filter, replace it if necessary.



8.3.2 Molecular Sieve Replacement

- When the device indicates that the molecular sieve needs to be replaced, please contact the designated distributor promptly.
- The molecular sieve is a consumable. It should be replaced after one year of use; otherwise, it may affect the oxygen concentration.
- Long-term storage or prolonged operation in a humid environment may shorten the lifespan of the molecular sieve.
- Do not attempt to replace the molecular sieve yourself. Only the device supplier or a qualified maintenance engineer is authorized to replace the molecular sieve.

8.3.3 Nasal Cannula Replacement

- The machine comes with one set of nasal cannulas upon delivery.
- If you need to purchase a nasal cannula on your own, please contact the device provider or do so under the guidance of a professional healthcare provider.
- The nasal cannula should be replaced regularly. For replacement information, please consult your physician and/or device provider and/or the user manual of the cannula manufacturer.

8.3.4 Battery Replacement and Maintenance

- This device requires the use of specialized batteries provided by the manufacturer,

models INR18650-4S4P4INR19/66-4 and INR18650-4S2P4INR19/66-2. Users can contact designated distributor to purchase batteries as needed.

- When not in use for a long time, please remove the battery from the device and protect the battery electrodes from contact with metal conductors to prevent fire hazards.
- Store the battery out of reach of children to avoid danger.
- Batteries not used for a long time need to be regularly charged and maintained. It is recommended to charge them to 30% every 3 months using the main unit.
- It is recommended to keep the power level at around 30% during storage.
- The battery is a consumable item. Please contact the device provider for a replacement when needed.

8.3.5 Others

Cleaning: it can be performed by the operator. Do not pour any liquid solution directly on the machine.

Wipe the plastic shell (including control panel) with a damp lint-free cloth soaked in a solution of medium to high-efficiency disinfectant (such as Ethanol or Isopropanol) for 3-5 minutes.

Note: The surface of the shell should be visually clean without visible residual soil at the end of the cleaning, or else, the user shall repeat the cleaning operation until no visible soil is observed.

- Disinfection: the nasal oxygen cannula is single patient use, which does not need to be disinfected, replace a new one if used by another patient.
- Other components cleaning: Only use a damp cotton cloth or sponge with household neutral cleaning liquid to clean the Pre-filter cover, and power cord, then dry the cleaned parts.
- Cleaning Frequency: It is recommended to clean the exterior casing once a month to maintain cleanliness and hygiene. If there is dirt or stain on the surface of the casing, the cleaning frequency can be increased as needed.
- Do not let the device get wet or submerged in water. If this happens, it will cause the device to malfunction or shut down, and it will also increase the risk of electric shock.
- Ensure that no liquids enter the machine. Pay special attention to keeping the oxygen outlet free of dust, water, or other particles.
- Do not use organic solvents or other flammable, explosive volatile substances for cleaning.
- Ensure the device is completely dry before use.
- Do not use lubricants on this device.

WARNING: Before disposal, remove the battery and other components. Contact relevant local authorities to properly dispose of the device and accessories according to local regulations.

