



Oxygen Concentrator

User Manual



OLV-3/OLV-3W/OLV-5/OLV-5W

Please read the instruction carefully before you use the machine.



Zhengzhou Olive Electronic Technology Co.,Ltd

Service Address: No. 79, Zhenghua Road, Zhengzhou, China

Zip Code: 450000

Tel: 86 371 86097310

Zhengzhou Olive Electronic Technology Co.,Ltd

Contents

1. Product Overview.....	01
2. Safety Overview.....	02
3. Operating Principle.....	04
4. Structural Features.....	05
5. Technical Indicators.....	06
6. Product Installation.....	08
7. Product Use	09
8. Maintenance.....	14
9. Troubleshooting.....	16
10. Transportation and Storage	17
11. After-Sale Services.....	18
12. Accessories	18
13. Packing List.....	19
14. Annexed Table and Figure.....	19

1. Product Overview

Welcome to choose the medical oxygen concentrator series products manufactured by our company!

OLV series medical oxygen concentrator adopts 220V/110V AC power supply, uses air as raw material and high-quality molecular sieve as adsorbent, and adopts the principle of pressure swing adsorption (PSA) to directly separate oxygen from nitrogen at normal temperature, oxygen of high purity is thereby produced.

In order to ensure the safety and effectiveness of medical oxygen concentrator, please read this manual carefully before using the machine, so as to have a comprehensive understanding and knowledge of the product performance as well as correct operation and maintenance methods. Please strictly observe relevant safety precautions during installation, use and maintenance.

1.1 Functions of oxygen

By supplying oxygen to patients, the machine can help the treatment of cardiovascular and cerebrovascular diseases, respiratory diseases, chronic obstructive pneumonia etc. and the rehabilitation of anoxic patients.

Oxygen absorption can improve physical oxygen supply condition and achieve the purpose of oxygenating care. It is suitable for the middle-aged and elderly, people with poor physical fitness, pregnant women, students and other people who suffer different degrees of physiological hypoxia. It can also eliminate fatigue and restore somatic function after heavy physical or mental exertion.

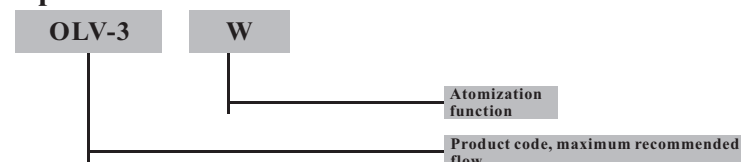
1.2 Scope of application

It is applicable for oxygen concentration in medical institutions and family etc. for the use of anoxic patients.

1.3 Product features

- 1) Plastic casing, novel design, simple operation, stable operation, easy maintenance.
- 2) Generate oxygen adopting physical methods, with air as raw material, without the use of additives, only needing power supply, with low cost.
- 3) Adopt pressure swing adsorption (PSA) technology of efficient molecular sieve, with simple process flow and low energy consumption.

1.4 Specification & model



2. Safety Overview

2.1 Safety precautions



Safety precautions

1. This product can not be used for life support or life sustaining. Patients who can not express discomfort or can not hear or see alarm signals require additional care.
2. Oxygen therapy may be harmful under certain conditions. Patients shall correctly control oxygen flow and oxygen absorption time under the guidance of physician.
3. Excessive use of high-purity oxygen has toxic and side effect on human body.
4. People suffering severe carbon monoxide poisoning shall not use this product.
5. To prevent power failure or possible failure of oxygen concentrator, when the patients in urgent need of oxygen and the critically ill patients absorb oxygen using this product, other standby oxygen supply devices (e.g.: oxygen cylinder, oxygen bag, etc.) must be provided.
6. If the medical oxygen concentrator can not work properly, or if you feel uncomfortable, please stop using immediately and consult physician or supplier to solve the problems.
7. Oxygen is a kind of combustion supporting gas, thus the oxygen concentrator can not be used in places with open flame or the danger of flammability, smoking or open flame is prohibited near people who absorb oxygen.
8. Power supply must comply with electrical safety regulations. Oxygen concentrator shall not be used when power supply protective earth terminal doesn't comply with the regulations, otherwise it may cause personal injury.
9. Please turn off the power and unplug the power cord before the cleaning and maintenance of medical oxygen concentrator.

