Portable Medical Oxygen Concentrator
User Manual

PO3/PO5

Registrant/Manufacturing enterprise：RESPIRCARE

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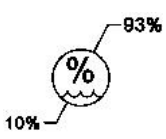
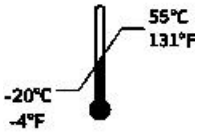
Contents

Identification

Identification	Describe	Identification	Describe
	Smoking prohibited		No open fire
	Use temperature limit		Do not use oil or grease
	Electrical shock protection type class		Do not disassemble
	Refer to instructions		Discard this product has to send the product to the appropriate facility
	Please consult the attached documents before use		Afraid of the rain, please keep the machine and the accessories dry
CE 0197	European Conformity	EC REP	European authorized representative
	Name and address of the manufacturer	SN	Sequence number
	Type BF equipment		Date of manufacture
IP21	Safety protection level Prevent solid foreign body entry, 12.5mm diameter. Prevent water from entering, dripping vertically.		Pay attention to! Consult random files
	This is facing		Light light on fragile items
	Limit humidity to between 10and 93 %		Limit temperature to between -20 and 55 ℃

	Do not stack >4 high		No stepping
	Recyclable		Indoor use
	Compliance with the ROHS standards		Compliance to IEC60601-1 standard
	Give an alarm		Sound pause

Warning and Precautions

Before using the equipment, please read all the manual carefully to avoid personal injury and property loss caused by non-standard operation.

Serious warning

1. The oxygen-rich environment generated during the use of the equipment may cause a fire. Do not keep the Oxygen Concentrator or accessories close to the spark or open flame.
   Do not smoke in the room using the Oxygen Concentrator or in the space of the attached Oxygen Concentrator / oxygen outlet, which may cause facial burns or death.
   Oxygen machine is strictly prohibited in spaces with combustible gases and dust.
   It is strictly prohibited to place the medical nasal oxygen tube near the bedding, curtains and other combustible materials.
   Before and during the equipment, in order to avoid fire, please use water-based lotion or cleaning paste with oil, grease, grease, petrochemical products and other flammable materials.
2. To avoid fire, do not allow lubrication of the fittings, connectors, lines, or other accessories of the Oxygen Concentrator. The device is not used as a life support or life support device and is not suitable for newborns and infants.
   Please use the product for the intended purpose as specified in the specification.
   The expected service life of this product is 5 years. Service life depends on the service environment and later maintenance; harsh service environment will shorten the service life of the equipment.
   When the oxygen machine is used by elderly, children or other patients unable to express their physical discomfort.

Patients with hearing or visual impairment need caregivers to help monitor the alarm information.

Pulse gear settings must be set to each patient, such as rest, exercise, travel.

If you feel unwell during treatment or have an emergency, please seek medical attention immediately or seek medical assistance.

3. Electric shock danger.

   Before cleaning, ensure that it is turned off and that the power supply is removed from the socket.

   Only equipment suppliers or qualified maintenance engineers can be dismantled or maintained.

   Do not let the equipment get wet or enter the water, once this situation will cause the equipment failure or shutdown, but also will increase the risk of electric shock.

4. Do not wipe the machine with a corrosive liquid.

   The use of chemical cleaners in the machine shell may damage the plastic shell of the equipment, which contains but is not limited to the following list: high concentration of chlorinated solution (chloroethane), solutions of oil products, etc. Only the body, control panel and power cord can be cleaned with wet cotton cloth or sponge stained with household neutral cleaning solution, and then dry the cleaning parts. Note that the liquid should not be allowed inside the machine. Pay special attention to ensure that the oxygen outlet is free of dust, water, or other particles.

5. Oxygen machines should not be used closely against or stacked on other equipment. If inevitable, it is necessary to observe whether the machine can operate properly before use.

   The equipment can not be modified and disassembled arbitrarily, and any changes made to the equipment may damage the performance or damage to the equipment, and will invalidate your warranty.

   Use of non-original power cables and power adapters may cause safety hazards or damage to equipment performance.

   Only the voltage identified in the device label can be used.

   Do not use an extended power cord, or put too many plugs into the same socket.

   Extending the power cord may affect the performance of the machine, too many plugs on the same socket may cause overload and fuse fuse, even fire if the fuse is not working.

6. Operating in an environment outside the operating specifications may reduce the oxygen concentration of the generator.

7. Incorrect use of batteries can cause the battery to heat up, burn, and can cause serious injuries.

   Be sure not to puncture, strike, trample, knock on the battery, or other impacts that will have an important impact on the battery use. Using damaged batteries can cause injuries.

   Do not expose the battery to the fire source, or throw it into the fire, which will cause the battery to explode, and cause a potential risk of injury.

   Do not short-circuit the battery with a metal item such as keys or coins, which can create sparks, or a lot of heat.

8. Use taboo：

   In some cases, the use of over-the-counter oxygen is dangerous, and the device should be used under the guidance of the physician.

   Can not be used in a flammable anesthetic gas environment.

