

**LFY-I-5AW**  
**Health Care Oxygen Concentrator**  
**Operation Instructions**



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## **INTRODUCTION**

The oxygen concentrator is based on the Pressure Swing Adsorption (PSA) Technology derived technology that utilizes unique molecular sieves to separate air into its constituent parts of Nitrogen, Oxygen and trace gases. The oxygen concentrator redirects the oxygen for use out the front, while it ejects the nitrogen and trace gases back into the atmosphere here. The PSA system was developed as an alternative to the cryogenic separation of gases whose purity of oxygen accords with medical standard.

## **HIGHLIGHTS**

No other raw material are needed except air; low consumption of power and low cost of oxygen production, All gas circuit is controlled by low pressure system, which operates securely and reliably, Adjustable flow rate; making oxygen while supply continuously, switch on or off at any time convenient operation; excellent performance; low noise Atomizing device can be fitted if necessary, oxygen therapy and atomizing therapy being implemented simultaneously.

## **PRINCIPLE OF WORKING**

For LFY-I-5AW oxygen concentrator working principle please see Fig1. The magnetic valve is controlled by Power Control Board (CPU). When the magnetic valve in position 1, the air compressed by oil-free air-compressor enters the molecular sieve bed A through the opening valve entrance P to A. The nitrogen adsorbed, and the oxygen in the molecular sieves bed A entering oxygen storing tank through one-way valve. Then the oxygen comes from pressure regulating valve and flow meter into humidifier to get we. Thus it can be available for people. Less oxygen will come to bed B through washing

hose exhausted to the air together with the desorbed nitrogen from the opening valve entrance B to S. When the magnetic valve in position 2, the compressed air comes into molecular sieve bed B through the opening valve entrance P to B, oxygen coming into the tank through one way valve for people to take. Some oxygen return to the molecular sieves bed A through the washing hose exhausted to the air together with the desorbed nitrogen from the opening valve entrance A to S. It will start a new cycle after the working cycle ends. In this way, the oxygen is supplied to oxygen storage tank by the two molecular sieves in turn, which can produce the oxygen directly from the air.

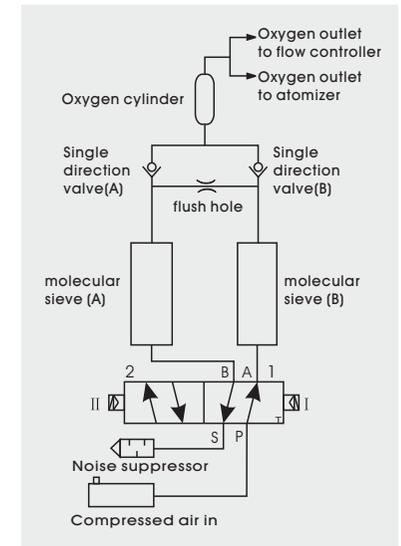


Fig1

## **APPLIED RANGE**

- Respiratory diseases
- Chronic obstructive pulmonary disease: chronic bronchitis, bronchial asthma, pulmonary emphysema, silicosis, cor pulmonale
- Cardiovascular diseases
- Coronary heart disease, hypertension, heart failure, rheumatic heart disease and congenital heart disease.
- Cerebrovascular accidents
- Cerebral hemorrhage, cerebrovascular block, etc.
- Plateau diseases
- Plateau pulmonary edema, plateau brain edema and plateau heart disease.

- Discomfort of gravida and fetus in the womb
- Geriatric disorder: vascular stiff, dizziness, hemicrania and plateau dementia.
- Sleep apnea: breathing pause when sleeping
- Acute or chronic lack of oxygen due to other causes
- Anoxemia of pregnant and fetus
- Anoxia neonatorum, fetal distress
- Aging disorders
- Vascular sclerosis, dizziness, vertigo, magrain, senile dementia.

## **SPECIFICATIONS**

- Voltage: 220V 50HZ
- Power consumption: 450W
- Oxygen concentration:  $93\% \pm 3\%$
- Oxygen flow: 0~5L/min
- Oxygen delivery pressure: 0.03~0.07MPa
- Noise:  $\leq 50\text{dB(A)}$
- Overall size: 480(L)×500(W)×750(H)(mm)
- Net weight: 28.5Kg
- Electric classification: Class II Grade B
- Alarm: power failure, high pressure, low pressure

## **OPERATION INSTRUCTIONS**

### **1. Name of parts and its function**

- Flow controller——it can adjust the oxygen flow and display the flow value through the adjusted knob.
- Power switch—— when it is connected to the switch with power on, the oxygen concentrator will start to work; when it is connected to the switch with power off, the oxygen concentrator can not work and occur alarming at the same time.
- High pressure alarm indicator (red)—— When the pressure of the concentrator is

