

Document No.: JM/JMC5A (A/0)

# OXYGEN CONCENTRATOR JMC5A Ni USER'S MANUAL

(Part No.:0209175 Rev. E Date: Sep.16.2019 )



**DO NOT OPERATE THIS UNIT WITHOUT FIRST  
READING AND UNDERSTANDING THIS MANUAL!**

**SAVE THIS MANUAL FOR FUTURE USE.**

# **TABLE OF CONTENTS**

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<b>1、 SAFETY NOTES.....</b>	<b>4-9</b>
1.1 important informance .....	4
1.2 before installation .....	4
1.3 placement .....	5
1.4 fire warning and explosion .....	6
1.5 maintenance .....	7
1.6 radio frequency interference .....	7
1.7 reduce the risk of burns to persons .....	8
<b>2、 FEATURES.....</b>	<b>10-13</b>
2.1 summary .....	10
2.2 characteristics .....	10
2.3 specifications .....	11
<b>3、 HANDLING.....</b>	<b>14</b>
3.1 unpacking .....	14
3.2 inspection .....	14
3.3 storage .....	14
<b>4、 INSTALLATION AND OPERATION.....</b>	<b>15-23</b>
4.1 feature view .....	15
4.2 prepare work .....	18

# **TABLE OF CONTENTS**

---

4.3	turning on.....	19
4.4	alarm signal .....	20
4.5	alarm signal cue .....	21
4.6	turning off .....	22
4.7	symbols and descriptions .....	23
<b>5</b>	<b>MAINTENANCE.....</b>	<b>24-27</b>
5.1	cleaning the cabinet .....	24
5.2	cleaning the replacing the filter .....	24
5.3	cleaning the optional humidifier bottle .....	26
5.4	oxygen nasal cannula .....	26
5.5	Tube maintenance.....	26
5.6	Note: for each new patient.....	26
<b>6</b>	<b>TROUBLESHOOTING.....</b>	<b>28-29</b>
<b>7</b>	<b>OTHER ATTENTIVE ITEMS.....</b>	<b>30-32</b>
7.1	Post-marketing service .....	30
7.2	Treatment of waste and residual .....	30
7.3	Accessories and spare parts .....	31
7.4	EMC guidance in use.....	32
	<b>COMPANY AND ADDRESS .....</b>	<b>36</b>

# 1, SAFETY NOTES

**⚠️ WARNING:** Users who require continuous oxygenation must plan for alternate reserve sources of power and oxygen in the event of a failure or loss of power and oxygen. This device is to be used as an oxygen supplement and is NOT considered life-supporting or life-sustaining!

symbols	contents
	describing the principal RISK(S) foreseen (e.g. “Causes burns”, “Risk of explosion”, etc.).
	describing what is prohibited (e.g. “Do not open”, “Do not drop”, etc.).
	Describing required action (e.g. “Wear protective gloves”, “Scrub before entering”, etc.).

## 1.1 Important Information

-  Risk of electric shock.
-  DO NOT disassemble. Refer servicing to qualified service personnel.
-  DO NOT modify this equipment without authorization of the manufacturer.
-  Read the following information before operating this product.

## 1.2 Before Installation

-  The concentrator should always be kept in the upright position to prevent damage during transport.
-  If the electrical power source becomes unstable, discontinue use and find an alternate source.
-  Only use stable and safe electrical power sources.
-  The oxygen concentrator cabinet should ONLY be opened by an authorized equipment provider.

# 1. SAFETY NOTES

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## 1.3 Placement

- You may select a room in your house where using your oxygen concentrator would be most convenient. Your concentrator can be easily roll from room to room on its casters.
- ⊘ Do not place the oxygen concentrator in surroundings where its airflow is obstructed.
- ! Be certain to place the oxygen concentrator so that all sides are at least 10 centimeters (4 inches) away from walls, draperies, furniture, or similar surfaces. Avoid deep pile carpets and heaters, radiators or hot air registers.
- ⊘ Do not place the unit in a confined area.
- ! The oxygen concentrator **MUST** be kept away from heat, fire and excessive water sources and conditions.
- ! The oxygen concentrator should be located so as to avoid pollutants or fumes.
- ⊘ Do Not place items on top of the concentrator.
- ⊘ **NEVER** block the air openings of the unit or place it on a soft surface, such as a bed or couch, where the concentrator may tip or fall. Keep the openings free from lint, hair and the like.

