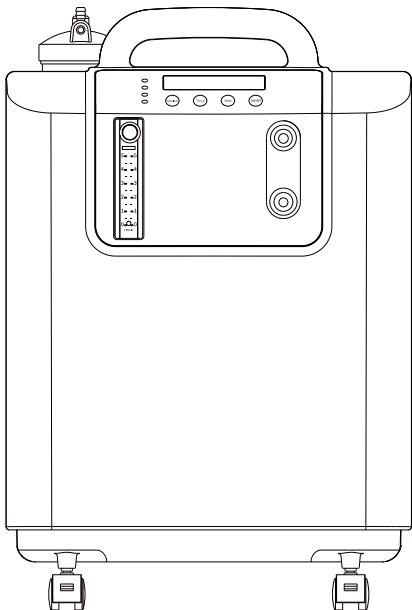


# USER MANUAL

## OXYGEN CONCENTRATOR MODEL ZY-03 / ZY-05



Do not operate this unit without first reading and understanding this manual.

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# SAFETY NOTES

## WARNING: INDICATION FOR USE

For avoiding power outage or oxygen concentrator operating failure, exigent oxygen user and serious patient must equip with reserve oxygen supply (for example: oxygen cylinder, oxygen bag). This device is to be used as an oxygen supplement. It is not used as life supporting or life sustaining.

## WARNING: CONTRAINDICATIONS

The oxygen concentrator is not intended for life supporting or life sustaining applications, nor does it provide any patient monitoring capabilities.

| Symbol                                                                                   | Description                                                                                                             |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|  WARNING | Describes a hazard or unsafe practice that if not avoided can result in severe bodily injury, death or property damage. |
|  CAUTION | Describes a hazard or unsafe practice that if not avoided can result in minor bodily injury or property damage.         |

## **1. IMPORTANT MESSAGE**

- ▶ There is high voltage inside the oxygen concentrator, non-professionals should not disassemble the machine without authorization.
- ▶ This product is an OTC product and does not need to be used under the supervision of professional medical institutions or doctors
- ▶ Before operating the device, read and understand this manual.

## **2. BEFORE INSTALLATION**

- ▶ The concentrator should always be kept upright to prevent cabinet damage while being transported.
- ▶ If the electrical source power voltage is unstable that beyond normal power range, please add the voltage stabilizer.
- ▶ Please use eligible, safe power set and junction box.
- ▶ Non-professional people DO NOT open oxygen concentrator's cabinet.

## **3. LOCATING**

- ▶ You may select a room in your house where using your oxygen concentrator would be most convenient. Your concentrator can easily move from one room to other room by the wheels.
- ▶ Be certain to place the device so all sides are at least 10 cm (4 inches) away from walls, draperies, furniture, or other obstruction. DO NOT place the unit in a confined area.
- ▶ Oxygen concentrator must avoid heat source, fire source, wetness, exorbitant or over-low extra ventricular condition.
- ▶ Sundries and vessel do not be placed on top of the concentrator.

## SAFETY NOTES

NEVER block the air openings of the unit or place it on a soft surface, such as a bed or couch, where the air opening may be blocked. Keep the openings free from lint, hair and the like.

## 4. USING

- ▶ The use of oxygen therapy requires that special care be taken to reduce the risk of fire. Users **MUST NOT SMOKE** while using this device. Keep all matches, lighted cigarettes or other sources of ignition out of the room in which this product is located. **NO SMOKING** signs should be prominently displayed. Textiles and other materials that normally would not burn are easily ignited and burn with great intensity in oxygen enriched air. Failure to observe this warning can result in severe fire, property damage and cause physical injury or death.
- ▶ For optimum performance, do not open or turn off the concentrator frequently, reset after 3-5 minutes. Shorter periods of operation may reduce maximum product life.
- ▶ A spontaneous and violent ignition may occur if oil, grease or greasy substances come in contact with oxygen under pressure. These substances **MUST** be kept away from the oxygen concentrator, tubing and connections, and all other oxygen device.
- ▶ **DO NOT** use any lubricants unless recommended by manufacturer.

## **5. MAINTENANCE**

- ▶ Only dealers authorized by the manufacturer or trained personnel can carry out pre-maintenance or performance adjustment on the oxygen concentrator.
- ▶ The manufacturer recommends that the oxygen concentrator run for at least 30 minutes each time it is turned on. Do not turn on and off the oxygen concentrator frequently, and turn it on again after 3-5 minutes after it has been turned off, so as not to affect the life of the compressor.