2. Safety Overview

2.2 Electromagnetic environment guidance



Electromagnetic Environment Guidance

1. This product is suitable for use in places including hospitals, family and other buildings connected with power supply of civilian low-voltage network.
2. Radio frequency energy used by this product is for internal operation only. Therefore, its radio frequency emission is very low, without impact on other electrical equipment nearby.
3. Due to the impact of radio transmitting devices or other sources of electrical noise in health care establishments, serious interference caused by too close distance or large transmitting power may cause interruption of this product.
4. If this happens, check the use places to find out the source of interference, and take the following measures to eliminate interference:
 - 1) Turn off nearby devices before starting the machine;
 - 2) Change the direction or location of interfering devices;
 - 3) Increase the distance between interfering devices and this product.

2.3 Environmental protection description



Environmental Protection Description

Disposal of waste and residues shall comply with the legal provisions of corresponding countries.

3. Operating Principle

Oxygen concentration process flow of OLV series medical oxygen concentrator is shown in Fig. 1:

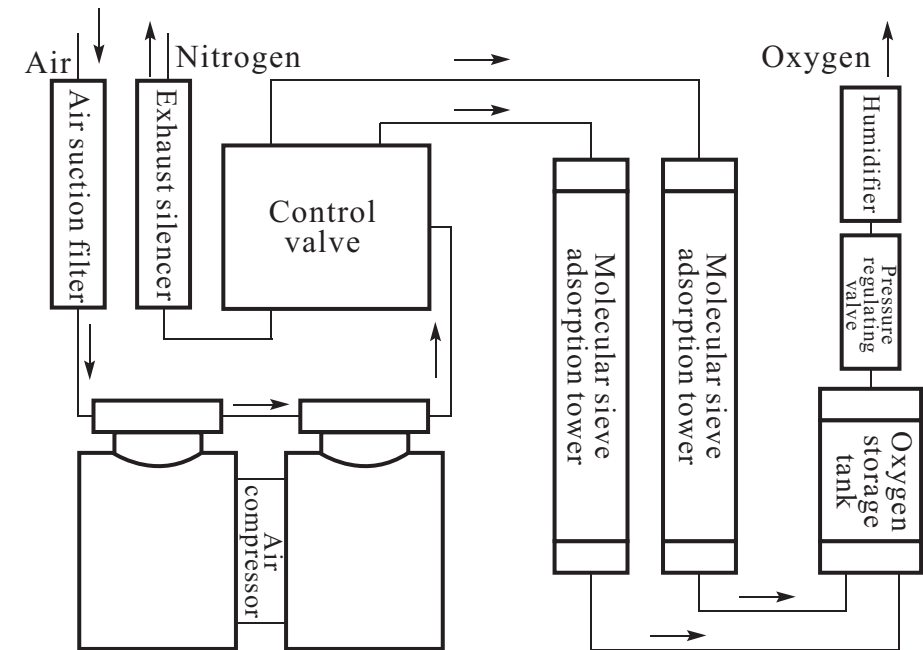


Fig. 1 Flow chart of medical oxygen concentration

OLV series medical oxygen concentrator uses molecular sieve as adsorbent, adopts the principle of pressureswing adsorption (PSA), sends the air after filtration into the molecular sieve adsorption tower for the cyclic process of pressurized adsorption and decompressed desorption, oxygen of high purity is thereby produced.

4. Structural Features

OLV series medical oxygen concentrator mainly consists of principal machine, flow meter and humidifier bottle, as shown in Fig. 2



Fig. 2 Outline drawing of OLV series medical oxygen concentrator

5. Technical Indicators

The requirement of this medical oxygen concentrator for electric shock protection measures is Class II, the requirement for electric shock protection degree is type B, in line with the provisions of the following standards:
GB 9706.1—2007 Medical electrical equipment—Part 1: General requirements for safety
YY 0732—2009 Oxygen concentrators for medical use - Safety requirements
YY 0709—2009 Medical electrical equipment—Parts 1-8: General requirements for safety Collateral standard: General requirements Tests and guidance for alarm systems in medical electrical equipment and medical electrical systems