9. As an electrical device, the user may experience that the device cannot work when the power supply is temporarily interrupted or exhausted. This oxygen machine is not suitable for patients with adverse health consequences due to temporary shutdown opportunities.When the oxygen machine is used in the car, it needs to be properly fixed to prevent damage to the equipment or personnel injury.
   If the Oxygen Concentrator falls, damaged, or water, contact the equipment supplier for inspection or repair.
   Do not use a damaged power cord or plug.
10. Please do not expose the equipment to precipitation or rain or snow. Do not operate the Oxygen Concentrator in the rain, which may cause electrical shocks and equipment damage.
    Do not use this product in a high temperature and high humidity environment (such as an unmanned car in a high temperature environment or a high humidity bathroom) to avoid damage to the equipment.
    Without using the local machine, the power plug must be unplugged。
11. The maximum flow rate provided by the backup continuous oxygen supply function is 0.66,0.88 and 1 L/min, respectively. Please choose according to the doctor's advice. Users with severe low oxygen or requiring high-flow oxygen inhalation should use it carefully.

Warning

1. Put the Oxygen Concentrator correctly
   a) Smoke and pollutants should be avoided as far as possible.
   b) Make sure that the power cord and oxygen line of the Oxygen Concentrator are not kink.
   c) Do not use the Oxygen Concentrator in a small space or in a poorly ventilated and restricted space (e. g., small cartons, handbags), which will cause it overheating and affect the oxygen production effect.
   d) Check whether the air inlet and exhaust gas outlet of the Oxygen Concentrator are blocked, and do not plug anything into the hole of the Oxygen Concentrator.
   e) When using an Oxygen Concentrator on a car, ship, or other vehicle with a DC power supply, ensure that the vehicle is activated before it is connected. If the DC power indicator is not on, first disconnect the DC power, restart the vehicle, and then reconnect the DC power, otherwise the power will not power the Oxygen Concentrator.
2. The manufacturer recommends that users prepare oxygen storage equipment that can replace the Oxygen Concentrator in case of power failure or mechanical failure.
   a) Ask your physician to select your backup oxygen source equipment.
   b) It is very important to choose the oxygen flow rate prescribed; it should not be changed unless recommended by a qualified physician.
   c) To use a portable oxygen machine during sleep, please consult a qualified physician first.
3. If the Oxygen Concentrator is stored for a long time beyond the normal operating temperature, allow the Oxygen Concentrator temperature to return to within the operating

temperature before running the machine.(Refer to the specification section of the manual)

a) Operating or storing the oxygen machine outside the normal operating temperature of the oxygen machine will affect the performance of the oxygen machine, and will reduce the battery running time and increase the charging time of the battery.(Refer to the specification section of the manual)

b) Store the Oxygen Concentrator and spare battery (optional) in a dry and cool position to ensure battery life. Prolonged battery placement at high temperature / full charge / full discharge reduces battery life. Do not remove the battery. There are no serviceable parts inside the battery. Place the battery beyond the reach of the children.

c) Only the batteries provided by the manufacturer can be used. Please follow the local regulations when scrapping the batteries.

4. When the Oxygen Concentrator alarms or is poorly, see the troubleshooting section of the manual. If you cannot resolve the problem, please contact your equipment supplier.
   For troubleshooting problems, do not try maintenance. Do not disassemble the shell, only your equipment supplier or qualified maintenance personnel can dismantle the machine for maintenance.

Pay attention

1. For the Oxygen Concentrator to correctly detect breathing and deliver pulse oxygen, make sure the nasal oxygen tube is properly installed.

   a) While inhaling, you should hear or feel the oxygen flowing into the nasal oxygen tube.

   b) Use the nasal oxygen tube correctly according to the manufacturer's instructions. Replace the nasal oxygen tube as recommended by the manufacturer or the equipment supplier, and other accessories can be purchased from the equipment supplier.

2. The oxygen machine accessories purchased by yourself that are not within the specification may affect the performance of the oxygen production machine. It is recommended to refer to the manual for purchasing the accessories.

a) For equipment supplier: The following accessories are recommended with Oxygen Concentrator: disposable nasal oxygen pipe (nasal oxygen pipe cannot be kinked).

3. Do not run the Oxygen Concentrator if you do not have an intake filter.

   a) If there are replaceable filters, install the replaceable filter before running the Oxygen Concentrator.

   b) Manufacturers do not recommend to give the equipment sterilization treatment.

4. In case of warranty failure, please follow the manufacturer guidelines.

5. Most electrical appliances are susceptible to radio frequency interference, so the use of portable and mobile RF communication equipment near the Oxygen Concentrator can interfere with the machines.

6. To ensure good oxygen efficacy results, the device must be used at your specific level of activity, otherwise the pulse may not be triggered.

7. Below or beyond the specified breathing rate, temperature, humidity range may affect the effective inhaled oxygen concentration.

Notes on the battery

1. For all oxygen machines with equipped batteries：

   a) Select the battery supplied by the equipment manufacturer and contact the equipment manufacturer for replacement.

   b) Incorrect use can cause battery high temperature, combustion and even cause personal injury.

   c) Be sure not to prick, hit, trample, knock the battery, or other impacts that will have an important impact on the battery use.

   d) The battery of the Oxygen Concentrator does not need to be discharged before charging. It is recommended to charge the battery after each use.

   e) When the battery is fully charged or fully discharged, and is placed in a very hot environment, the lithium battery can easily permanently reduce its capacity.

   f) To ensure normal battery storage and transportation, it is recommended to keep 20%~50% of the battery power, and to be placed in an environment with 23℃± 2℃.

   g) When not used for a long time, please remove the battery from the equipment, and pay attention to protect the battery electrode, do not contact with metal and other conductors, to prevent fire and other hazards.

   h) Please keep the battery out of reach of children to avoid danger.