# 1. SAFETY NOTES

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## 1.4 Fire Warning and Explosion

 Keep the concentrator away from flammable and explosive areas.

 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**.

 The use of oxygen therapy requires that special care be taken to reduce the risk of fire. Any materials that will burn in air, and some that will not, are easily ignited and burn rapidly in high concentrations of oxygen. For safety concerns, it is necessary that all sources of ignition be kept away from the product and preferably out of the room in which it is being used.

 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 equipment.

 **DO NOT** use any lubricants unless recommended by manufacturer.

# 1. SAFETY NOTES

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## 1.5 Maintenance

 Oxygen concentrator shall be maintained once a year at least. Only the professional healthcare person familiar with the operation of this device (e.g. personnel trained or approved by manufacturer), can the maintenance or debugging of oxygen concentrator.

 DO NOT service or maintain while patient in use.

- For optimum performance, manufacturer recommends that the concentrator be on and running for a minimum of 30 minutes at a time. Shorter periods of operation may reduce maximum product life.

## 1.6 Radio Frequency Interference

 Most electronic equipment is influenced by Radio Frequency Interference (RFI). Always exercise CAUTION with regard to the use of portable communications equipment in the area around such equipment.

 Energy of Radio Frequency of this machine is just for device operation use, so the Radio Frequency is very low, will not affect the running of other electric equipment around regard to the use of portable communications equipment in the area around such equipment.

# 1. SAFETY NOTES

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## 1.7 To Reduce the Risk of Burns, Electrocutation, Fire or Injury to Persons.

 Avoid using while bathing. If continuous usage is required by the physician's prescription: The concentrator must be located in another room at least 2.5 meters (8.2 feet) 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 and call Qualified Service Personnel for examination and repair.

 A product should NEVER be left unattended when plugged in.

 This device is to be used only in accordance with the prescription of a physician and this User's Manual. If at any time the patient or attendant concludes that the patient is receiving an insufficient amount of oxygen, contact the provider and/or physician immediately. No adjustments should be made to the flow rate unless prescribed by a physician.

 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. Use of certain humidifiers and administration accessories not specified for use with this oxygen

# 1. SAFETY NOTES

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concentrator may impair the performance.

 If replacement parts used for the periodic servicing by an approved technician do not comply with the manufacturer's specifications, the manufacturer is not responsible in the event of an accident.

 DO NOT connect the concentrator in parallel or series with other oxygen concentrators or oxygen therapy devices.

 In certain circumstances oxygen therapy can be hazardous. Manufacturer recommends that you seek medical advice before using this product.

 Avoid creation of any spark near medical oxygen equipment. This includes sparks from static electricity created by any type of friction.

 If the concentrator has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, call Qualified Service Personnel for examination and repair.

 Keep the cord away from HEATED or HOT surface.

 Do not move or relocate concentrator by pulling on the cord.

 NEVER drop or insert any object into any opening.

## **2、 FEATURES**

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### **2.1 Summary**

JMC5A Ni oxygen concentrator is intended for individual use as an oxygen supplement device in a home or care facility. The patient is an intended operator. It is an electronically operated device that separates oxygen from ambient air. It provides high concentration of oxygen directly to you through a nasal cannula or other methods. Clinical studies have documented that oxygen concentrator are therapeutically equivalent to other types of oxygen delivery systems.

This user's manual will tell you about your concentrator and will serve as a reference as you use your concentrator.

### **2.2 Characteristics**

- Oxygen concentrator make up of mainframe、 humidifier and Flowmeter
- Reliable, safe, complete plastic outer shell, breaker.
- Display screen shows total elapsed working hours.
- Pressure safety valve helps ensure operating pressure.
- Power loss alarm function.
- High and low pressure alarm function.
- Low oxygen concentration alarm function.
- Heat protection to ensure the safety of the compressor and concentrator.