## **6. RADIO FREQUENCY INTERFERENCE**

This equipment generates, uses and can radiate radio frequency energy and, if not installed according with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation distance between the equipment.
- Connect the equipment into an outlet on a circuit different from that which the other device(s) are connected.
- Consult the manufacturer or service technician for help.

## **7. TO REDUCE THE RISK OF BURNS,ELECTROCUTION, FIRE OR INJURY TO PERSONS**

- ▶ Avoid using while bathing.
- ▶ The concentrator must be located in another room at least 2.5m from the bath.
- ▶ DO NOT come in contact with the concentrator while wet.
- ▶ DO NOT place or store product where it can drop into water or other liquid. DO NOT reach for product that has fallen into water. **UNPLUG IMMEDIATELY.**
- ▶ A product should NEVER be left unattended when plugged in.
- ▶ Close supervision is necessary when this product is used near children or physically-challenged individuals.
- ▶ Use this product for only intended use as described in this manual.
- ▶ DO NOT use parts, accessories or adapters other than those authorized by manufacturer.
- ▶ DO NOT connect the concentrator in parallel or series with other oxygen concentrators or oxygen therapy devices.
- ▶ Use of some administration accessories or certain humidifiers not specified for use with oxygen concentrator may impair the performance.
- ▶ Avoid creation of any spark near medical oxygen equipment. This includes sparks from static electricity created by any type of friction.
- ▶ The shelf life of the device is 3 years after starting operating.

# FEATURES

## 1. APPLICATIONS

- ▶ The oxygen concentrator uses air as the raw material and uses the molecular sieve pressure swing adsorption process to produce oxygen-enriched air with an oxygen concentration range of 90% to 96% (V/V), providing oxygen therapy or relieving discomfort caused by hypoxia.
- ▶ Product contraindications: It is forbidden for patients with oxygen poisoning and oxygen allergy.

## 2. WORKING CONDITION

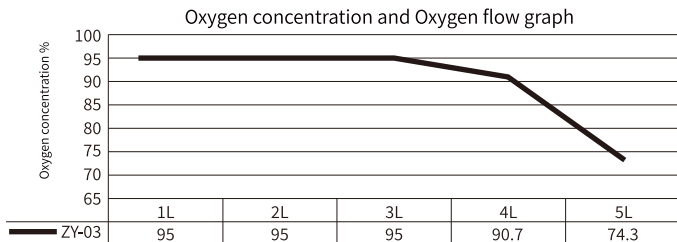
- ▶ Working Temperature: 10-40°C

Do not use the oxygen concentrator when the temperature is too high or too low. When the storage and transportation temperature is lower than 5°C, the equipment should be placed in the normal working temperature environment for more than four hours before use.

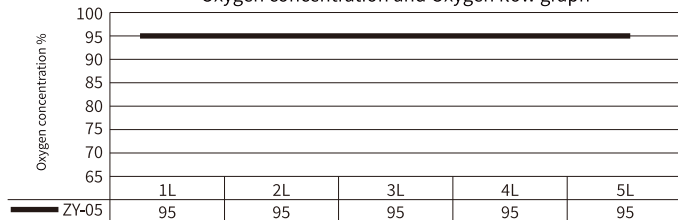
- ▶ Relative humidity: 30%-75%
- ▶ Atmospheric pressure range: 86kPa-106kPa
- ▶ Rated voltage: AC220V, 50Hz
- ▶ Input power: ZY-03, 250VA; ZY-05, 350VA
- ▶ Overcurrent protector: 250V, 5A

### 3. SPECIFICATIONS

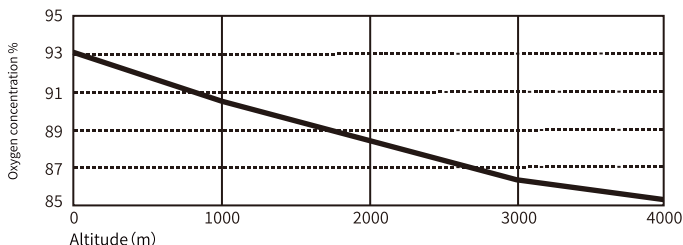
1. Maximum Recommend Flow Rate: ZY-03, 3L/min; ZY-05, 5L/min
2. Change in maximum recommended flow when back pressure of 0 is applied (Within 30 minutes of initial startup, reach to specified concentration level ): 0.5-Maximum Recommend Flow Rate  $\geq 90\%$
3. CO<sub>2</sub> ratio:  $\leq 0.01\%$
4. Output Pressure: ZY-03, 20-50kPa; ZY-05, 40-70kPa
5. Application: If It uses air as raw material and uses molecular sieve pressure swing adsorption process to produce oxygen with an oxygen concentration of more than 90% (V/V)
6. Waterproof Level: IPX0
7. Noise Level:  $\leq 60\text{dB(A)}$
8. Net Weight: ZY-03, 12.35kg; ZY-05, 15.30kg
9. Dimension: L380mm\*W302mm\*H565mm
10. Minimum Operating Time: 30 minutes
11. Electric classification: class II equipment, type BF applied part
12. Work system: working continuously.
13. When the outlet nominal pressure is 0, oxygen concentration and oxygen flow as the graph below:



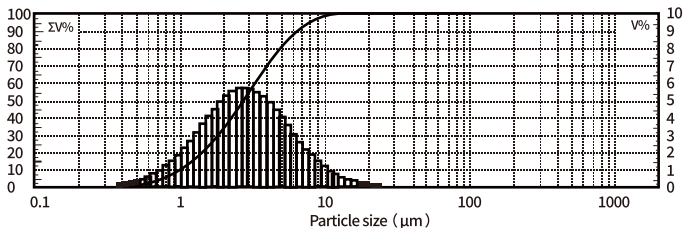
Oxygen concentration and Oxygen flow graph



14. The relationship of oxygen concentration and altitude: In the plateau environment, as the altitude increases, the atmospheric pressure gradually decreases, and the air intake of the oxygen concentrator also decreases. Under the same scale value flow rate, the oxygen output concentration in the plateau environment is lower than that in the plain environment. At the same flow rate, the relationship of oxygen concentration and altitude is as follows:



15. Test environment: under the condition of 23°C temperature and 57% humidity, the test distance from the fog outlet is 10cm, the test solution: 0.9% normal saline, and the test solution volume is 5ml (subject to changes in test conditions and drug solutions, and specifications are subject to change without notice):



#### 16. Safety System:

- Compressor Over Hot: Unit Shut Down
- Pressure, Cycle Failure: Alarming and Shut Down
- Compressor Failure: Alarming and Shut Down
- Low Oxygen Concentration
- Solenoid valve failure remind
- Power off remind

# HANDLING

## 1. UNPACKING

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 **CAUTION** Unless use the oxygen concentrator, retain containers and packing materials for storage until use of the concentrator is required.

---

1. Check for any obvious damage to the carton or its contents. If damage is evident, please notify the carrier or local dealer.
2. Remove all loose packing from the carton.
3. Carefully remove all the components from the carton.

## 2. INSPECTION

1. Examine exterior of the oxygen concentrator for nicks, dents, scratches or other damages.
2. Inspect all components.

## 3. STORAGE

1. Store the repackaged oxygen concentrator in a dry area.
2. DO NOT place other objects on top of the repackaged concentrator.

# OPERATING & INSTALLATION

## 1. FEATURE VIEW

Figure 1 - Fullview ( Front )

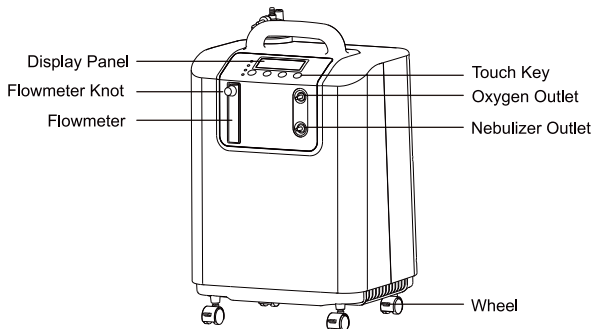


Figure 2 - Fullview ( Back )