2. For all oxygen machines equipped with batteries：

   a) When the device is connected to the adapter power supply, the battery is charged until full, whether the Oxygen Concentrator is shut down or running.

   b) When the adapter power supply is connected and the device is in operation, the device will automatically switch to the trickle charging state, and the charging speed will slow down.

Preface

RESPIRCARE portable oxygen machine adopts the principle of variable pressure adsorption (Pressure Swing Adsorption), which takes air as raw material, without any other additives, adsorbs nitrogen and other gases through the zeolite molecular sieve, and separates 93 ± 3% concentration of oxygen-rich air. Please read and understand this manual carefully before use, which allows you to use the device safely and effectively.

This product can be used in home, institutional and travel / mobile environments, and shall be used by a qualified and trained person, under the guidance of a doctor, within the prescribed technical specifications.

Intended use and contraindications

The PO3/PO5 series is a portable Oxygen Concentrator that is intended to release oxygen for oxygen therapy by means of pressure adsorption atmospheric pressure desorption method. It supplies a pulsed high concentration of oxygen and is used with a nasal cannula to channel oxygen from the concentrator to the patient. The PO3/PO5 is small, portable and may be used in home, institutional, or travel environment.

The Portable Oxygen Concentrator is composed of a main unit, the main unit includes the filter, compressor, molecular sieve adsorption separation device, control device, operation panel, oxygen concentration monitoring device and pulse valve.

Intended use：

The PO3/PO5 series is a portable Oxygen Concentrator that is intended to provide supplement oxygen in home, institutions or remote locations.

Contraindication ：

• Patients with oxygen poisoning and oxygen allergy are prohibited
• The backup continuous oxygen supply function of this equipment is not suitable for High-flow oxygen inhalation

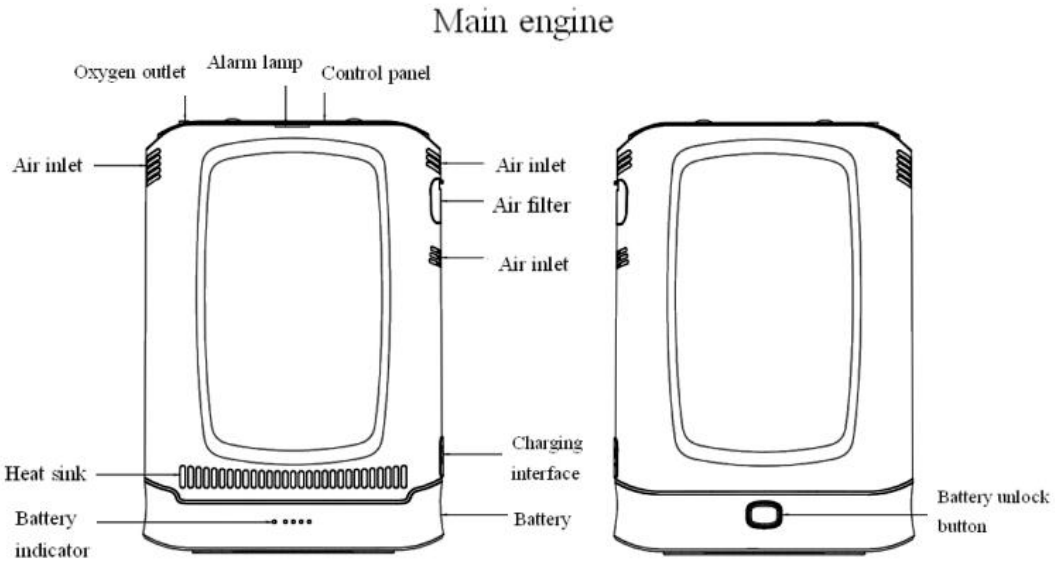
Intended Users：

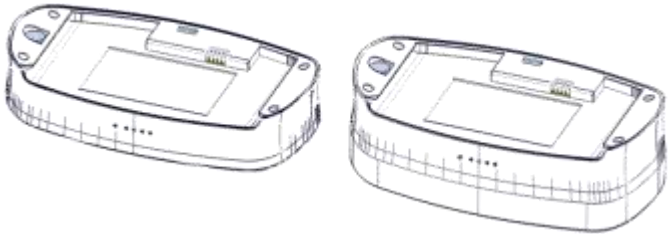
Doctor, clinical nurses and the trained adult in home use.

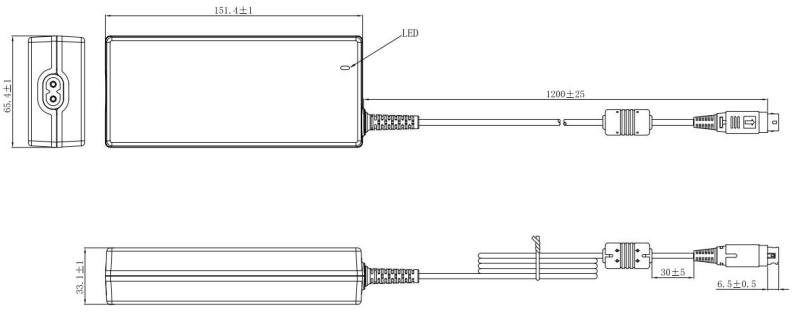
Intended patient population and medical condition：

The device is used for adult, and for patients suffer from hypoxia or in need of supplement oxygen.