5.1 Operating environment (oxygen concentration status indicator)

- Ambient temperature: $10^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Relative humidity: $30\% \sim 75\%$
- Atmospheric pressure: $860\text{hPa} \sim 1060\text{hPa}$
- Power supply: $220\text{V} \pm 22\text{V}$, $50\text{Hz} \pm 1\text{Hz}$ / $110\text{V} \pm 15\text{V}$, $60\text{Hz} \pm 1\text{Hz}$
- There shall be no corrosive gas or strong magnetic field in surrounding environment

5.2 Air requirements

- Impurities in raw material air: $\leq 0.3 \text{ mg} / \text{cm}^3$
- Oil content in air: $\leq 0.01\text{ppm}$

5.3 Product functions

- Timing function: show the total working time through display screen
- Time setting: set oxygen absorption time as required
- Automatic shutdown: automatic shutdown after reaching preset oxygen concentration time
- Power failure alarm function
- Low voltage alarm function
- Low oxygen purity alarm function
- Circulating pressure failure alarm function
- Air compressor short circuit alarm function
- Atomization treatment function (only models with atomization function)

5. Technical Indicators

5.4 Technical indicators

1) Physical and chemical indicators of oxygen:

- Oxygen concentration: $\geq 90\%$ (V/V)
- Water content: $\leq 0.07\text{g/m}^3$
- Carbon dioxide content: $\leq 0.01\%$ (V/V)
- Carbon monoxide content: meet the requirements of table 1 in GB 8982—2009
- Gaseous acid and alkali content: meet the requirements of table 1 in GB 8982—2009
- Content of ozone and other gaseous oxides: meet the requirements of table 1 in GB 8982—2009
- Odor: odorless
- Particle size of solids: $\leq 10\mu\text{m}$
- Content of solids: $\leq 0.5\text{ mg/m}^3$

2) Technical indicators of product:

- The maximum recommended flow (when oxygen concentration $\geq 90\%$): 3L/min (models OLV-3 and OLV-3W); 5L/min (models OLV-5 and OLV-5W)
- Flow range when outlet nominal pressure is 7 kPa (oxygen concentration $\geq 90\%$): 0 ~ 3L/min (models OLV-3 and OLV-3W); 0 ~ 5 L/min (models OLV-5 and OLV-5W)
- At the recommended maximum flow, flow change when the back pressure of 7 kPa is applied: $<0.5\text{L/min}$
- Flow range when outlet nominal pressure is 0 (oxygen concentration $\geq 90\%$): 0 ~ 3L/min (models OLV-3 and OLV-3W); 0 ~ 5 L/min (models OLV-5 and OLV-5W)
- Operating noise of the machine: $\leq 45\text{dB (A)}$
- Timer error: not more than 3%
- Output pressure: 20kPa ~ 60kPa
- Release pressure of air compressor safety valve: 200kPa ~ 300 kPa
- Oxygen concentration measurement: 0~95%, error $\leq \pm 3\%$
- Operating mode: continuous operation
- Atomization quantity: $\geq 0.15\text{mL/min}$ (only models with atomization function)
- Input power: 260VA+15% (models OLV-3 and OLV-3W); 300VA+15% (models OLV-5 and OLV-5W)
- Power supply: 220V $\pm 22\text{V}$, 50Hz $\pm 1\text{Hz}$ /110V $\pm 15\text{V}$, 60Hz $\pm 1\text{Hz}$
- Total weight: 19.5kg (models OLV-3 and OLV-3W); 22kg (models OLV-5 and OLV-5W)
- External dimensions: 490×270×560 (mm) L × W × H

6. Product Installation

6.1 Unpacking inspection

Open the carton box from top of the packing box, and then open the plastic bag, pull up the medical oxygen concentrator by grasping the front and back handles of medical oxygen concentrator. Carefully check whether there is any transport damage to the medical oxygen concentrator, and then check the accessories and relevant documents according to the packing list.