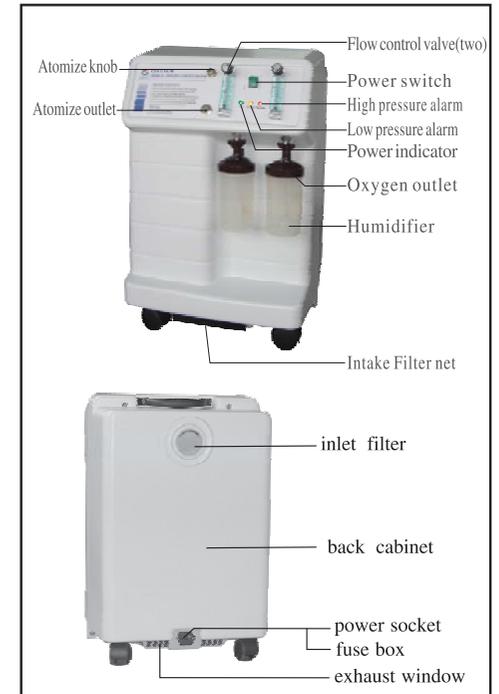
more than  $0.21\text{MPa} \pm 0.01\text{MPa}$ , the power indicator turn red and oxygen con-centrator will alarm at the same time.

- Low pressure alarm indicator (yellow)——When the pressure of the oxygen concentrator is lower than  $0.06 \pm 0.01\text{Mpa}$  and last for more than 25 seconds, the indicator will turn yellow and oxygen concentrator will alarm at the same time.

- Power indicator(green)——the power indicator will be green when power on. When power is cut off, the power indiicator will turn off and the oxygen concntrator will alarm at the same time.

- Humidifier——when the humidifier is filled with distilled water, connect the screw nut on the top of the humidifier to the oxygen outlet under the flow controller of the oxygen con centrator. The oxygen will be moistened by the humidifier, it will flow out of outlet of the upper-cover. Nasal cannula should attach to the humidifier outlet port. There is a safety valve on the humidifier cover, whose pressure is  $0.0 \pm 2 \quad 0.005\text{MPa}$ .

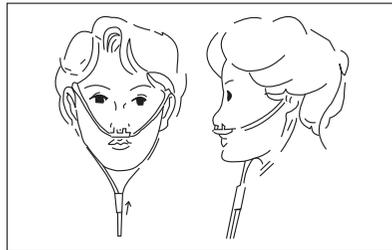
- Intake Filter net ——it can keep the dust and dirt from being absorbed into the oxygen concentrator. It should be cleaned once every other week
- Inlet fitler ——air two filtrations.
- Power socket fuse box —— the power cord is connected to the oxygen oncentrator by the socket. one 5A fuse and its spare part have been installed in the box when the product is finished. You can change the ruse, when opening the cover with the screw driver.



- Exhaust window——it can exhaust the nitrogen and ventilate the heat, which should be with no other obstruction.
- Atomizing outlet —— it connects the drug atomizer.
- Atomizing knob—— when the drug atomizer connects to the atomizing outlet, turn on the atomizing knob, it will atomize therapy at once. For 4L and 5L, oxygen can be supplied while atomizing is proceeded. But for 3L, either oxygen or atomizing can be proceeded separately.

## 2. The method of inhaling oxygen

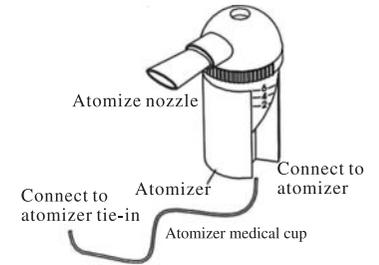
- Please take the oxygen concentrator out of the carton and Plug one end of the power cord with holes into the socket of oxygen concentrator, connecting the other end to 220V power. Powerindicator will turn green.
- Unscrew the cover of humidifier, and fill distilled water or cold boiled water to the humidifier in the level between Max and Min and screw the cover of humidifier tightly. Then screw the nut on the top of humidifier tightly to the oxygen outlet of oxygen concentrator.
- Attach oxygen nasal cannula to the humidifier outlet port.
- Press the power switch button, the green light indicates the oxygen concentrator is working.
- The flow controller can be adjusted by the switch on the flowmeter, turn the switch around until the ball in the flowmeter is located where is needed.
- Put on nasal oxygen cannula as the picture shows.
- When you finish absorbing the oxygen, you should turn off the oxygen concentrator, and take the nasal oxygen cannula out of the humidifier, and turn off the flow controller at the same time.