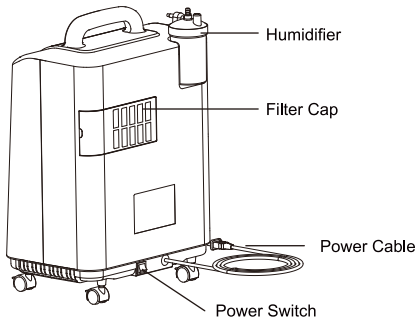


Figure 3 - Control Panel

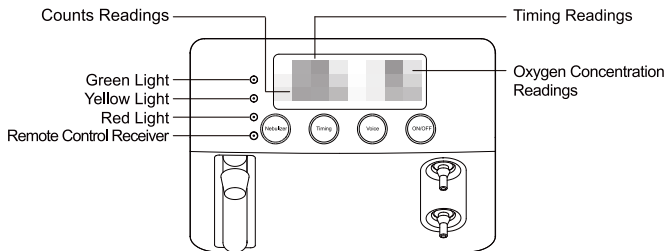
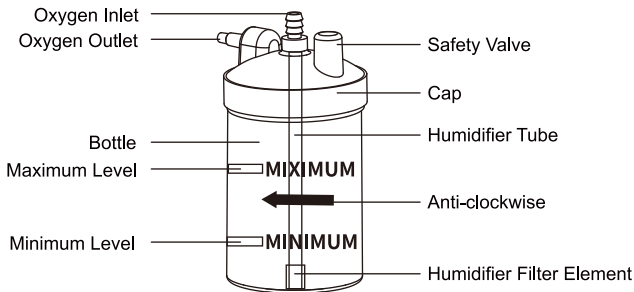


Figure 4 - Humidifier Components



## 2. PREPARE WORK

1. Unscrew the bottle from the humidifier clockwise. Fill the bottle with pure water (or distilled water) to the level between MAXIMUM and MINIMUM. DO NOT fill humidifier bottle over MAXIMUM level. (Figure 4)
2. Screw securely the bottle back counterclockwise.
3. Connect the power supply.

### CAUTION

- 1) If the concentrator has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into liquid, call Qualified Service Personnel for examination and repair.
- 2) Keep the cord away from HEATED or HOT surfaces.
- 3) Do not move or relocate concentrator by pulling on the cord.
- 4) Do not use extension cords with this unit.

NOTE: Concentrator may be used during the initial start warm-up time (approximately 30 min) while waiting for the O<sub>2</sub> purity to reach maximum.

## 3. OXYGEN ABSORBING OPERATION

1. Turn on the power switch, the display screen lights up, and the green, yellow, and red indicators light up at the same time, indicating that the machine works normally. After 1 second, only the green light is on. After a few seconds, the display shows "Timing and Counts", and the oxygen concentrator enters the normal operation state. When the oxygen concentrator is working, the sound of reversing and exhausting is emitted every few seconds.

2. Adjust the flow adjustment knob to the desired flow (the reading is based on the center of the black float). Rotate the adjustment knob upward to increase the flow, and turn it downward to decrease the flow. At the same time, there should be air bubbles around the filter element in the humidification bottle, and the oxygen outlet of the humidifier should have oxygen output.

3. Connect one end of the oxygen inhalation tube to the output port of the humidifier, and the other end (nasal suction head end) is worn with the patient, and the oxygen inhalation can be started.

- The humidifier emits a continuous sound of deflation, which is the sound of the humidifier safety valve opening, indicating that the oxygen suction pipe is blocked, please clear the pipe.

**WARNING:** If the flow range on the flow meter is below 0.5L/min, check the pipelines or accessories for blockages, kinks, or defective humidification bottle.

## 4.NEBULIZATION OPERATION

- 1.Add an appropriate amount of liquid medicine to the nebulization cup, and it must not exceed the maximum scale line of the nebulization cup.
- 2.Before turning on the machine, unscrew the nebulization cover at the end of the nebulization port of the main engine counterclockwise, and connect the two ends of the air tube to the nebulization cup and the nebulization port of the main machine respectively.
- 3.After 5 minutes of normal operation of the oxygen concentrator, press the nebulization button to turn on the nebulization function and start the nebulization treatment. At this time, the oxygen concentration display is locked at the current oxygen concentration value.
- 4.Please unplug the air tube from the nebulization port and turn off the machine after the nebulization is completed. Please screw the nebulization cover clockwise into the nebulization port and tighten it after the machine stopped working. If you need to continue to do treatment, please turn it on again.

**WARNING:**The nebulization mouthpiece and mask that come with the machine are disposable products that have passed the registration of medical devices and can not be reused.

## **5.REMOTE CONTROL OPERATION**

1.The remote control can remotely control the machine,and its key functions are same with the push buttons.

2.When operating, align the transmitting end of the remote control with the infrared receiving hole on the panel of the oxygen concentrator. when the remote control is found to be insensitive or inoperable, please check whether the battery of the remote control is sufficient. The distance between the remote control and the main unit is not suitable. The remote control should not be too far away from the main unit, or it will cause insensitive operation of the remote control.

**WARNING:** There is a battery in the remote control and the type is CR2025. Please remove the battery from the remote control if you don't use it for a long time.

## **6.ALARM SIGNAL**

Concentrator has following failure alarm function:

- 1) Pressure and cycle failure
- 2) Compressor failure
- 3) Low oxygen concentration

**Note:** All the alarms of the device are low priority.

► Initial startup of the concentrator

When the unit is turned on, the green light will come on. After 5 minutes, the oxygen sensor will be operating normally and will control the indicator lights depending on oxygen concentration values. The explanations of the indicator light functions are as follows.