9 Technical Parameters

Parameter Table

<table>
<tr><th colspan="9">Ventilation-related Parameters</th></tr>
<tr><td>Maximum Recommended Flow Rate</td><td colspan="8">1200mL/min (when V6, V6C is set to level 6), Oxygen Concentration ≥90% (V/V)
1000mL/min (when V5, V5C is set to level 5), Oxygen Concentration ≥90% (V/V)</td></tr>
<tr><td>Operating Mode</td><td colspan="7">Pulse Mode</td><td>Continuous Flow Mode</td></tr>
<tr><td rowspan="2">Breathing Rate (times/min)</td><td colspan="6">Average Pulse Volume (ml)</td><td>Average flow (L)</td></tr>
<tr><td>Level 1</td><td>Level 2</td><td>Level 3</td><td>Level 4</td><td>Level 5</td><td>Level 6</td><td>Mode C</td></tr>
<tr><td>10</td><td>21</td><td>42</td><td>63</td><td>84</td><td>100</td><td>120</td><td rowspan="7">1.2</td></tr>
<tr><td>15</td><td>14</td><td>28</td><td>42</td><td>56</td><td>66.7</td><td>80</td></tr>
<tr><td>20</td><td>10.5</td><td>21</td><td>31.5</td><td>42</td><td>50</td><td>60</td></tr>
<tr><td>25</td><td>8.4</td><td>16.8</td><td>25.2</td><td>33.6</td><td>40</td><td>48</td></tr>
<tr><td>30</td><td>7</td><td>14</td><td>21</td><td>28</td><td>33.3</td><td>40</td></tr>
<tr><td>35</td><td>6</td><td>12</td><td>18</td><td>24</td><td>28.6</td><td>34</td></tr>
<tr><td>40</td><td>5.25</td><td>10.5</td><td>15.8</td><td>21</td><td>25</td><td>30</td></tr>
<tr><td>Total Volume/ Minute</td><td>210</td><td>420</td><td>630</td><td>840</td><td>1000</td><td>1200</td><td>1.2</td></tr>
<tr><td colspan="9">Allowable tolerance for pulse 1-6 is ±15% (according to ISO 80601-2-67, It covers the error of the measuring device, with the error of the measuring device being "±1.75% or 0.02 L".), allowable tolerance for C gear is ±0.2 L/min (It covers the error of the measuring device, with the error of the measuring device being "±1.75% or 0.02 L".), based on an atmospheric pressure of 101.3 kPa (14.69 psi) at 20°C (68°F) and dry (Standard Temperature and Pressure, Dry, STPD)</td></tr>
<tr><td colspan="2">Pulse</td><td colspan="7">6 Pulse</td></tr>
<tr><td colspan="2">Oxygen Concentration (%)</td><td colspan="7">≥90%</td></tr>
<tr><td colspan="2">Trigger Sensitivity</td><td colspan="7">≤0.12 cmH_2O</td></tr>
<tr><td colspan="2">Maximum Outlet Pressure</td><td colspan="7">≤199.3kPa (28.9 PSI)</td></tr>
<tr><td colspan="2">Preheat Time</td><td colspan="7"><2min</td></tr>
<tr><th colspan="9">Battery Parameters</th></tr>
<tr><th>Number of Cells</th><th colspan="2">Dimensions/cm (L*W*H)</th><th>Capacity/Ah</th><th>Weight/g</th><th colspan="4">PD Fast Charging Supported</th></tr>
<tr><td>8-cell 18650</td><td colspan="2">18.6*8.4*2.95 (7.3*3.3*1.2-inch)</td><td>6.8</td><td>600</td><td colspan="4">Yes</td></tr>
</table>

16-cell 18650	18.6*8.4*4.95 (7.3*3.3*2.0-inch)	13.6	1000	Yes
AC Adapter Specifications				
Type	Input	Output	PD Protocol	Certification
Type-C Fast Charging Adapter	a.c.100-240V 50/60Hz, 2.0-1.0A	5V/3A,10.4V/ 3A, 20V/5A	Compliant with PD3.0	UL/3C/CE
DC Connector Specifications				
Type	Input	Output	/	/
DC connector	d.c.13.5-15.0V	d.c.13.5-15.0V, 10A	/	/

Environmental Parameters		
Environmental Ranges Intended for Operation	Temperature	41˚F to 104˚F (5˚C to 40˚C)
	Humidity	0% ~ 90%, Non-condensing
	Operating atmospheric pressure	70.0 kPa to 101.3 kPa (0-3,048m, or 0 to 10,000 ft)
Transportation and storage environment	Temperature	-13˚F to 158˚F (-25℃-70℃)
	Humidity	0% ~ 95%, Non-condensing
	Operating atmospheric pressure	70.0 kPa to 101.3 kPa (0-3,048m, or 0 to 10,000 ft)

Device Specifications	
Display Screen	256*160 2.8-inch Monochrome Dot Matrix Screen
Weight	2.2kg/4.85lbs (with standard battery) 2.6kg/5.73lbs (with long-lasting battery)
Dimensions	18.6*8.4*20.8cm (7.3*3.3*8.2-inch, standard battery version) 18.6*8.4*22.8cm (7.3*3.3*9.0-inch, long-lasting battery version)
Operating Noise	According to ISO 80601-2-69, the sound pressure does not exceed 60dB.
Maximum Power Consumption	100W
Device Type	Class II, BF type
Dust and Water Resistance Level	IP22

Compliance Standards
IEC 60601-1:2020, Medical electrical device Part 1: General requirements for basic safety and essential performance