## Atomizing methods

(Applied in the oxygen concentrator with atomizer)

- The oxygen concentrator starts to work.
- Pour the medicine solution into atomizing cup, tighten it clockwise.
- Attach tube to the atomizer outlet, turn off oxygen flow controlled knob and turn on the atomizing knob. Put the spray port into the mouth with hand for treatment.
- Please close the atomizing knob after finishing the drug atomizer. if you do not continue to absorb oxygen, you can turn off the machine.
- Clean and dry the medicine cup after use.



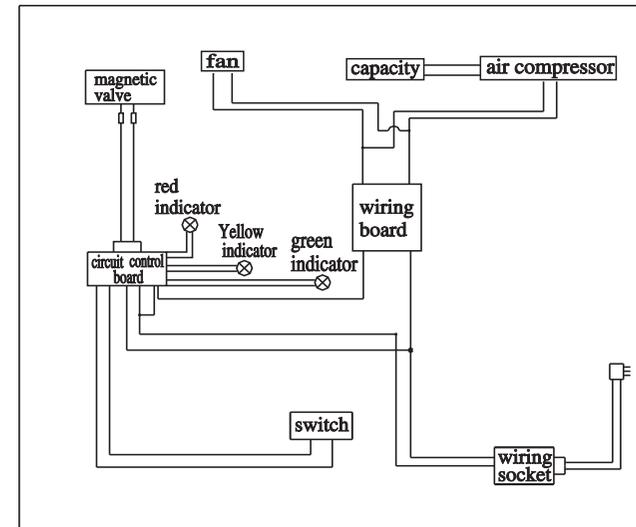
## WORKING ENVIRONMENT

Temperature: 5°C ~ 40°C, relative humidity: ≤ 80%

Air pressure: 86Kpa ~ 106Kpa

Working power: 220 ± 22V 50Hz ± 1Hz

## CIRCUIT PRINCIPLE PICTURE



## **REGULAR MAINTENANCE**

<b>Item</b>	<b>Faults</b>	<b>Possible cause</b>	<b>Remedy</b>
<b>1</b>	When switch on or insert ICcard, doesn't work, indicator doesn't give light or alarm can be heard	<ol style="list-style-type: none"> <li>1. Power doesn't put through</li> <li>2. Socket is with no</li> <li>3. Fuse failed installed or damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Check if power cord is Ok</li> <li>2. check if the power is on</li> <li>3. Open power socket to check f power use or change it</li> </ol>
<b>2</b>	The machine stopped working or the purity decrease after it work for some time	<ol style="list-style-type: none"> <li>1. intake or exhaust window are blocked</li> <li>2. Intake net get dirty</li> <li>3. Intake filter get dirty</li> <li>4. Ambient temperature is over high</li> <li>5. Voltage is over low</li> <li>6. Fan doesn't work</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the intake and exhaust window.</li> <li>2. Clean the intake net</li> <li>3. Open maintainece window and loose the intake filter for cleaning or change</li> <li>4. Put the machine where is airy</li> <li>5. Guarantee the voltage of 220V±22V</li> <li>6. Change Fan</li> </ol>
<b>3</b>	No oxygen is sent out after the machine operates or no bubbles come out from humidifier	<ol style="list-style-type: none"> <li>1. The flow controller doesn't turn on(ball doesn't rise)</li> <li>2. The nasal cannula folded</li> <li>3. Trouble caused by the machine itself</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn on the flow controller to see if the ball inside rise up</li> <li>2. Make sure the nasal cannula is well through</li> <li>3. Contact us</li> </ol>
<b>4</b>	Loud noise can be heard while the machine operates	Trouble caused by the machine itself	Contact us
<b>5</b>	High or low alarm will be heard while the machine working	Trouble caused by the machine itself	Contact us

## **CAUTIONS**

- Read this instruction carefully before use.
- Do not use near open flames and no smoking.
- Do not turn on or turn off the machine too frequently. 5-minute break is acceptable to prevent the compressor from starting with the pressure or shortening its life. Turn off the flow controllr while turning off the machine.
- Keep the intake and exhaust window through to prevent the machine from getting too heated and failing to work.
- Change the water in the humidifier frequently ( twice a week).
- clear the water in case of no use for a long time.
- Sterilize the oxygen cannula with alcohol before use.
- Clean the intake net frequently(once a month) and dry it before reuse.
- Open the maintenance window every three months and take the intake filter out for clean or change it when purity decrease. Normally, the intake filter should be changed one a year.
- Clean the machine with power off.