6.2 Installation precautions



Attention

Installation precautions

1. Medical oxygen concentrator shall be installed in indoor ventilating places without dust, corrosive, toxic or harmful gases or smoke. Avoid direct sunlight, and the distance from walls and other objects shall be greater than 10cm.
2. Medical oxygen concentrator shall not be installed in places with open flame, fire source, danger of flammability or explosion, humidity, too high or too low temperature. Besides, it shall not be used in a closed room (space).
3. No sundries, water or oil containers shall be placed on top of medical oxygen concentrator.
4. Medical oxygen concentrator shall not be placed on soft surfaces (e.g. bed, couch) that may cause tilting or sinking, avoid shutdown or oxygen concentration decrease caused by too high temperature due to blockage of air inlet or outlet.
5. Medical oxygen concentrator shall be placed smoothly, otherwise it will increase the noise during operation.
6. If grid voltage is instable and exceeds the range of $220 \pm 22\text{V}$, or $110\text{V} \pm 15\text{V}$, please install voltage stabilizer before use.
7. Be sure to install battery before use, otherwise it will lose some alarm functions. Open the battery cover in the transparent cover, press into the marked polarity 9V alkaline battery. If you do not install the battery, does not affect the normal use of oxygen, but oxygen concentrator can not provide "off alarm" function.
8. Please use safe and qualified socket and the wiring board with safe electricity certification.

7. Use of product

7.1 Use precautions



Use Precautions

1. During use, ensure unobstructed exhaust at the bottom of medical oxygen concentrator, otherwise it may cause internal overheating.
2. When the output oxygen is less than the maximum recommended flow, oxygen concentration reaches 90%. When the flow exceeds the maximum recommended flow, oxygen concentration will reduce with the increase of flow.
3. Medical oxygen concentrator will reach the specified performance after started for 10 minutes.
4. There will be intermittent exhaust sound (every 6 seconds around) during operation of medical oxygen concentrator, which is normal.
5. No oil, grease or other similar substances shall be used on or near medical oxygen concentrator, and no lubricant other than those recommended by the manufacturer shall be used.
6. During use, timely add water when water level of humidifier bottle is below the minimum level.
7. During atomization treatment, please do not use medical oxygen concentrator for oxygen absorption.
8. Medical oxygen concentrator shall not be started frequently, it shall be restarted after stopped for 5 minutes.
9. When the indicated oxygen concentration is abnormal, stop using, and contact the dealer or manufacturer for inspection and maintenance.
10. Molecular sieve will become aging due to use time and environment etc., causing unrecoverable decrease of oxygen concentration amount. In case of this phenomenon, please contact the dealer or manufacturer to replace the molecular sieve.
11. For long-term stopping of medical oxygen concentrator, be sure to unplug the power cord.

7.2 Operation

Control panel of medical oxygen concentrator is shown in Fig. 3.

- 1) Add water to humidifier bottle: Pull out the silicone rubber tube from the bottle, take out the bottle. Add proper amount of pure water to the bottle, the water level shall be between the maximum (MAX) and minimum (MIN) water lines, and then tighten the bottle cap, put into the transparent cover and insert the silicone rubber tube.
- 2) Power on: plug in the power cord, press the "Power switch", the "Power" indicator will be on. Medical oxygen concentrator enters into the ready-to-start state, and the LCD is powered on and displays "Care for you", which means that the medical oxygen concentrator enters into the ready-to-start state, as shown in Fig. 4.

7. Use of product



Fig. 3 Control panel

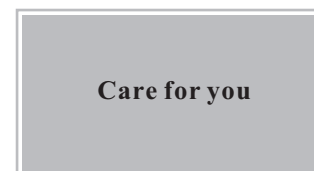


Fig. 4 Display when starting

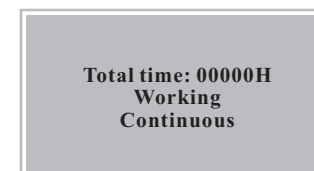


Fig. 5 Display when starting

7. Use of product

3) Continuous/timing oxygen concentration: Press the "Oxygen/Timing" button, oxygen concentrator will be started and enters into "Continuous" oxygen concentration working state. The LCD displays the total use time and other contents of oxygen concentrator, as shown in Fig. 5. After medical oxygen concentrator is started, press the "Oxygen/Timing" button again, medical oxygen concentrator will enter into timing oxygen concentration state, and the timing is 30 minutes (see Fig. 6), for each press of "Oxygen/Timing" button, preset time will be increased by 30 minutes (maximum preset time is 120 minutes); users can preset the time for oxygen concentration as required. After a timing of 120 minutes, press the "Oxygen/Timing" button again, oxygen concentrator without atomization function will stop oxygen concentration, while oxygen concentrator with atomization function will enter into atomization mode, press the "Oxygen/Timing" button again, it will stop oxygen concentration.