Equipment composition







Power Adapter (with power cord)

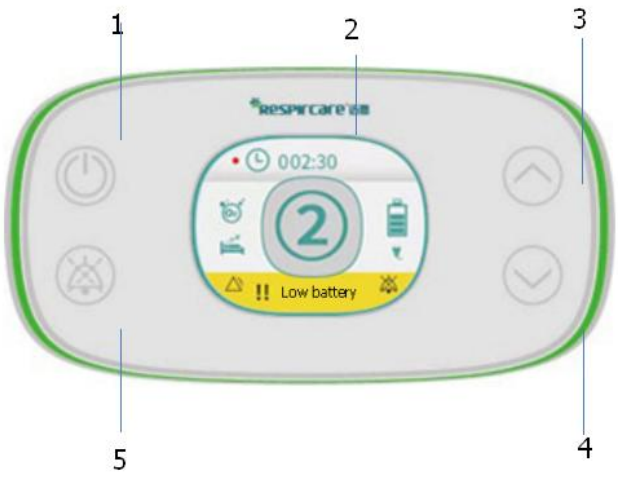
Version : DA-100A19

Input~220V ,50HZ, 2.0A

Output : 19V ⎓ 5.26A

- Select the power adapter from the equipment manufacturer and contact the equipment manufacturer for replacement.

Control panel



1 Power button: long press for 3 seconds the device screen bright, long press boot operation. When the device runs for 3 seconds, the device stops running and the device screen goes off.

2 Information display screen: Display the running status.

3 File adjustment button +: increase the running gear position.

4 Gear adjustment button- / backup continuous oxygen supply function (if any): reduce operating gear. Press the "backup continuous oxygen supply function" for 3 seconds. When the device first runs in pulse mode, when the pulse oxygen supply is not triggered for 10 seconds, the device will automatically convert into continuous flow output, and the device will issue a "undetected breathing" sound and light alarm in the 15th second. Press 3 seconds to exit "backup continuous oxygen supply function", and the device switches to pulse oxygen supply mode.

5 Silent button: turn on mute, sound alarm pause for 2 minutes, alarm and mute pause icon will be displayed on the screen simultaneously.

(Note: Carefully use the mute button because it mute the basic audio signal related to the status of the device)

(Note: The style content of the control panel may change as there is no alarm information, silent state, no fault, and gear change, for reference only. The actual display is subject to the running state of the equipment.)

Display screen

1．Fault indicator: the indicator is on red when the fault occurs.
2．Cumulative running time.
3．Pulse trigger display: The icon flashes once when the breath trigger pulse is triggered.
4. File display area: display the device in gear.
5. Backup continuous oxygen supply function display: when the backup continuous oxygen supply function is opened.
6．Battery power display: display the battery remaining power.
7.Charging status display: external adapter connected and power on, the icon lit.
8．Alarm icon: when there is an alarm, the icon appears.
9. Sound pause state display: open the mute key to enter the alarm sound pause, during which the sound alarm signal is disabled, and the alarm state is restored after two minutes.
10 .Alarm information warning area: display the alarm status and prompt information.
(Note: Display style content may change with whether there is alarm information, silent state, no fault, gear change, for reference only, the actual display is subject to the running state of the equipment.）

Instructions

1．Before opening the Oxygen Concentrator, check that the equipment air intake and heat sink are not covered.

2．The power comes from the a battery, the b adapter.(Refer to the power connection section in the user's manual）

3．Connect the disposable nasal oxygen tube to the oxygen outlet.

Note: this equipment is a pulse oxygen supply mode, using this equipment, must be connected with the nasal oxygen pipe for use.
Note: For the Oxygen Concentrator to properly detect breathing and deliver pulse oxygen, ensure that the nasal oxygen tube is properly installed without kink or obstruction.

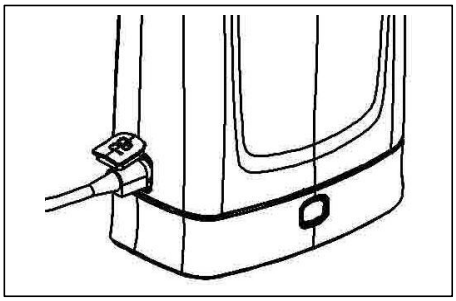
4．Long press the power button to start the device.

5．Adjust the required gear with the + / -push button.

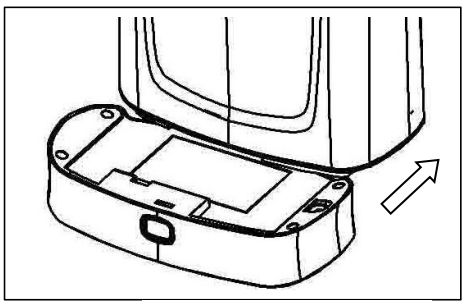
6．The maximum oxygen flow required after opening the equipment is not greater than 5 minutes.