## **2、FEATURES**

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### **2.3 Specifications**

- 1、 **Power supply:** AC220V, 50Hz;Power: 360VA
- 2、 **Sound level:**  $\leq 46\text{dB (A)}$
- 3、 **Maximum recommended flow:** 5L/min
- 4、 **Flow Range at Outlet Pressure of zero:** 0.5~5L/min  
**Flow Range at Outlet Pressure of 7 kPa:** 0.5~5L/min  
**Change in maximum recommended flow when back pressure of 7 kPa is applied:**  $< 0.5 \text{ L/min}$
- 5、 **Oxygen Concentration :** When 0.5~5L/min ,93% $\pm$ 3% (after turning on 30 minutes)
- 6、 **Output Pressure :** 38kPa $\pm$ 5kPa ;
- 7、 **Release Pressure by machine operation :** 250kPa $\pm$ 50kPa;
- 8、 **Weight:** 15kg;
- 9、 **Dimension:** 330 $\times$ 260 $\times$ 540(mm);
- 10、 **Height above sea level:** The oxygen concentration will not decrease on 1828 meter height above sea level, from 1828 meter to 4000 meter; the efficiency will decrease to less than 90%.
- 11、 **Safety System:**
  - ①Current overload or line surge shutdown.
  - ②High temperature compressor shutdown.
  - ③High pressure alarm shutdown.

## 2、FEATURES

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④Low pressure alarm shutdown.

⑤Low Oxygen Concentration alarm.

**12、 Minimum Operating Time:** 30 minutes

**13、 Electric Classification:**

Class II equipment , Type BF applied part(Nasal oxygen cannula);

**14、 Mode of operation:** Continuous duty

**15、 Normal Operating Ambient:**

overvoltage category: II pollution degree :2 altitude:  $\leq 2000$

1. Temperature range:  $5^{\circ}\text{C} \sim 40^{\circ}\text{C}$  ( $41^{\circ}\text{F} \sim 104^{\circ}\text{F}$ )

2. Relative humidity:  $\leq 80\%$

3. Atmospheric pressure:  $86\text{kPa} \sim 106\text{kPa}$  ( $12.47\text{psi} \sim 15.37\text{psi}$ )

*NOTE:* ①When the storage temperature is lower than  $5^{\circ}\text{C}$ , the equipment shall be laid in normal operation temperature environment for at least 4 hours.

②The life time or equipment will be affected and the efficiency will be lowered if the equipment runs under conditions exceeding normality.

**15、 Oxygen Output Temperature:** Less than Ambient  $+6^{\circ}\text{C}$

**16、 Temperature of gas-exit :** Not higher than environment temperature for  $6^{\circ}\text{C}$ .

**17、 Tube:** To prevent folding of tube, nasal oxygen 2 meters,

## **2、FEATURES**

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prolonged tube not longer than 15.2 meters (no flattening).

### **18、The Storage and transport Ambient:**

1. Temperature Range: 0°C ~ +55°C (32°F ~ +131°F)
2. Relative Humidity Range: 10% ~ 90%
3. Atmospheric pressure: 70kPa ~ 106kPa (10.2psi ~ 15.37psi)

*NOTE:* The oxygen concentrator should be stored in area without erode gas; be avoided shaking and inversion in transportation.

## **3、 HANDLING**

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### **3.1 Unpacking**

*NOTE:* Unless the oxygen concentrator is to be used immediately, retain containers and packing materials for storage until concentrator use is required.

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

### **3.2 Inspection**

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

### **3.3 Storage**

- Store the repackaged oxygen concentrator in a dry area.
- ⊘ DO NOT place anything on top of the repackaged concentrator.

## 4、INSTALLATION AND OPERATION

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### 4.1 FEATURE VIEW



1---Flow meter

Setting oxygen flow rate by adjust the knob.

2---Status indicator light (Alarm/Normal Low)

3---Oxygen tube

4---Outlet connector

5---Breaker

To protect the machine and user, breaker will cut off power automatically when current  $\geq 5A$ . After cooling, machine can be turn on if push up the breaker.

## **4、 INSTALLATION AND OPERATION**

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6---Connecting pipe of humidifier bottle

7---Humidifier bottle

For some users, dry oxygen inhalation may cause respiratory discomfort, use humidifier bottle to humidify oxygen.

8---Power switch

9---Elapsed Time Meter

Record total operation time, guide user use device scientifically.