4) Adjust flow: Open the transparent cover, slowly rotate the flow control knob to the desired flow rate (the reading shall be subject to the center of the black float) in the direction marked on the "Flow control knob". Meanwhile, there are bubbles in water in humidifier bottle, there shall be oxygen output from "Oxygen Output".

5) Start oxygen absorption: Insert oxygen tube in the "Oxygen Output" of humidifier bottle, close the transparent cover, after confirming that there is oxygen output from oxygen tube nose, wear the oxygen tube (see oxygen tube operating instructions for wearing methods of oxygen tube) to start oxygen absorption.

6) Automatic shutdown: After reaching the preset oxygen concentration time, oxygen concentrator will automatically shut down. The display of LCD is shown in Fig. 7.

7) Shut down immediately: During operation of medical oxygen concentrator, press the "Power Switch" on top cover, medical oxygen concentrator will shut down immediately.

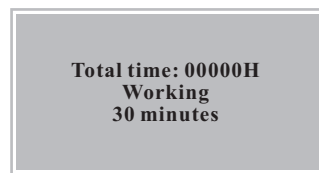


Fig. 6 Display of timed oxygen concentration

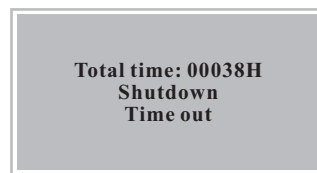


Fig. 7 Shutdown display

7. Use of product

8) Atomization function: (atomization models only)

1) Before using the atomizer, please refer to Operating Instruction Manual for Atomizer.

2) Open the transparent cover of oxygen concentrator, unscrew the plug from the atomization mouth, insert the air inlet pipe of the atomizer in the atomization mouth.

3) After medical oxygen concentrator is started, press the "Oxygen/Timing" button for 5 times, oxygen concentrator with atomization function will enter into atomization mode.

4) After atomization is finished, pull out the air inlet pipe of atomizer, tighten the atomization plug.

5) For long-term stopping of medical oxygen concentrator, be sure to unplug the power cord.

7.3 Alarm functions

· After medical oxygen concentrator is started and concentrates oxygen for 10 minutes, during normal operation, "Power Light", "Purity Light" and "Trouble Light" are green.

· In case of faults listed in Table 1, medical oxygen concentrator will send audible/visual alarm. Alarm functions are shown in Table 1.

Alarm item	Cause	Alarm sound	Color of indicators	Display of LCD
Power failure alarm	Power supply voltage interruption	Yes	Trouble light Red	N/A
Low voltage alarm	Power supply voltage is less than 190V±10V, or 95V±5V	Yes	Trouble light Red	Low voltage
Oxygen purity alarm	65%(±3%) ≤ Oxygen purity < 82%(±3%)	Yes	Purity light Yellow	N/A
	Failure Oxygen purity ≤ 65%(±3%)	Yes	Purity light Red	Low purity
High pressure alarm	Circulating system pressure is high	Yes	Trouble light Red	N/A
Low pressure alarm	Circulating system pressure is low	Yes	Trouble light Red	N/A
Air compressor failure alarm	Short circuit of compressor	Yes	Trouble light Red	N/A

Table 1 Alarm functions

1) Power failure alarm

When grid voltage is suddenly interrupted (power failure), medical oxygen concentrator will stop working and send alarm sound, trouble light will be red, please use after power on.

2) Low voltage alarm

When grid voltage is less than 190V ± 10V, or 95V ± 5V, medical oxygen concentrator will stop working and send alarm sound; trouble light will be red; LCD displays "Low voltage", it is recommended to install voltage stabilizer.

7. Use of product

3) Oxygen concentration alarm

After medical oxygen concentrator is started and generates oxygen for 10 minutes, under the circumstance that the output oxygen flow is not greater than the maximum recommended flow:

When oxygen concentration is 82%(±3%) or more, the Purity Light is green.

Medical oxygen concentrator works properly.

When oxygen concentration is within 65%(±3%)~82%(±3%), the Purity Light is yellow and sends alarm sound, contact the dealer immediately, users can temporarily use the machine, and please ensure that there is standby oxygen.

When oxygen concentration is below 65%(±3%), the Purity Light is red and sends alarm sound, LCD displays "Low purity". Please shut down immediately. Use standby oxygen and contact the dealer for inspection or repair.