► Explanation of the indicator light

| Status                                                                                                                                               | Indicator lights |
|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| SYSTEM OKAY<br>(O <sub>2</sub> concentration is greater than 82%)                                                                                    | Green            |
| Still can use and please make sure that there is backup oxygen nearby<br>(O <sub>2</sub> concentration is less than 82%)                             | Yellow           |
| SYSTEM FAILURE<br>(O <sub>2</sub> concentration is less than 50%; Or, High / Low cycle pressure failure alarm; Or, Compressor circuit failure alarm) | Red              |

► Alarm signal register

After 5 minutes of starting up, the oxygen sensor will work normally, and the indicator light will be controlled according to the oxygen concentration value.

1.O<sub>2</sub> concentration is  $\geq 82\%$  (+3%). Green light illuminates.

Normal Operation.

2. $50\% \leq O_2 \text{ concentration} \leq 82\%$ . yellow light illuminates.

Call Supplier Immediately. You may continue to use the concentrator unless instructed otherwise by your supplier. Be certain that BACKUP OXYGEN is nearby.

3.Red light illuminates. O<sub>2</sub> concentration≤50%

1) O<sub>2</sub> concentration≤50%, red light illuminates and the panel shows “E2” and the machine will stop working one minute later. Please turn it off immediately. And Switch to backup oxygen supply. Call supplier immediately.

2) Compressor failure alarm Red light illuminates, continuous audible alarm sounds, and panel shows word “E3(too high pressure)” or “E4(too low pressure)” Turn off the machine and switch to backup oxygen supply. Call supplier immediately.

3) Solenoid valve, cooling fan, compressor failure, the red light will flash and intermittent alarm and enter standby status. Turn off the machine and switch to backup oxygen supply. Call supplier immediately.

4) Power off alarm. Alarm rings, no data on the display, and the machine does not work. Please check the power carefully.

## **7. SETTING TIMING UP**

- ▶ User can press the timing button to set the operating time in (0~360) minutes.
- ▶ Press “Timing” , the timing time is continuously adjustable every 15 minutes within the range of (0 ~ 360) minutes.
- ▶ The system runs continuously when 000 displays on the screen timing setting area.
- ▶ The device will auto turn off and the display will show “000 and counts” when finishing timing. Press “Timing” to reset timing function.

## 8. TURNING OFF

- ▶ During using the device, user can press down the “Oxygen Concentrating” button, mounted in control panel, to stop/start oxygen supply.
- ▶ Take off oxygen cannula from oxygen outlet first, turn off power switch, and then cut off the power source.

# MAINTENANCE

**NOTE:** Power should be disconnected before beginning preventive maintenance on the concentrator. The concentrator is specifically designed to minimize routine preventive maintenance at intervals of once per year. In places with high dust or soot levels, maintenance may need to be performed more often. The following must be performed at a minimum of one year in service to assure years of additional reliability.

## 1. CLEAN CABINET

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 **WARNING** CUT OFF the power supply first to avoid electrical shock.  
DO NOT remove device cabinet.

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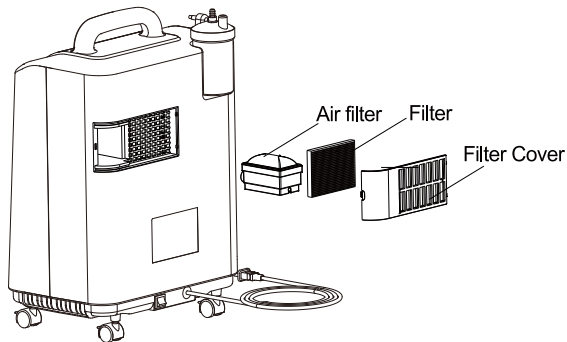
Clean the cabinet with a mild household cleaner and non-abrasive cloth or sponge at least one time a month. Do Not drop any liquid into the seam of the device.

## 2. CLEAN OR REPLACE FILTER

Please clean or replace the filters in time, it's very important to protect compressor and to extend the device life.

### ► Disassembly Filter

Remove the filter cover and take out the filter.



Remove Filter

### ► Clean Filter

- 1) Clean the filter with a soft cleaner or wash in warm soapy water and rinse thoroughly.
- 2) DRY the filter thoroughly before reinstallation.
- 3) The filter must clean or replace.