7．Long press the power button, and the device is shut down.

（Failure to use the equipment as prescribed may cause damage to it and invalidate the warranty。）



Charging interface connection mode



Battery installation mode

Alarm

Portable Oxygen Concentrator is equipped with visual alarm signal and sound alarm signal, visual alarm signal contains alarm indicator lamp and LCD screen alarm display area, alarm in the process of use, the operator is located in front of the portable Oxygen Concentrator, can clearly observe the visual alarm signal, then should be processed according to the actual situation as soon as possible, to avoid risk.

When using the equipment, the operator needs to be in the same room as the equipment, and within less than 1 meter, in order to observe the equipment alarm (visual alarm signal and sound alarm signal (not less than 60dB)).

In the visual alarm signal display area，  show alarm,  indicates a voice pause，The alarm type is written in the alarm display area, and the alarm display light turns on yellow.

When the sound alarm occurs, press the mute key to pause the sound alarm for 2 minutes, and the symbol appears in the visual alarm interface  ，Press the mute button again，Turn on the sound alarm，symbol  disappear.

The following alarms are medium priority (used in visual alarm "!!"Represents), and uses internal prioritization. If multiple alarms occur at the same time, they will circulate in the alarm information display area.

The following table lists all alarms from the highest priority to the lowest priority：

alarm	point out	measure	priority
Internal high pressure alarm (Oxygen storage tank pressure is greater than 0.25Mpa±0.02Mpa)	●Red "high internal pressure" alarm interface ●Yellow alarm indicator light ●Sound alarm signal	●Press the start / stop button, and the sound stops； ●Contact manufacturers	middle rank
Low battery power alarm (When the battery power is displayed as one grid / space)	●Yellow "low battery power" alarm interface ●Yellow alarm indicator light ●Sound alarm signal●Yellow "power out" alarm interface	●Charge through either DC or alternating current ●Contact manufacturers	middle rank
No respiratory alarm was detected (No respiratory pulse trigger was detected within 15 seconds)	●Yellow "no breath detected" alarm interface ●Yellow alarm indicator light ●Sound alarm signal	●Check that the nasal oxygen tube is worn correctly. ●Check whether the nasal oxygen tube is discounted and other affected ventilation ●Contact manufacturers	middle rank
Too low oxygen concentration alarm (Output gas oxygen concentration is less than 82%)	● Yellow "low oxygen concentration" alarm interface ● yellow alarm indicator light	● Press the start / stop button, and the sound stops; ● contacts the manufacturer	middle rank

	● sound alarm signal		
Internal fault alarm (Compressor or cooling fan fault stops working)	● yellow "internal fault" alarm interface ● yellow alarm indicator light ● sound alarm signal	● Press the start / stop button, and the sound stops; ● contacts the manufacturer	middle rank
Internal high temperature alarm	● yellow "high internal temperature" alarm interface ● yellow alarm indicator light ● sound alarm signal	The ● checks whether the operating temperature requirements are exceeded. ● takes the equipment to the suitable temperature conditions, until the equipment is cooled and tested. ● Check the air inlet and the outlet is blocked. Please try to clear it up. ● contacts suppliers or Mace Medical, Inc	middle rank
Regular maintenance and maintenance alarm (If the machine reaches the maintenance time limit)	● yellow "Maintenance time to" alarm interface ● yellow alarm indicator light ● sound alarm signal	● Press the start / stop button, and the sound stops; ● contacts suppliers or Mace Medical, Inc	middle rank
Alarm system fault alarm (Abnormal communication of the alarm system)	● yellow "Alarm system fault" alarm interface ● yellow alarm indicator light ● sound alarm signal	● Press the start / stop button, and the sound stops; ● contacts the manufacturer	middle rank
External power outage alarm (Power supply / power grid drops below the rating until the power supply failure alarm state intermediate alarm sound alarm or the equipment switches to the internal power supply to maintain normal operation)	●The adapter insertion icon disappears on the display interface ● If the battery fails, an sound alarm signal appears ●Yellow alarm indicator light	●If the equipment can be normally switched to the battery power supply, no measures need to be taken. ●If the equipment cannot be switched to the battery supply, please contact the supplier or Max Medical Company	middle rank

Cleaning and maintenance

! warn：To prevent electric shock, disconnect the portable Oxygen Concentrator before cleaning.

- Equipment body

Oxygen machine case (once a month): dip a little detergent with a wet towel, wipe the outside of the case, and then use dry hair

The towel dry.

! warn：Do not place a portable Oxygen Concentrator in any liquid environment.

- filtrating equipment

Please check monthly and if the filter surface is too dusty, contact the equipment supplier for purchase.

- Portable package
  Brush the portable bag and bag strap with mild soap water, do not completely soak the bag into the soap water, and dry directly in the air after washing. No mechanical washing or dry cleaning.

Service and maintenance

The maintenance cycle of the portable Oxygen Concentrator is about once a year, and only the professionals in the maintenance center, such as authorized personnel or factory-trained staff, can be repaired or debugged.

- If the portable Oxygen Concentrator fails, please contact Mace Medical Corporation or the seller.
- To ensure the long-term use of this portable Oxygen Concentrator, users must comply with the portable Oxygen Concentrator safety and cleaning and maintenance instructions.
- For replacement, use special accessories provided by Math Medical.
- The portable Oxygen Concentrator lasts for five years (under a normal working environment and normal maintenance strip).