4) High/low pressure alarm

When circulating system pressure is high, medical oxygen concentrator shuts down and sends alarm sound; trouble light is red.

When circulating system pressure is low, medical oxygen concentrator sends alarm sound; trouble light is red.

In case of high pressure or low pressure alarm, please use standby oxygen and contact the dealer for inspection or repair.

5) Air compressor failure alarm

In case of short circuit of air compressor circuit, medical oxygen concentrator shuts down and sends alarm sound; trouble light is red, and medical oxygen concentrator stops running. Please use standby oxygen and contact the dealer for inspection or repair.

6) Check whether the alarm system works

When it is necessary to check whether the alarm system works, unplug the power cord when medical oxygen concentrator works normally, if the trouble light becomes red and sends alarm sound, then the alarm system is normal, otherwise the alarm system can not work normally, contact the dealer for inspection or repair.

8. Maintenance

8.1 Maintenance considerations



Attention

Maintenance Considerations

1. Only the dealers authorized by the manufacturer or the qualified personnel after special training can conduct preventive maintenance or performance adjustment for medical oxygen concentrator.
2. In case of medical oxygen concentrator failure, contact the dealer or manufacturer for repair. Do not disassemble for repair by yourself.
3. Clean the humidifier bottle every day. Add pure water to humidifier bottle and the water level shall be between the maximum and minimum water levels.
4. Regularly clean air suction filtering foam and filtering cotton according to requirements. Clean in advance in case of too much dust. Oxygen concentrator shall not be started before filtering cotton and foam are installed.
5. Power cord is provided according to the power of oxygen concentrator, please do not replace arbitrarily.

8.2 Cleaning of humidifier bottle

· To clean, first pull out the silicone rubber tube from humidifier bottle, take out the humidifier bottle. Humidifier bottle is generally cleaned with clean water, in case of any water scale, rinse with clean water after descaling. During cleaning, pay attention to cleaning the small air inlet hole at the bottom of the core tube in the bottle, so as to keep oxygen unobstructed.

· After cleaning, sterilize (soak in disinfectant containing available chlorine of 500mg/L) and rinse with pure water. Add proper amount of pure water to the bottle, the water level shall be between the maximum (MAX) and minimum (MIN) water lines, and then tighten the bottle cap, put into the transparent cover and insert the silicone rubber tube.

8.3 Cleaning of atomizer (atomization models only)

· After using the atomizer, pour out all residual liquid from atomizing cup, rinse with clean water.

· After cleaning, sterilize (soak in disinfectant containing available chlorine of 500mg/L) and rinse with pure water.

8.4 Cleaning of primary air suction filter (filtering sponge) and secondary filter

· Timely cleaning and replacement of primary air suction filter and secondary filter are very important for protecting air compressor and molecular sieve, and extending

8. Maintenance

the service life of medical oxygen concentrator, please timely clean and replace according to requirements.

- Primary air suction filter shall be cleaned once a week. During cleaning, draw out filtering sponge and rinse with clean water, it can be used after natural drying.
- Secondary air suction filter shall be cleaned once a week. During cleaning, unscrew the filter clockwise, take out the filter and rinse with clean water, after natural drying, install it to the original place and tighten counterclockwise.

8.5 Cleaning of medical oxygen concentrator

When turning off the power of medical oxygen concentrator, use a soft towel dipped with a small amount of neutral household cleaner to wipe the casing, and then use a dry towel to dry up. When wiping, pay attention to preventing liquid infiltrating into casing slot.

8.6 Replacement of battery

When the power failure alarm sound of medical oxygen generated is reduced significantly (users can check it by disconnecting the power supply of medical oxygen concentrator), it is necessary to replace the battery. Battery specifications: 9V alkali battery. To replace, open the battery compartment cover in the transparent cover, remove the old battery, insert new battery according to the marked polarity.

9. Troubleshooting

In case of any problems during use, before sending the machine for repair, please read this section carefully, you may simply solve the problems by yourself. If the problems can not be solved according to the examples in Table 2, please send the medical oxygen concentrator for repair. Do not attempt to repair or remove the casing of medical oxygen concentrator by yourself.