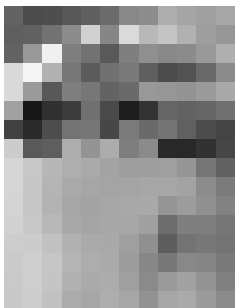
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 **CAUTION** DO NOT operate the concentrator without installing filter, or while filter is wet. These actions could permanently damage the concentrator.

---

► Clean Humidifier

- 1) Remove the humidifier bottle from the humidifier cap then clean the bottle.
- 2) Remove the humidifier tube and diffuser then clean them.



### 3. USUAL MAINTENANCE

- ▶ Please unplug the machine in time when the timer and air supply are totally completed. (the whole machine is turned off)
- ▶ Please replace the side filter cotton in time. If the filter is blocked by dirt, it will affect the oxygen production.
- ▶ Please do not disassemble the machine without authorization to avoid the unnecessary damage inside the machine. You must unplug the machine before cleaning and maintenance. Only professional technicians can repair the equipment. No-authorized technicians are not allowed to disassemble the machine.
- ▶ Please do not use lubricants, oils and greases.
- ▶ Maintenance when not used for a long time:
  - 1.Remove the humidifier, pour out the water and dry it before getting it back into the main unit.
  - 2.Turn the machine on to work for 30 minutes, then wait for natural cooling.
  - 3.Cut off the power supply and put the oxygen concentrator back into the packing box.
  - 4.Pack and seal accessories such as oxygen inhaler, oxygen delivery tube and remote control in plastic bags.
  - 5.Do not install batteries in the remote control when it is sealed to stock.In case that the battery leakage will damage the remote control.

## ► Component Maintenance

### 1. Maintenance of humidifier:

In order to ensure the cleanliness of the humidifier, please use pure water or cool boiled water and try to replace it every day. It is recommended to clean the humidifier once a week.

### 2. The standard model of the humidifier is:

HN-S01 (with nut), if you need to replace it, please contact the supplier or the manufacturer. Using a non-standard humidifier may result in reduced reduced product performance.

### 3. Maintenance of oxygen delivery tube and oxygen inhaler:

It is recommended to clean once a week and the oxygen delivery tube should not be used for more than half a year.

### 4. Maintenance of air filter cotton:

The main function of air filter cotton is to filter and absorb dust and impurities in the air. Over time without cleaning, the filter will be blocked and affect the oxygen production. It is recommended to change once a quarter. If the environment is too dusty, it is recommended to replace it every two months.

# TROUBLESHOOTING

| Symptom                                                                                                                         | Probable cause                                                                               | Solution                                                         |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Power Interruption Alarm:<br>Press the power on switch on the control panel, buzzer alarming, display not lit, device not work. | Power cord and wall outlet have poor contact.                                                | Re-insert the power cord into wall outlet securely.              |
|                                                                                                                                 | Wall outlet no power output.                                                                 | Change to another wall outlet.                                   |
|                                                                                                                                 | Low power of wall outlet.                                                                    | Change to another wall outlet.<br>Do not use any extension cord. |
|                                                                                                                                 | Breaker reset button raised.                                                                 | Press down the breaker reset button.                             |
|                                                                                                                                 | If the device is still not working, please contact the supplier.                             |                                                                  |
| Concentrator is working, yellow light illuminate, the display show "E1".                                                        | Oxygen Concentration is low.                                                                 | Clean or replace the filter.                                     |
|                                                                                                                                 | Oxygen flow rate over the maximum recommend flow rate.                                       | Adjust the flow rate only under the advice of a physician.       |
|                                                                                                                                 | If the phenomenon is still appeared, the device can be used but please contact the supplier. |                                                                  |
| Concentrator is working, yellow light illuminate, the display show "E2".                                                        | Oxygen Concentration is too low.                                                             | Stop using the device, please contact the supplier immediately.  |
| Concentrator is working, yellow light illuminate, the display show "E3/E4".                                                     | E3: System cycle pressure is too high.<br>E4: System cycle pressure is too low.              | Stop using the device, please contact the supplier immediately.  |