IEC 60601-1-2:2020, Medical electrical device Part 1-2: General requirements for basic safety and essential performance Collateral standard: Electromagnetic compatibility requirements and tests
IEC 60601-1-8:2020, Medical electrical device Part 1-8: General requirements for basic safety and essential performance - Collateral standard: General requirements, tests, and guidance for alarm systems in medical electrical device and medical electrical systems
IEC 60601-1-11:2020, Medical electrical device Part 1-11: General requirements for basic safety and essential performance - Collateral standard: Requirements for medical electrical device and medical electrical systems used in the home healthcare environment
ISO 80601-2-69:2020, Medical electrical device Part 2-69: Particular requirements for basic safety and essential performance of oxygen concentrator device
ISO 80601-2-67:2020, Medical electrical device Part 2-67: Particular requirements for basic safety and essential performance of oxygen conserving device
ISO 10993-1:2018 Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process
ISO 10993-5:2009, Biological evaluation of medical devices Part 5: Tests for in vitro cytotoxicity
ISO 10993-10:2021, Biological evaluation of medical devices Part 10: Tests for skin sensitization
ISO 10993-23:2021, Biological evaluation of medical devices Part 23: Tests for irritation
ISO 18562-1:2024, Biocompatibility evaluation of breathing gas pathways in healthcare applications Part 1: Evaluation and testing within a risk management process
ISO 18562-2:2024, Biocompatibility evaluation of breathing gas pathways in healthcare applications - Part 2: Tests for emissions of particulate matter
ISO 18562-3:2024, Biocompatibility evaluation of breathing gas pathways in healthcare applications - Part 3: Tests for emissions of volatile organic substance
ISO 14971:2019, Medical devices - Application of risk management to medical devices

10 Electromagnetic Compatibility Instructions

This device complies with IEC 60601-1-2: 2020 Medical electrical device - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility requirements and tests. The user should install and use the device according to the electromagnetic compatibility information provided in the accompanying documents. Portable and mobile RF communication device may affect device performance. Avoid strong electromagnetic interference during use, such as being close to mobile phones, microwave ovens, etc. For guidelines and manufacturer's declaration, see Attachment 3.

11 Common Issues and Troubleshooting

If your oxygen concentrator is unable to deliver pulse oxygen normally, refer to the following content to identify possible causes and solutions.

Consult your device supplier if necessary.

Issue	Possible Cause	Recommended Solution
The device does not operate when the start/stop button is pressed.	Battery fully depleted	Charge using DC or AC power
	Device malfunction	Contact supplier
No oxygen output during use	Nasal cannula is kinked or blocked. Nasal cannula leakage. Non-specified nasal cannula used. Device malfunction.	Check the nasal cannula to ensure it is unobstructed and free of kinks. Check for leaks at the nasal cannula and the connection point with the device. Use the designated nasal cannula Contact supplier.
Unable to power on	If outdoors, such as in a car, the oxygen concentrator. The temperature may be too high or too low. Device malfunction.	Allow the oxygen concentrator to reach the normal operating temperature, which will take. a few minutes. Use the power adapter to connect the device to the. power source to restart the main unit battery.
Battery charging delay	Internal battery temperature exceeds charging temperature.	The device can operate but charging will not resume until the temperature drops to the normal range. Charging will not resume until the temperature drops to the normal range.
Insufficient oxygen concentration	The device is warming up	Wait for about 2 minutes. If the issue persists, please contact the device supplier.
	The molecular sieve may need maintenance.	Return to the dealer for replacement, please contact the dealer where you purchased it.
Other issues	/	Contact supplier

The following states are not faults:

The first 2 minutes after powering on is the device's warm-up time. During the warm-up period, breathing is not detected, and the device does not respond to pulse changes. You may hear a change in the operating sound of the device when the warm-up ends. Once the warm-up is complete, the device can be used normally.

The exhaust port is for heat dissipation. It is normal for the temperature of the gas expelled by

the device to rise after prolonged operation or in high ambient temperatures. This machine is equipped with high-temperature protection. If the exhaust port is blocked or for other reasons the device temperature becomes too high, the device will issue a warning and automatically shut down.