Fault symptom	Check item	More complex reasons for judgment method	Measures
There is no display on LCD when starting or running, medical oxygen generator sends alarm sound. Trouble light is red.	Power failure		Use the machine after power on.
	Power cord is loose		Check and insert the power cord properly.
There is no alarm sound during power off, alarm indicator is not on.	The battery is low or no electricity.		Replace battery.
Low voltage alarm	Grid voltage is lower than the rated voltage.		Install voltage stabilizer.
Purity light becomes yellow or red.	Output oxygen flow is too large.	Check that if the meter indicates flow within the maximum recommended flow range.	Adjust the flow of flowmeter.
	Secondary air suction filter is not cleaned regularly, leading to clogged intake.	Remove secondary air suction filter, over 10 minutes, to see if the purity light back to normal.	Adjust the oxygen flow.
	Bottom vents blocked.	Oxygen is placed on the bottom of the molded foam inside.	Keep the bottom vents unobstructed.
	Grid voltage is too low.	Try a different power environment.	Install voltage stabilizer.
	Molecular sieve becomes aging.	Only oxygen concentrator use for two years or 5,000 hours, then consider this reason.	Replace molecular sieve
	Oxygen purity sensor failure.	Use oxygen purity tester to test the oxygen purity.	Replace the oxygen purity sensor.
	Solenoid valve failure.	When oxygen concentrator running, every 8-9 seconds, the solenoid valve will be switched once, accompanied by 1-2 seconds exhaust sound.	Replace the solenoid valve.
	Fan failure.	No gas from bottom vents, the machine is heat.	Replace the cooling fan.
LCD display is not normal or no display	LCD failure.	Such as garbled, missing lines, the backlight does not shine.	Replace the LCD screen.
Rule out the possibility of above failures, oxygen concentrator is not working properly or false alarms	Control board failure.		Replace the control board.

Table 2 Failure analysis and troubleshooting examples

10. Transportation and Storage

10.1 Transportation and storage precautions



Transportation and Storage Precautions

1. Before transportation or storage, pour out the water from humidifier bottle.
2. During transportation and handling, medical oxygen concentrator shall be kept upright, prohibit inversion or horizontal placing.
3. When the storage temperature is below 10 ℃, place the medical oxygen concentrator in normal working environment for 8 hours before use.
4. Medical oxygen concentrator that has been stopped for long time shall be powered on for inspection.

10.2 Requirements for storage and transportation environment

Ambient temperature: -20 ℃~50 ℃;

Relative humidity: ≤ 95%;

Atmospheric pressure: 500hPa ~1060hPa

10.3 Transportation

Medical oxygen concentrator packed completely shall be protected from violent collision and direct contact with rain or snow during transportation.

10.4 Storage

Medical oxygen concentrator shall be stored in indoor well-ventilated places without strong sunlight and corrosive gases.

11. After-Sale Services

11.1 Warranty period

The product from the date of sale, under normal use and storage conditions, the warranty period of this product is one year or 5,000 hours (whichever is earlier). In case of any quality problems within warranty period, our company will repair for free; In case of any quality problems after the warranty period, our company will charge repair cost.

11.2 Warranty scope

The following circumstances shall not be within the free warranty of the company:

- 1) Damage due to improper operation of users or use under abnormal conditions;
- 2) Damage or deformation of machine (including components and parts) due to collision or falling;
- 3) Damage due to disassembly, repair or modification by users;
- 4) Damage caused by natural disasters;
- 5) Wearing parts and consumables: atomizer, filtering foam, filtering cotton etc..

11.3 After-sale services

After-sale service: Zhengzhou Olive Electronic Technology Co., Ltd.

Service Address: No. 79, Zhenghua Road, Zhengzhou, China

Zip Code: 450000

Tel: 86 371 86097310

12. Accessories

Accessory Considerations



Accessory Considerations

1. Do not use parts and accessories not recognized by the manufacturer, in order to avoid adverse effects on safety and product performance.
2. Medical oxygen concentrator shall use dedicated humidifier bottle, for replacement, please contact the dealer or manufacturer to purchase.
3. The presented oxygen tube is a disposable sterilization product, just for one person. Users can purchase qualified products with Medical Device Registration Certificate by referring to the model and specification of the presented sample.