| Symptom                                                                                                                                                                     | Probable cause                                                                      | Solution                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Concentrator is working, red light illuminate, the display show "E5".                                                                                                       | Oxygen Concentration sensor failure.                                                | Stop using the device, please contact the supplier immediately.                                                 |
| Concentrator is working, the operating sound is normal, the flowmeter knob can be adjusted but no oxygen output or weak output. yellow light illuminate, display show "E6". | Leakage between humidifier bottle and cap.                                          | Re-insert the power cord into wall outlet securely.                                                             |
|                                                                                                                                                                             | The machine is inclined.                                                            | Change to right position.                                                                                       |
|                                                                                                                                                                             | The connection between oxygen output and humidifier is leaking.                     | Re-install the humidifier tubing.                                                                               |
|                                                                                                                                                                             | The knob of the flowmeter sets at "0".                                              | Adjust the knob to 1~2 level at least.                                                                          |
|                                                                                                                                                                             | Something wrong with the concentrator inside.                                       | Please contact the supplier immediately.                                                                        |
| Concentrator is not working, yellow light illuminate, the display show "E7/E8/E9".                                                                                          | E7: Compressor failure<br>E8: Cool fan failure<br>E9: Electromagnetic valve failure | Stop using the device, please contact the supplier immediately.                                                 |
| No Display Alarming is on.                                                                                                                                                  | Power off alarm.                                                                    | Abnormally powered off. turn off the power supply, or the alarm will continue until the electricity is used up. |
| "pop" sound comes out every few seconds.                                                                                                                                    | sound of gas.                                                                       | The concentrator will emit regularly "pop" sound, which is expelling nitrogen gas.                              |

| Symptom                                        | Probable cause                                                                        | Solution                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| There is water comes out of the oxygen outlet. | Add too many water into humidifier.                                                   | Decrease the water to below the max line.                                                                                                                                                                                                                                                                                              |
|                                                | Temperature difference is large and humidified oxygen condenses on the tube.          | Pour out the water and turn on for 15 minutes till it dry then add water again.                                                                                                                                                                                                                                                        |
| Odor smells in oxygen.                         | For the first days use, the tube will emit some smell which is normal.                | It's normal and no worries to use.                                                                                                                                                                                                                                                                                                     |
|                                                | The humidifier hasn't been cleaned or the water hasn't been replaced for a long time. | Clean the humidifier and the oxygen delivery tube.                                                                                                                                                                                                                                                                                     |
|                                                | Water get into the flowmeter.                                                         | Pour out the water and turn on for 15 minutes till it dry then add water again.                                                                                                                                                                                                                                                        |
| Flowmeter does not move or jumps up and down.  | Due to the temperature difference during transportation. The flowmeter is stuck.      | <ol style="list-style-type: none"> <li>1. Rotate the flowmeter to increase the air output, remove the humidifier, block the air output with fingers (once every 2-3 seconds), and blow up the ball up with air pressure.</li> <li>2. Turn the machine upside down (take out the humidifier), and tap the flowmeter lightly.</li> </ol> |

| Symptom                                             | Probable cause                                                           | Solution                                       |
|-----------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------------|
| Nebulization volume is small or can't be nebulized. | Incorrect installation of nebulize components.                           | Reinstall correctly.                           |
|                                                     | The nozzle is blocked.                                                   | Clean or replace the components.               |
|                                                     | Overdose.                                                                | Follow the doctor suggests and don't overdose. |
|                                                     | Deformed during cleaning or disinfection.                                | Replace components.                            |
|                                                     | If the problems are continuing, please contact the supplier immediately. |                                                |
| Remote Control doesn't work.                        | Distance is exceed the remote control range.                             | Get close to the machine within the range.     |
|                                                     | Battery is too low or died.                                              | Replace battery.                               |



**CAUTION** If you have all other problems, TURN OFF the concentrator first, use your reserve oxygen supply, and contact the supplier immediately.

---

## OTHER ATTENTION ITEMS

### 1. PACKING LIST

1. Oxygen Concentrator X 1
2. User Manual X 1
3. Filter Cotton X 1
4. Mask oxygen inhaler X 1
5. Nasal oxygen inhaler X 1
6. Remote Control (Optional) X 1
7. Certificate X 1

### 2. DEVICE DISPOSAL

Contact the local city or town offices for proper disposal instructions for Oxygen Concentrator.

## EMC GUIDELINES

Below cables information are provided for EMC reference.

| Serial No | Cable name  | Length | Shield |
|-----------|-------------|--------|--------|
| 1         | Power Cable | 2.0 m  | No     |

## **Important information regarding Electro Magnetic Compatibility(EMC)**

Oxygen Concentrator needs special precautions regarding EMC and put into service according to the EMC information provided in the user manual; Oxygen Concentrator conforms to this IEC 60601-1-2:2014 standard for both immunity and emissions. Nevertheless, special precautions need to be observed: Oxygen Concentrator with no Essential Performance / Following Essential Performance is intended used in Professional healthcare facility environment.