12 Packing List

No.	Name	Quantity	Remarks
1	Portable oxygen concentrator main unit (including one molecular sieve)	1	Standard Configuration
2	Standard Battery	1	Standard Configuration
3	Long-lasting Battery	1	Optional Configuration
4	100W Power Adapter	1	Standard Configuration
5	AC power supply cord	1	Standard Configuration
6	DC Power Connector	1	Standard Configuration
7	Nasal Cannula	1	Standard Configuration
8	Fire Damper	2	Standard Configuration
9	Air Intake Filter Cotton	1	Standard Configuration
10	Shoulder Bag	1	Standard Configuration
11	User Manual	1	Standard Configuration
12	Certificate of Conformity	1	Standard Configuration
13	Warranty Card	1	Standard Configuration

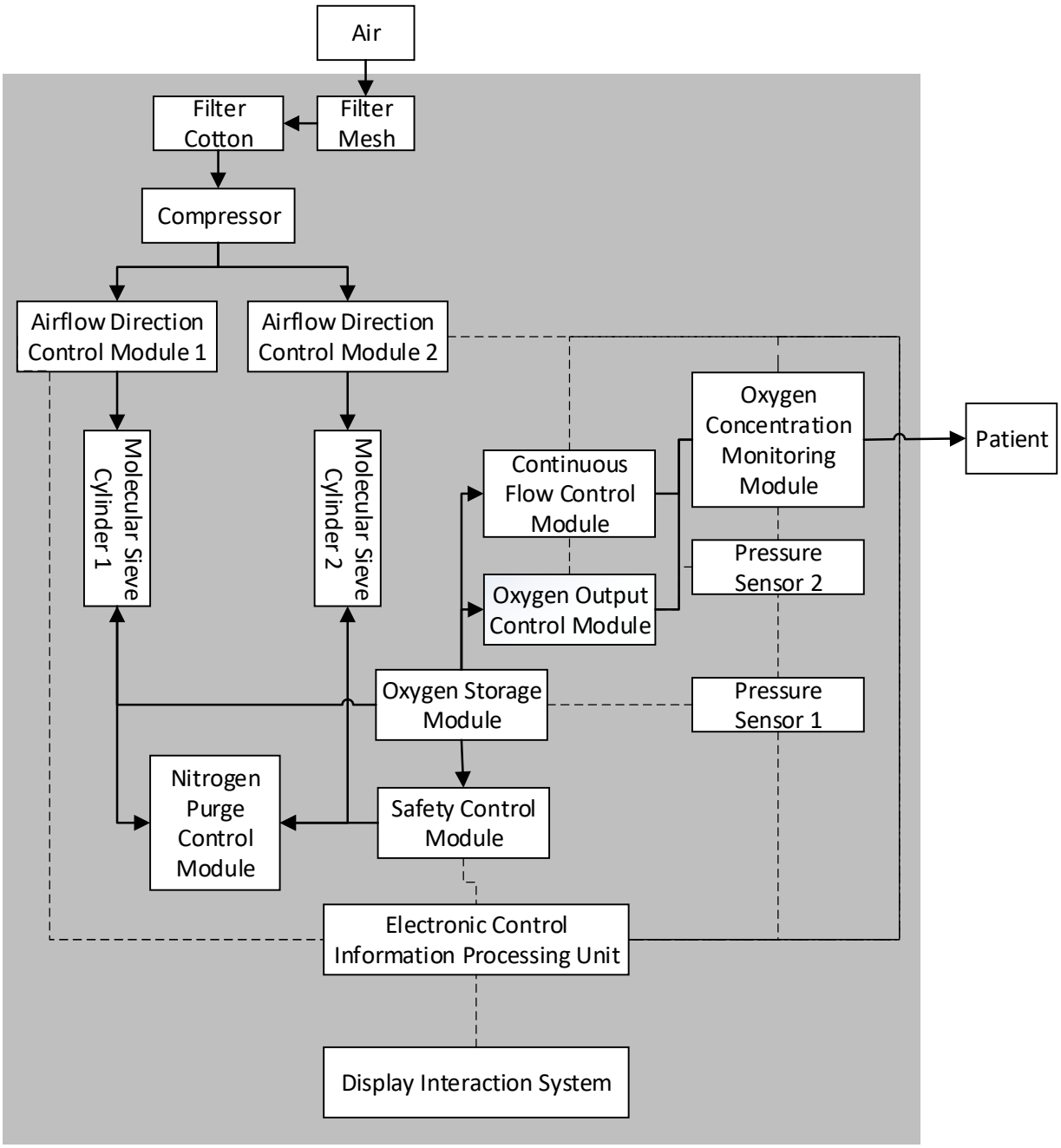
13 Unpacking Instructions

1) Check if the packaging box is damaged. If there is any damage, notify the shipping company and the device supplier promptly.

2) Carefully remove the machine and related components and compare them with the packing list. If there are any discrepancies or quality issues with the parts, please contact the device provider or after-sales service.

3) Please retain the packaging box and accessories for storage and transportation.