13. Packing List

Table 3 Packing list of medical oxygen concentrator

No.	Name	Specification & Model	Unit	Qty	Remarks
1	Oxygen Concentrator	OLV-3 <input type="checkbox"/> OLV -3W <input type="checkbox"/> OLV -5 <input type="checkbox"/> OLV -5W <input type="checkbox"/>	Set	1	
2	Power cord	0.75mm ² ×3	pc	1	
3	Nasal pipe		pc	2	
4	Atomizer	Mouth-contained	Set	1	Only atomization models
5	Spare connecting tube of humidifier cup		pc	1	
6	Spare primary air suction filtering sponge		pc	1	
7	Spare secondary air suction filter		pc	1	
8	User manual		pc	1	
9	Warranty Card		pc	1	

14. Annexed Table and Figure

14.1 Meaning description of graphics, symbols and abbreviations

Graphics, symbols and abbreviations	Location	Name	Meaning description
	Relevant location	Warning sign	If ignoring this information and using improperly, it may cause personal injury.
	Relevant location	Attention sign	If ignoring this information and using improperly, it may cause injury or loss.
	Nameplate	B-type equipment	It indicates that the medical oxygen concentrator is Type B equipment.
	Control valve knob	Adjusting direction	It indicates the direction to adjust the flow.
220V50Hz/ 110V60Hz	Back lower part of oxygen concentrator	Power supply	It indicates that the medical oxygen concentrator uses single-phase AC power supply 220 V, 50 Hz, or 110V,60Hz.
L/min O ₂	Oxygen flow meter	Oxygen flow	Oxygen flow, indicating flow unit: L / min

14. Annexed Table and Figure

14.2 Electric control chart

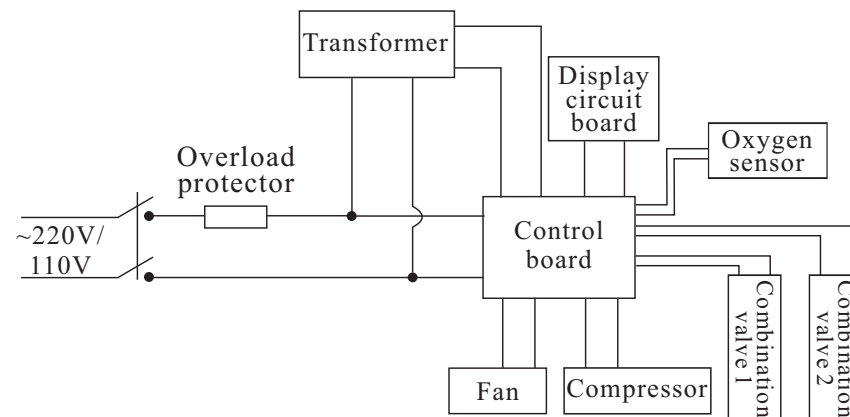


Fig. 7 Electric control chart

Note: if circuit diagram and necessary information are needed due to repair, please contact the manufacturer.

14.3 Oxygen concentration and flow diagram

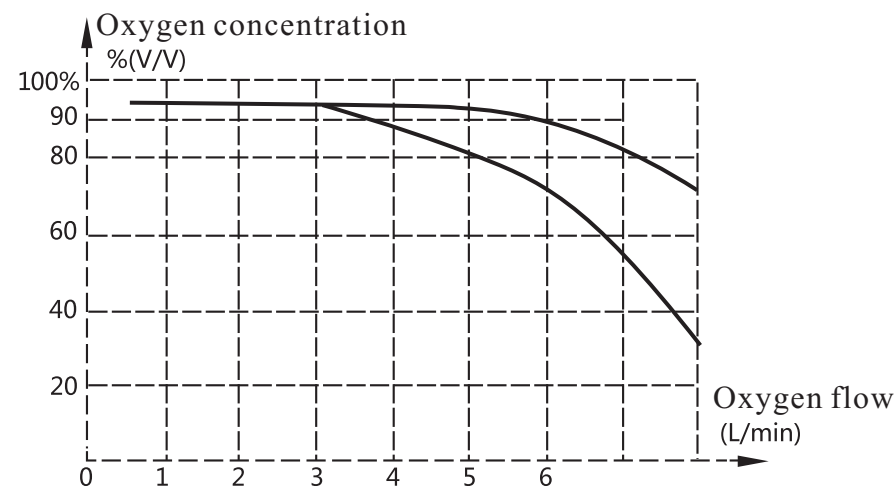


Fig. 8 Functional diagram of oxygen concentration and flow when the outlet nominal pressure is 0.