10---Power cord

11---Atomization connector

Unscrew atomization plug and connect with atomizer when atomization is required.

12---Transom filter



**Figure 1: Oxygen Concentrator Features**

## 4、 INSTALLATION AND OPERATION

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**Figure 2: Humidifier Features**

⊘ DO NOT add water over the maximum water level. Pure water shall be added in humidifier to between maximum and minimum water level in use.

● Power switch—I indicate the power is on, O indicate the power is off. When the switch locates on “ON”, if the power cutting occurs, the oxygen concentrator will not run, there will be alarm noise.

● The oxygen will be obtained by passing humidifier. Pure water shall be added in humidifier to between maximum and minimum water level in use. When the tube of oxygen exit of humidifier wrested or jammed, the pressure in humidifier will ascend to  $25\pm 5\text{kPa}$ , the safety valve of humidifier will open to release the pressure.

Inspection of performance of humidifier : 1. use the PVC soft tube to connect the humidifier adapter and the oxygen outlet of the shell; 2. turn on the oxygen concentrator, adjust the flux to about 5L/min, jam the exit of humidifier, after about 5 seconds, the safety valve will open, the gas will release, the valve will close, which indicate the gas proofing of humidifier and safety valve in conforming.

## **4、 INSTALLATION AND OPERATION**

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### **4.2 PREPARE WORK**

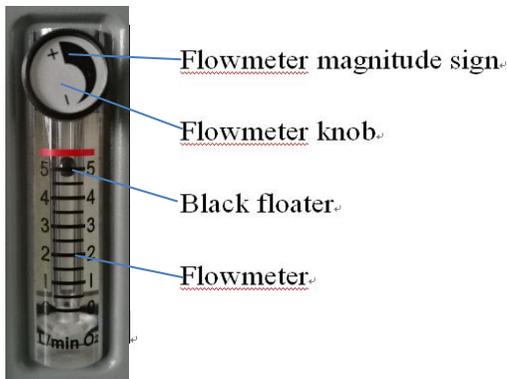
- Unscrew the cover of the humidifier, fill the purify water (or distil water) into the humidifier bottle between the maximum and minimum water level lines, and then screw the humidifier bottle. (If needed, add other medicine into the water, please according to the doctor's suggestion.)
- Screw the humidifier bottle absorbing connector into the cover of the humidifier, then insert the humidifier to the elastic belt on the left side of the unit, and connect the other end of the cannula to the oxygen outlet.
- Plug in power supply: Ensure that the power switch is off; plug the concentrator's AC connector into power outlet.

## 4、 INSTALLATION AND OPERATION

### 4.3 Turning the Concentrator ON

- Press power switch to the “|” position. The display will show “HELLO”. At that time green, yellow, red light all will be on which means the function of machine is normal. After about 1 second, only green light on. After 4 seconds, the display will show accumulation work time.
- To properly read the flowmeter, locate the prescribed flow rate line on the flowmeter. Next, turn the flow knob until the ball rises to the line. Now, center the ball on the L/min. line prescribed (Figure 3).

*NOTE:* Oxygenation times and the flow rate ranges are established and prescribed by your physician.



**Figure 3**

**CAUTION:** If the flow rate on the flowmeter ever falls below 0.5L/min, check tubing or accessories for blocked or kinked tubing or a defective humidifier bottle.

## **4、 INSTALLATION AND OPERATION**

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### **4.4 Alarm Signal**

- **Initial startup of the concentrator**

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

When the unit is turned on, the green light will come on (O<sub>2</sub> concentration greater than 82%±3%). 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.

## **4、 INSTALLATION AND OPERATION**

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### **4.5 Alarm Signal cue**

1、 O<sub>2</sub> concentration is greater than 85%±2%. Green light illuminates. Normal Operation.

2 、 O<sub>2</sub> concentration is greater than 73%± 2% and less than 85%±2%. Yellow light illuminate.

3 、 O<sub>2</sub> concentration is less than 73%±2%. Red light illuminate, intermittent audible alarm sounds.

## **4、 INSTALLATION AND OPERATION**

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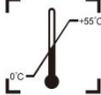
### **4.6 Turning the Concentrator Off**

Press power switch to the “ O ” position and unplug the concentrator’s AC connector from the power outlet.