- ▶ **WARNING:** Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30cm (12 inches) to any part of the Oxygen Concentrator, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- ▶ The use of accessories, transmitters and cables other than those specified by manufacturer, with the exception of accessories and cables sold by manufacturer of Oxygen Concentrator as replacement parts for internal components, may result in increased emissions or decreased immunity of the Oxygen Concentrator.
- ▶ **WARNING:** Use of this equipment Oxygen Concentrator adjacent to or stacked with other equipment should be avoided because it could result in improper operation.

## EMI Compliance Table

**Table 1 - Emission**

| Phenomenon                          | Compliance                    | Electromagnetic environment  |
|-------------------------------------|-------------------------------|------------------------------|
| RF emissions                        | CISPR 11,<br>Group 1, Class B | 30 MHz to 1 GHz<br>3m        |
| Harmonic distortion                 | IEC 61000-3-2<br>Class A      | 100Hz to 2kHz,<br>2.5minutes |
| Voltage fluctuations<br>and flicker | IEC 61000-3-3                 | 2 hours, Clause 5            |

NOTE: The Emissions characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required) this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.

**Table 2 - Enclosure Port**

| Phenomenon                                                          | Basic EMC standard | Immunity test levels                             |
|---------------------------------------------------------------------|--------------------|--------------------------------------------------|
|                                                                     |                    | Professional healthcare facility environment     |
| Electrostatic Discharge                                             | IEC 61000-4-2      | ±2kV, ±4kV, ±6kV contact<br>±2kV, ±4kV, ±8kV air |
| Radiated RF EM field                                                | IEC 61000-4-3      | 3V/m<br>80MHz-2.5GHz<br>80% AM at 1kHz           |
| Proximity fields from<br>RF wireless<br>communications<br>equipment | IEC 61000-4-3      | Refer to table 3                                 |
| Rated power<br>frequency magnetic<br>fields                         | IEC 61000-4-8      | 3A/m<br>50Hz & 60Hz                              |

**Table 3 - Proximity fields from RF wireless communications equipment**

| Test frequency (MHz) | Band (MHz) | Immunity test levels                         |
|----------------------|------------|----------------------------------------------|
|                      |            | Professional healthcare facility environment |
| 385                  | 380-390    | Pulse modulation 18Hz, 27V/m                 |
| 450                  | 430-470    | FM, $\pm 5$ kHz deviation, 1kHz sine, 28V/m  |
| 710                  | 704-787    | Pulse modulation 217Hz, 9V/m                 |
| 745                  |            |                                              |
| 780                  |            |                                              |
| 810                  | 800-960    | Pulse modulation 18Hz, 28V/m                 |
| 870                  |            |                                              |
| 930                  |            |                                              |
| 1720                 | 1700-1990  | Pulse modulation 217Hz, 28V/m                |
| 1845                 |            |                                              |
| 1970                 |            |                                              |
| 2450                 | 2400-2570  | Pulse modulation 217Hz, 28V/m                |
| 5240                 | 5100-5800  | Pulse modulation 217Hz, 9V/m                 |
| 5500                 |            |                                              |
| 5785                 |            |                                              |

**Table 4 - Input AC power Port**

| Phenomenon                                  | Basic EMC standard | Immunity test levels                          |
|---------------------------------------------|--------------------|-----------------------------------------------|
|                                             |                    | Professional healthcare facility environment  |
| Electrical fast transients/burst            | IEC 61000-4-4      | ±2 kV<br>5kHz repetition frequency            |
| Surges<br>Line-to-line                      | IEC 61000-4-5      | ±0.5 kV, ±1 kV                                |
| Surges<br>Line-to-ground                    | IEC 61000-4-5      | Do not apply                                  |
| Conducted disturbances induced by RF fields | IEC 61000-4-6      | 3V, 0.15MHz-80MHz<br>80%AM at 1kHz            |
| Voltage dips                                | IEC 61000-4-11     | < 5% of UT for 0.5 Period & 5s<br>At 0°, 180° |
|                                             |                    | 40% of UT for 5 Periods<br>At 0°, 180°        |
| Voltage interruptions                       | IEC 61000-4-11     | 70% of UT for 25 Periods<br>At 0°, 180°       |

**Table 5 - Signal input/output parts Port**

| Phenomenon                                  | Basic EMC standard | Immunity test levels                         |
|---------------------------------------------|--------------------|----------------------------------------------|
|                                             |                    | Professional healthcare facility environment |
| Electrical fast transients/burst            | IEC 61000-4-4      | ±2 kV<br>5kHz repetition frequency           |
| Conducted disturbances induced by RF fields | IEC 61000-4-6      | 3V, 0.15MHz-80MHz<br>80%AM at 1kHz           |