14 Attachment 1: Circuit Diagram



15 Attachment 2: Alarm and Prompt Information

- The priority level of all device alarm information is: Medium Priority.
- All device alarm information is in a technical alarm state.
- The alarm sound can be globally turned off or on.
- The alarm state cannot be turned off. As long as there is alarm information, the device will continuously alert the user through sound or visual signals.
- The alarm indicator light is yellow and will flash when alarm information appears until the alarm state disappears.
- The alarm warning sound volume is ≥45dB(A).

- Alarm system verification: After the device is powered on for 2 minutes, if no breath is detected within 10 seconds, the alarm system should indicate' No Respiration!!'.

Alarm items: If this alarm does not occur, the alarm system is abnormal.

- All alarm presets cannot be changed and are set by the manufacturer.
- The device monitors alarm limits. If all exceed the alarm limits within the alarm state delay, an alarm indicator will be given.
- Alarm condition delay 3s, Alarm signal generation delay 0s.

The detailed alarm items of the device are shown in the table below:

Classification	Alarm Items	Alarm Reasons	Screen Display and Prompts	System Handling
Fault	Compressor Stopped	Compressor Not Working After System Start	Compressor Stall!!! Please contact the seller …	Forced Shutdown After 10s
	Gas Tank Pressure Failure (Gas Tank Pressure Sensor Abnormal)	Abnormal Gas Tank Pressure During Normal Operation	Tank Pres Error!!! Please contact the seller …	Forced Shutdown After 10s
	Gas Tank Overpressure (Gas Tank Overpressure Abnormal)	Gas Tank Overpressure During Normal Operation	Tank Pres High!!! Please contact the seller …	Forced Shutdown After 10s
	Respiratory Detection Failure (Airway Pressure Sensor Abnormal)	Respiratory Sensor Detection Failure	Breath Mon Err!!! Please contact the seller …	Forced Shutdown After 10s
	Oxygen Output Detection Failure	Flow Rate Sensor Detection Failure	NO O2!!! Please contact the seller …	Forced Shutdown After 10s
	Oxygen Concentration Detection Failure	Oxygen Concentration Sensor Failure	O2 Check Error!!! Please contact the seller …	Forced Shutdown After 10s
	Battery Temperature Too High	Battery Temperature Above 65 Degrees	Battery HOT!!! Turn off wait for cooling	Forced Shutdown After 10s
	System Temperature Too	System Temperature Above	System HOT!!! Turn off wait for	Forced Shutdown

	High	60 Degrees	cooling…	After 10s
	Fan Stopped	Fan Not Working After System Start	Fan Stall!!! Please contact the seller …	Forced Shutdown After 10s
	Oxygen Concentration Below 50%	Oxygen Concentration Below 50% for 5 Minutes After System Start	O2 Error!!! Please contact the seller …	Forced Shutdown After 10s
Alarm	Oxygen Concentration Below 82%	Oxygen Concentration Below 82% for 5 Minutes After System Start	Display Alarm Icon + Text “O2 Low!!”	Alarm Notification Only
	No Respiration Detected	No Respiration Detected for 30 Seconds During Normal Operation	Display Alarm Icon + Text “No Respiration!!”	Alarm Notification Only
	Adapter Voltage Too Low	Adapter Output Power Below Rated Operating Voltage	Display Alarm Icon + Text “AC Low!!”	Alarm Notification Only
	Adapter Voltage Too High	Adapter Output Power Above Rated Operating Voltage	Display Alarm Icon + Text “AC High!!”	Alarm Notification Only
	Battery Low	When a single battery is in place, the power level is between 5-20%	Display Alarm Icon + Text “Battery Low!!”	Alarm Notification Only
	Battery Empty	When a single battery is in place, the power level is between 4-5%	Display Alarm Icon + Text “Battery Empty!!”	Alarm Notification Only
	Battery Not Connected	When a single adapter is in place	Display Alarm Icon + Text “NO BATTERY!!”	Alarm Notification Only
	System Temperature Too	System temperature below	Display alarm icon + Text	Alarm Notification

	Low	0 degrees	“System COLD!!”	Only
	Battery temperature too low	Battery temperature below 0 degrees	Display alarm icon + Text “Battery COLD!!”	Alarm Notification Only
	Airway transmission blockage	Output airway blockage or kink blockage	Display alarm icon + Text “Airway Blockage!!”	Alarm Notification Only
Prompt	Molecular sieve replacement needed	Molecular sieve lifespan expired or molecular sieve chip error	Display prompt icon + Text “Mol Sieve Replace!!”	Prompt only
	Battery life depleted	Battery charge cycles over 500 times or health below 50%	Display prompt icon + Text “Depleted Bat Life!”	Prompt only

16 Attachment 3：EMC Information

The device has been designed to meet EMC standards throughout its Service Life.