Use the plug device to isolate the concentrator from the supply mains.

## 4、INSTALLATION AND OPERATION

### 4.7 Symbols and Descriptions

Symbol	Meaning	Symbol	Meaning
~	Alternating current		Refer to instruction manual
	Class II Equipment		Type BF applied part
O	OFF (power)		ON (power)
	Circuit Breaker		No open flame; Fire, open ignition source and smoking prohibited
	Height		
	Serial number		Date of manufacture
	Up		Manufacturer
	Keep dry		Temperature limitation
	Fragile, handle with care		Atmospheric pressure limitation
			
			

## **5. MAINTENANCE**

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 **Warning:** Power should be disconnected before beginning preventive maintenance on the concentrator.

 **DO NOT service or maintain while patient in use.**

The concentrator need no extra approved maintenance as it pressure and oxygen purity self-check of the unit, so it but the device shall be maintained once a year. In location with much dust the maintenance can be performed if necessary. The minimum maintenance is the insurance of oxygen concentrator.

### **5.1 Cleaning the Cabinet**

Clean the cabinet at least once a month.

- Turn off the power switch and unplug the concentrator's AC connector from the power outlet.
- Only the outside of the concentrator is to be cleaned. Use a soft dry cloth, a damp sponge or wipes with alcohol based solution. Do not use acetone, solvents or any other inflammable products. Do not spill liquid inside the cabinet.

### **5.2 Cleaning or Replacing the Filter (3 Types)**

Clean and replace the filters as often as specified in the following paragraphs in order to protect the compressor and extend the concentrator's life.

 **DO NOT** operate the concentrator without the filters installed , or filters are wet. These actions could permanently damage the concentrator.

## 5、 MAINTENANCE

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- Disassembly

### (1)Transom filter

The Transom filter need to clean per half month. (Figure 4)



Figure 4

### (2)Intake filter

The Intake filter, need to clean per half month. **(Figure 5)**



Figure 5

- The intake filter access door is located on the left side of the concentrator, open the access door (Use a small blade screwdriver to open the access door), Unscrew the filter core, Remove the intake filter.
- Washing or change frequency of filter shall Based on actual use time and environment. If the filtration core becomes black, no matter how long.

## **5、 MAINTENANCE**

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### **5.3 Cleaning the Optional Humidifier Bottle**

- Change the water in the humidifier bottle every day.
- Clean : Wash the humidifier bottle weekly. First use household detergent to wash, then rinse under running water and dry.
- Disinfect: Disinfect the humidifier parts by immersing them in a disinfection solution, or 1 part vinegar diluted with 10 parts water . then rinse under running water and dry.
- Disassembly humidifier bottle.

(1) Unscrew the humidifier bottle. (**Figure 6**)

(2) Take out tube and its terminal filtration. (**Figure7**)



**Figure 6**



**Figure7**

### **5.4 Oxygen nasal cannula (Available accessories)**

Follow the nasal cannula manufacturer's instructions.

### **5.5 Tube maintenance**

It is recommended to maintain/replace internal tube once a year.

### **5.6 Note: for each new patient**

Follow the instructions from the humidifier manufacturer. The cabinet air filter should be washed or replaced.

## **5. MAINTENANCE**

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The entire oxygen administration circuit ( oxygen therapy nasal cannula, etc.) must be changed.

## 6. TROUBLESHOOTING

### Troubleshooting Guide

Symptom	Probable cause	Solution	Remark
Elapsed time meter displays, the green and the yellow light are always bright, but the oxygen concentrator stops running immediately and has continuous buzzer.	1) Four corns plug-in of the valve has not been inserted completely	1) Check and connect the circuit board to the valve's four corns plug-in.	Repairs by qualified personnel
	2) Exhaust sound buffer box jammed.	2) Replace it.	
	3) Can't open the valve.	3) Replace it.	
	4) Failure of the main electronic control circuit board.	4) Replace it.	
The nasal cannula has more mirage or blobs.	1) It's not ventilate completely around machine, so operating temperature is too high.	1) Make sure the machine is at least 10 cm away from the walls, other jam or heater.	Repairs by qualified personnel
	2) Fan inside the machine can't run or running rate turns slow make the operating temperature too high.	2) a. Take out the winker that locks the fan.	
		2) b. Replace it.	
	3) Temperature of the water added in humidifier bottle is too high.	3) Add cold water in bottle.	
4) The water added in humidifier bottle is too much.	4) Water added should between the maximum and minimum of the liquid level.		