- Molecular sieve is consumable, oxygen concentration is reduced or needs to be replaced for one year, otherwise oxygen concentration may be affected. Long-term placement or operation in wet environment may shorten the life of molecular sieve.
- The disposable nasal oxygen tubes are used and replaced according to their use instructions.
- After about 300 cycles, the battery is reduced to less than 80% or less, and replacement is recommended.
- When the portable oxygen machine and its accessories are beyond the use period, do not discard it arbitrarily, please contact the Mace Medical Company or the seller for processing.
- When requiring warranty services, we may provide the product circuit diagram and repairable component data to our identified qualified technical personnel if required.
- See the label for the portable oxygen machine production date.
- See the warranty card for the warranty instructions.

Live time

classification	Live time
Oxygen machine host	Five years；lustrum
Molecular sieve	Oxygen concentration was reduced or used for one year
Battery	300 full charge and discharge
A disposable nasal oxygen tube was used	See the product accompanying documents

- When the Oxygen Concentrator host approaches the service period, it may cause the equipment performance to decline or the equipment failure. Please timely pay close attention to the flow rate, concentration, fault and other related alarm information.
- When the molecular screen is close to the service period, it may increase the internal pressure and the oxygen concentration decreases. Please timely pay close attention to the pressure, concentration, molecular sieve replacement reminder and other relevant alarm information.
- When the battery is close to the service life, it may lead to abnormal conditions such as uncharging, slow charging, poor discharging, and sharp endurance decline. Please timely pay close attention to the battery status, battery health, battery replacement and other related alarm information.

- Note: The service period in the table is the recommended value, and the actual service period will change with the actual use environment and the actual use situation. Please pay close attention to the equipment usage status and relevant alarm tips.

Troubleshooting

If your Oxygen Concentrator pulse oxygen cannot be delivered normally, follow the following contents for the possible failure causes and solutions, and consult your equipment supplier if necessary.

Fault problem	Probable cause	Solution
When the power button is pressed, the device does not function properly	Total power consumption Oxygen machine failure	Charging by DC or AC Contact the supplier or RESPIRCARE.
No oxygen outflow during use	Bend of nasal oxygen tube The nasal oxygen tube was leaking No indicated nasal oxygen tubes were used Control system failure	Flat the nasal oxygen tube to ensure that it is not bent. Check the nasal oxygen tube and nasal oxygen tube connection with the equipment. Use the designated nasal oxygen tube. Contact suppliers or RESPIRCARE
Can't boot	If outdoors, for example in a car, the Oxygen Concentrator may be too high or too low.	It will take several minutes to get the Oxygen Concentrator to reach the normal temperature required to work. Use the power adapter to restart the host battery
Battery charging delay	The internal battery temperature exceeds the charging temperature	The device is operational: but does not recharge until the temperature drops
Other problems		Contact suppliers or RESPIRCARE

Technical indexes of equipment

Product Name	Portable Medical Oxygen Concentrator
Specifications and models	PO3/PO5
Product Classification	Medical device class II, type BF Waterproof grade IP21 Follow the line mode, continuous operation
Oxygen Concentration	93±3% (V/V)
Oxygen pulse volume at each gear	

Respiratory rate	1st gear	2nd gear	3rd gear	4th gear	5th gear
15 times/minute	11 ml	22 ml	33 ml	44 ml	55 ml
20 times/minute	11 ml	22 ml	33 ml	44 ml	50 ml
25 times/minute	8.8 ml	17.6 ml	26.4 ml	35.2 ml	40 ml
30 times/minute	7.3 ml	14.7 ml	22 ml	29.3 ml	33.3 ml
35 times/minute	6.3 ml	12.6 ml	18.9 ml	25.1 ml	28.6 ml