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	3Vrms 150 kHz to 80 Mhz 6Vrms at various bands per standard	3Vrms 6Vrms at various bands per standard	Portable and mobile RF communications device 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 √ P 150 kHz to 80 MHz d=1.2 √ P 80 MHz to 800 MHz d=2.3 √ 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 filed RF transmitters, as determined by an electromagnetic site survey [a], should be less than the compliance level in each frequency range[b]. As a condition observed to ensure compliance with current FCC RF exposure guidelines, maintain at least 6 cm separation distance between the antenna and the user's body at all times. Interference may occur in the vicinity of device marked with the following symbol:
Radiated RF IEC 61000-4-3	10V/m 80 Mhz to 6.0 GHz	10V/m	
Electrostatic Discharge (ESD) IEC61000-4-2	± 8 kV Contact ± 15 kV Air	± 8 kV Contact ± 15 kV Air	Floors should be wood, concrete or ceramic tile. If floors ae covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC61000-4-4	± 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 IEC61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to	± 1 kV line(s) to line(s) ± 2 kV line(s) to	Mains power quality should be that of a typical commercial or hospital environment. Inbed 6cm distance info

	earth	earth	somewhere
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% U_T for 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315°. 0% U_T for 1 cycle 70% U_T for 25/30 cycle 0% U_T for 200/300 cycle	0% U_T for 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315°. 0% U_T for 1 cycle 70% U_T for 25/30 cycle 0% U_T for 200/300 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of the [ME DEVICE or ME SYSTEM] requires continued operation during power mains interruptions, it is recommended that the [ME DEVICE or ME SYSTEM] be powered from an uninterrupted power supply or a battery.
Power frequency (50/60 Hz) magnetic Field IEC61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be t 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. mains voltage prior to application of the test level.			
[a]: Field strength from filed 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 filed 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.			

Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications device:

Test frequency (MHz)	Band (MHz)	Service	Modulation	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380-390	TETRA 400	Pulse modulation 18Hz	1.8	0.3	27
450	430-470	GMRS 460, FRS 450	FM±5kHz deviation 1KHz	2	0.3	28

			sine			
710 745 780	704-787	LTE Band 13,17	Pulse modulation 217Hz	0.2	0.3	9
810 870 930	800-960	GSM 800/900, TETRA 800, IDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18Hz	2	0.3	28
1720 1845 1970	1700-1990	GSM 1800, CDMA 1900, GSM 1900, DECT, LTE Band 1, 3, 4, 25, UMTS	Pulse modulation 217Hz	2	0.3	28
2450	2400-2570	Bluetooth, WLAN,802.11b/g/n RFID 2450, LTE Band 7	Pulse modulation 217Hz	2	0.3	28
5240 5500 5785	5100-5800	WLAN 802.11a/n	Pulse modulation 217Hz	0.2	0.3	9

NOTE: if necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME DEVICE or ME SYSTEM may be reduced to 1 m. The 1 m 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 % duty cycle square wave signal.

c) As an alternative to FM modulation, 50 % pulse modulation at 18Hz may be used because while it does not represent actual modulation. It would be worst case.

Recommended Separation Distances between Portable and Mobile RF Communications

Device 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 device (transmitters) and this concentrator as recommended below, according to the maximum output power of the communications device.

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 device.
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 emission IEC 61000-3-3	Complies	

WARNING:

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

- Avoid exposure to known sources of EMI (electromagnetic interference) such as diathermy, lithotripsy, electrocautery, RFID (Radio Frequency Identification), and electromagnetic security systems such as anti-theft/ electronic article surveillance systems, metal detectors. Note that the presence of RFID devices may not be obvious. If such interference is suspected, reposition the device, if possible, to maximize distances.
- Portable RF communications device (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the device, including cables specified by the manufacturer. Otherwise, degradation of the performance of this device could result.
- The device should not be used adjacent to or stacked with other device. If adjacent or stacked use is necessary, the device should be observed to verify normal operation. If operation is not normal, the device or the other device should be moved.

Medical electrical device needs to be installed and used according to the EMC information in this manual.

This device has been tested and found to comply with EMC limits specified in IEC 60601-1-2. These limits are designed to provide a reasonable protection against electromagnetic interference in a typical home environment.