## **6. TROUBLESHOOTING**

<b>Symptom</b>	<b>Probable Cause</b>	<b>Solution</b>
Concentrator works, but yellow light illuminates.	1) Concentrator's oxygen concentration is safe, but decreasing.	1) Clean or Replace filters.
	2) Unit overheating due to blocked air intake.	2) Move concentrator at least 10 cm (4 inches) away from walls, draperies, furniture, or similar surfaces.
	3) If condition persists, OK to continue use, but contact Equipment Provider immediately.	
Concentrator doesn't work, red light illuminates, continuous audible alarm sounds.	1) Low pressure alarm.	1) Clean or Replace filters.
	2) If condition persists, discontinue use, contact Equipment Provider immediately.	
Concentrator doesn't work, red light illuminates, continuous audible alarm sounds.	High pressure alarm.	Contact Equipment Provider immediately.
Concentrator doesn't work, continuous audible alarm sounds.	Compressor open circuit alarm.	Contact Equipment Provider immediately.
Concentrator doesn't work, continuous audible alarm sounds.	Compressor short circuit alarm.	Contact Equipment Provider immediately.

**NOTE:** If you experience a problem with your concentrator and are unable to service it yourself, contact the equipment provider from whom you purchased the concentrator.

## **7、 OTHER ATTENTIVE ITEMS**

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### **7.1 Post-marketing service**

- a) In normal use and normal maintenance circumstances, if the Oxygen Concentrator can not be normally used in half a year since delivery date (or in a year of commerce storage)(compressor 3 years), the company is responsible for repair for free or change for free; if it can not be normally used in half a year, user can contact the post-sales service department, office or agents for repair for free based on invoice and repair guarantee card; If it can not be normally used after one year, the company can provide accessories and repair with reasonable charge.
- b) The following cases is not in scope of repair guarantee: ① damage of distortion of the integral equipment caused by collision; ② water or rain entering integral equipment; ③ Equipment out of gear caused by water and drug; ④ Articles easily to damage or easily to consume, grade I filtration net, filtration carpet; damping filter, damping tube.

### **7.2 Treatment of waste and residual**

The treatment of waste and residual shall be conforming to law and regulations.

The change of electric circuit and appearance caused by improvement of equipment will not be informed additionally

## **7、 OTHER ATTENTIVE ITEMS**

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### **7.3 Accessories and spare parts**

The accessories used must be oxygen compatible and be biocompatible.

Note: The connectors, tubes, nasal cannula or masks must be designed for oxygen therapy usage. Included in the set of accessories supplied with the device, comply with these requirements. Contact your equipment supplier to obtain these accessories.

List of accessories:

- Humidifier bottle           1 Set
- Connection tube of humidifier bottle   1 Set
- Atomizer           1 Set
- Oxygen tube   1 Set
- User manual   1 Set
- Warranty Card   1 Set
- Qualification certificate 1 Set

## **7、 OTHER ATTENTIVE ITEMS**

### **7.4 Electric and magnetic environment guidance in use**

<b>Guidance and declaration of manufacturer -Electromagnetic emission</b>		
The JMC5A Ni Oxygen Concentrator is intended for use in an environment specified below. The customer of the user of JMC5A Ni Oxygen Concentrator should assure that the unit is used in such an environment.		
<b>Emission test</b>	<b>Compliance</b>	<b>Electromagnetic environment- regulations</b>
RF emissions CISPR 11	Group 1	The JMC5A Ni Oxygen Concentrator uses RF energy solely for its internal function. Therefore, its RF emission are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The JMC5A Ni Oxygen Concentrator is suitable for use in all establishments, including domestic and those directly connected to the public
Emission of harmonics IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	low-voltage power supply network that supplies building used for domestic purposes.