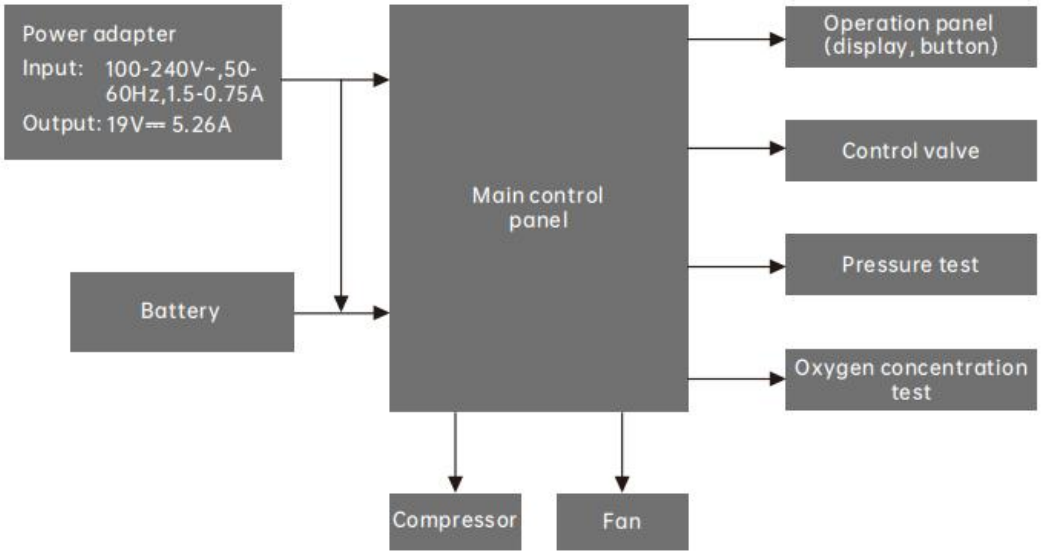
	40 times/minute 5.5 ml 11 ml 16.5 ml 22 ml 25 ml Oxygen pulse volume error was ± 15% under rated ambient conditions PO3 Choose 1~3 gear PO5 Choose 1~5 gear
Backup continuous oxygen supply function	PO5 is 1000mL/min (error ± 20%); PO3 is 660 mL/min (error ± 20%);
Size	Length 188mm, wide 98mm ,height 273mm
Net weight	2.0Kg
source	General power supply AC power supply: input~220V, 50Hz, 2.0A DC power supply: output 19V, maximum current 5.26A
Battery life (rechargeable lithium battery)	The continuous running time of the third gear shall not be less than 1.5 hours
Warm up time	<5 Minutes
Noise	≤ 60 dBA
Battery life	After about 300 cycles, the power decreases to 80% or less
Give an alarm	Low battery power alarm：acousto-optic Internal high pressure alarm：acousto-optic Too low oxygen concentration alarm：acousto-optic Internal fault alarm：acousto-optic Internal high temperature alarm：acousto-optic External power outage alarm：acousto-optic No respiratory alarm was detected：acousto-optic Alarm system fault alarm：acousto-optic Regular maintenance and maintenance alarm：acousto-optic
Environment condition	Normal operation ： Temperature 5℃-40℃ Relative humidity: 35% -93% (no condensation) Storage and transportation conditions： Temperature-20℃-55℃ Relative humidity: 10% -93% (no condensation)

The above data are based on an atmospheric pressure of 101KPa and a temperature of 21℃

It is recommended that it can be used normally in terrestrial environments below 1828 m, and not in environments above 1828 m, which may lead to a decrease in oxygen concentration. Specific changes are shown in the table below。

Altitude（m）	Below 1828m	2000	3000	4000
At 1L/min，oxygen concentration（%）	92	91	89	85

Circuit block diagram



Packing list

Serial No	Name	Quantity	Remarks
1	Portable oxygen concentrator	1	Standard configuration
2	Power adapter	1	Standard configuration
3	Power line	1	Standard configuration
4	User's guide	1	Standard configuration
5	Certificate	1	Standard configuration
6	Warranty card	1	Standard configuration
7	Nasal Oxygen Cannula	1	Optional
8	Large capacity battery	1	Standard configuration
9	Filter cotton	3	Standard configuration
10	Packing list	1	Standard configuration

Appendix A

Electromagnetic Compatibility

Your equipment has been designed to EMC throughout its life without additional maintenance There is always an opportunity to reposition your portable Oxygen Concentrator in other devices that contain their own unknown EMC behavior If you think your equipment is affected by other proximity equipment, just separate the equipment to eliminate the parts Basic performance: the equipment can has normal parameters and the set parameters will not be changed at will; The equipment can output gas without abnormal situation

Portable Medical Oxygen Concentrator includes:PO3 /PO5。

WARNING:

★ In order to ensure the electromagnetic compatibility of portable medical oxygen concentrator, the device needs to be installed, conditioned and used as directed in the accompanying documents. In case the electromagnetic compatibility of portable medical oxygen concentrator is affected by any portable and mobile radio frequency communication equipment, please contact Shenyang RMS Medical Tech Co., Ltd for support.

★ Electromagnetic compatibility: Electromagnetic compatibility refers to the ability of the equipment to has a certain degree of immunity to electromagnetic interference existing in the environment, while not causing similar electromagnetic radiation interference to other equipment. Portable medical oxygen concentrator will not cause interference to characteristics of other equipment through air or the connecting cables.

★ Portable medical oxygen concentrator should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the device should be observed to verify normal operation after being correctly configured.

★ The use of power adapter and power cords other than those supplied for the device by RMS is not recommended. They may result in increased emissions or decreased immunity of the device.

S. N.	Name	Length (m)	Shielded or Not
1	Power cord	1.5	No
2	Power adapter cord	1.2	Yes

Guidance and Manufacturer's Declaration-Electromagnetic Emissions: Portable medical oxygen concentrator is intended for use in the electromagnetic environment specified below, and the buyer or user of this device should assure that the device is used in such an environment.

Emission Test	Conformity	Electromagnetic Environment-Guidance
RF emissions CISPR 11	Group 1	The portable medical oxygen concentrator uses RF energy only for its internal function. As a result, its RF emissions are low and there is little potential for interference to nearby electronic equipment.
RF emissions CISPR 11	Class B	The portable medical oxygen concentrator is intended for use in all establishments, including

Harmonic emission IEC61000-3-2	Class A	domestic establishments and those directly connected to the public mortgaged power supply network that supplies buildings used for domestic purposes.
Voltage fluctuation/Flicker emission IEC61000-3-3	Conforms	

Guidance and Manufacturer's Declaration-Electromagnetic Immunity-for all equipment and systems:

Portable medical oxygen concentrator is intended for use in the electromagnetic environment specified below, and the buyer or user of this device should assure that the device is used in such an environment.