## 7. OTHER ATTENTIVE ITEMS

<b>Guidance and declaration of manufacturer -Electromagnetic Immunity</b>			
The JMC5A Ni Oxygen Concentrator is intended for use in the electromagnetic environment specified below. The customer of the user of JMC5A Ni Oxygen Concentrator should assure that the unit is used in such an environment.			
Immunity	IEC 61000-4-2 test level	Compliance level	Electromagnetic environment-guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact discharge ±8 kV Air discharge	±6 kV contact discharge ±8 kV Air discharge	Floors should be wood or concrete or ceramic tile. If floors are covered with synthetic materials, the relative humidity must be at least 30%.
Electrical fast transient /bursts IEC	±2 kV for power supply lines ±1 kV for input/output	±2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common	±1 kV differential mode ±2 kV common	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and Voltage variations on power supply input lines IEC 61000-4-11	< 5 % UT (>95 % dip in UT)	< 5 % UT (>95 % dip in UT)	Mains power quality should be that of a typical commercial or hospital environment. If the user of the JMC5A Ni Oxygen Concentrator requires continued operation during power mains interruptions, it is recommended that the JMC5A Ni Oxygen Concentrator be powered from an interruptible power supply or a battery
	40 % UT (60 % dip in UT) for 5 cycle	40 % UT (60 % dip in UT) for 5 cycle	
	70 % UT (30 % dip in UT) for 25	70 % UT (30 % dip in UT) for 25	
	<5 % UT (95 % dip in UT) for 5 sec	<5 % UT (95 % dip in UT) for 5 sec	
Power frequency (50 Hz) magnetic IEC 61000-4-8	3 A/m	Due to the EUT contains no components susceptible to magnetic field, it is deemed to fulfill the relevant immunity requirement without testing.	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
Note: UT is the a.c. mains voltage prior to application of the test level.			

## 7. OTHER ATTENTIVE ITEMS

Guidance and declaration of manufacturer -Electromagnetic Immunity			
The JMC5A Ni Oxygen Concentrator is intended for use in the electromagnetic environment specified below. The customer of the user of JMC5A Ni Oxygen Concentrator should assure that the unit is used in such an environment.			
Immunity	EC61000-4-2	Compliance level	Electromagnetic environment-guidance
directed HF interference acc. to IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 V	Portable and mobile RF communications equipment should be used no closer to any part of the JMC5A Ni Oxygen Concentrator, including cables than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.  Recommended separation distance: $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ 80 MHz to 800MHz $d = 2.3 \sqrt{P}$ 800 MHz to 2.5GHz Where $P$ is the maximum output power rating of the transmitter in Watt (W) according to the transmitter manufacturer and $d$ is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters as determined by an electromagnetic site survey <sup>a</sup> should be less than the compliance level in each frequency range. <sup>b</sup> Interference may occur in the vicinity of equipment marked with the following symbol:
Radiated RF IEC	3 V/m 80 kHz to 2.5 GHz	3 V/m	
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
<p>a Field strengths from fixed transmitters, such as base stations of radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and television broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the <i>JMC5A Ni Oxygen Concentrator</i> is used exceeds the applicable RF compliance level above, the <i>JMC5A Ni Oxygen Concentrator</i> should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the <i>JMC5A Ni Oxygen Concentrator</i>.</p> <p>b over the frequency range from 150 kHz to 80 MHz, the field strengths should be less than 3 V/m.</p>			

## 7、 OTHER ATTENTIVE ITEMS

Recommended separation distances between portable and mobile RF communication equipment and the <i>JMC5A Ni Oxygen Concentrator</i> .			
The <i>JMC5A Ni Oxygen Concentrator</i> is intended for use in an electromagnetic environment in which radiated RF disturbances are control . The customer or user of the <i>JMC5A Ni Oxygen Concentrator</i> can help to help prevent electromagnetic interferences by maintaining minimum distances between the portable and mobile RF communication equipment (transmitters) and the <i>JMC5A Ni Oxygen Concentrator</i> as recommended below, according to the maximum output power of the communication equipment.			
Rated maximum output power of transmitter (W)	separation distance according to frequency of transmitter(m)		
	150 kHz to 80 MHz $d=1.2\sqrt{P}$	80 MHz to 800 MHz	800 MHz to 2.5 GHz
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 is not listed above, the recommended separation distance 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. Specified by the transmitter manufacturer.			
NOTE 1 At 80MHz and 800MHz, the separation distance for the higherfrequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			



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