Immunity Test	IEC60601 Test Level	Compliance Level	Electromagnetic Environment-Guidance
Electrostatic discharge (ESD) IEC61000-4-2	± 6 kV contact discharge ± 8 kV air discharge	± 6 kV contact discharge ± 8 kV air discharge	The floor shall be made of wood, concrete or ceramic tiles. If the floor is covered with synthetic materials, the relative humidity shall be at least 30%
Electrical fast transient/burst IEC61000-4-4	± 2 kV for power cord ± 1 kV for input/output cords	± 2 kV for power cord NA	The mains supply shall be of a quality typical of that used in a commercial or hospital environment
Surge IEC61000-4-5	± 1 kV cord to cord ± 2 kV cord to ground	± 1 kV cord to cord NA	The mains supply shall be of a quality typical of that used in a commercial or hospital environment
Voltage dips, short interruptions and voltage variations on power supply input cords IEC61000-4-11	< 5% UT for 0.5 cycles (> 95% dip in UT) 40% UT for 5 cycles (60% dip in UT) 70% UT for 25 cycles (30% dip in UT) < 5% UT for 5 s (> 95% dip in UT)	< 5% UT for 0.5 cycles (> 95% dip in UT) 40% UT for 5 cycles (60% dip in UT) 70% UT for 25 cycles (30% dip in UT) < 5% UT for 5 s (> 95% dip in UT)	The mains supply shall be of a quality typical of that used in a commercial or hospital environment. If the user of the portable medical oxygen concentrator requires continuous operation during power mains interruptions, it is recommended that the portable medical oxygen concentrator be powered by an uninterruptible power supply or a battery
Power frequency	3 A/m	3 A/m	Power frequency

magnetic field (50Hz) IEC61000-4-8			magnetic fields should be at levels typical of a typical location such as commercial or hospital environment
Note: UT refers to the a.c. Mains voltage prior to application of the test voltage.			

Guidance and manufacturer's declaration-electromagnetic immunity-for non life-support equipment and systems:

Portable medical oxygen concentrator is intended for use in the electromagnetic environment specified below, and the buyer or user of this device should assure that the device is used in such an environment.

Immunity Test	IEC60601 Test Level	Compliance Level	Electromagnetic Environment-Guidance
RF conducted IEC61000-4-6 Radiated RF IEC61000-4-3	3 V (rms) 150 kHz to 80 MHz 3 V/m 80 MHz to 2.5 GHz	3 V (rms) 3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the portable medical oxygen concentrator, including cables, than the recommended isolation distance. This distance shall be calculated from the formula for the frequency response of the transmitter. Recommended isolation distance $d=1.2\sqrt{P}$ 80 MHz - 800 MHz $d=2.3\sqrt{P}$ 800 MHz - 2.5 GHz in which: P--The maximum rated output power of the transmitter according to the transmitter manufacturer, in watts (W) d--Recommended isolation distance, in meters (m)

			The field strength of fixed RF transmitter is determined by an electromagnetic site survey a, and b should be less than the compliance level in each frequency range. 
Note 1: At 80 MHz and 800 MHz, the formula for the higher frequency band applies. Note 2: These guidelines may not be appropriate in all situations. Electromagnetic propagation will be absorbed and reflected by buildings, objects, and people.			
a. Fixed transmitters, such as base stations for wireless (cellular/cordless) phones and terrestrial mobile radios, amateur radios, AM and FM radio stations, and television broadcasts, cannot be predicted accurately in theory. Due to the presence of fixed frequency transmitters, consider conducting an electromagnetic site survey before entering the electromagnetic environment. If the magnetic field strength in which the equipment is tested does not exceed the applicable frequency compliance, the device will operate normally. If an anomaly occurs, additional testing may be required, such as relocating or repositioning the device. b. For frequencies beyond the range of 150 kHz to 80 MHz, the magnetic field strength shall be less than 3 V/m.			

Recommended isolation distance between portable and mobile RF communications equipment and portable medical oxygen concentrator:

The portable medical oxygen concentrator is intended for use in an electromagnetic environment with controlled radiation disturbance. According to the maximum rated output power of the communication equipment, the customer or the user of the portable medical oxygen concentrator can prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitter) and the portable medical oxygen concentrator as recommended below.

Maximum Output Power of Transmitter W	Isolation Distance for Different Frequencies of Transmitter/m		
	150 kHz to 80 MHz $D=1.2\times\sqrt{P}$	80 MHz to 800 MHz $D=1.2\times\sqrt{P}$	800 MHz to 2.5 GHz $D=2.3\times\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For telecommunications transmitters not exceeding the maximum output capacity listed above, the isolation distance d (m) can be derived from the formula for the frequency of the telecommunications transmitter. In which P is the maximum output watts of the telecommunication transmitter provided by the manufacturer. Note 1: High frequency range applied at 80 MHz and 800 MHz Note 2: This guidance may not be applicable in all situations. Electromagnetic			

propagation will be influenced by absorption and reflection by buildings, objects, and people.