

• OVERVIEW •

Driven by the passion for innovation, we at Dr Trust endeavour to provide our customers with the latest medical inventions with an objective to promote good health and wellness all around the world. All the medical devices and health monitors provided by Dr Trust are supported by accurate, latest and ground breaking technologies, innovated at our headquarter in NY, USA. All our products adhere to the most stringent CE and FDA guidelines and are strongly recommended by doctors and health practitioners. Our products are designed in the utmost exemplary ways to ensure that their accuracy and convenience are unrivalled. The ease of their use and operation makes them even more suitable for users of all age groups.

Dr Trust strives to enhance the quality of lifestyle by providing with the most trusted and innovative health care and wellness products. Being a renowned global leader in health care products, Dr Trust ensures that our technically efficient team works dynamically and tirelessly to provide the best of the medical devices to our clients. The products that we have to offer are suitably designed for use at homes, laboratories and hospitals.

Our ground breaking solutions allow you to monitor your health in the easiest ways possible. In today's era when all of our lives are too hassled to handle, it becomes a bit difficult to pay attention to our health. But it has now become easier with the coming of the monitoring devices which can be conveniently used at homes and even on the go.

We bring to you a variety of best self medical devices, trusted and used by Doctors, medical professionals and home users all over the world.

Dr Trust Respiright Oxygen Concentrator -1101

• QUICK START GUIDE •

Step 1

Unbox the package and install unit's parts and accessories.

Step 2

Position the unit 4 inches away from furniture, wall, and other similar surfaces in an unobstructed area.

Step 3

Attach the humidification bottle into the place on oxygen concentrator and then add distilled water in it. (Change water every time you start using the unit.)

Step 4

Attach the oxygen tubing to the humidification bottle.

Step 5

Before you turn on the oxygen concentrator, check the air filter as it should be in place and clean.

Step 6

Plug the unit into power outlet and switch it on before 30 minutes (warm up) you start using it.

Step 7

Set the oxygen flow rate as prescribed your doctor by adjusting the knob and then put nasal canula into your nostrils and mask over your face for oxygen supply.

Step 8

Breathe in allowing the concentrator to provide you oxygen as long as you need or recommended by doctor. Switch the power "OFF" when it has done.



1. INTRODUCTION	04
1.1 Summary	
1.2 Characteristics	
2. IMPORTANT INFORMATION	04
2.1 Risk of electric shock.	
2.2 Before Installation	
2.3 Placement	
2.4 Fire Warning and Explosion	
2.5 Maintenance	
2.6 Radio Frequency Interference	
2.7 To Reduce the Risk of Burns, Electrocution, Fire, or Injury to Persons	
3. HANDLING	08
3.1 Unpacking	
3.2 Inspection	
3.3 Storage	
4. INSTALLATION AND OPERATION	09
4.1 Product View	
4.2 Prepare Work	
4.3 Turning the Concentrator ON	
4.4 Alarm Signal	
4.5 Alarm Signal Cue	
4.6 Turning the Concentrator Off	
4.7 Symbols and Descriptions	

5. MAINTENANCE	15
5.1 Cleaning the Cabinet	
5.2 Cleaning or Replacing the Filter (3 Types)	
5.3 Cleaning the Humidifier Bottle	
5.4 Oxygen Nasal Cannula	
5.5 Tube Maintenance	
5.6 Key Preventive Maintenance Items for Users	
5.7. Replacement Part list	
6. SPECIFICATIONS	19
7. STANDARDS	21
8. TROUBLESHOOTING	21
9. ACCESSORIES AND SPARE PARTS	23
10. MATERIAL IN DIRECT OR INDIRECT CONTACT WITH THE PATIENT	24
11. EMC GUIDANCE	25
CUSTOMER SUPPORT	
ABOUT US	

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!



1. INTRODUCTION

1.1 Summary

Dr Trust Respiright Oxygen Concentrator -1101 is intended for individual use as an oxygen supplement device in a home or health care facility. It uses an intelligent technology to remove impurities from the air and produces concentrated oxygen. 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. This user's manual will tell you all about your concentrator and will serve as a reference as you start using your concentrator for the first time.

1.2 Characteristics

- Oxygen concentrator make up of mainframe humidifier, and flowmeter.
- Reliable & safe.
- Complete plastic outer shell.
- Display screen shows total elapsed working hours.
- Pressure safety valve helps to ensure adequate pressure level.
- 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. IMPORTANT INFORMATION

2.1 Risk of electric shock.

- DO NOT disassemble the device. Refer serving to qualified service personnel.
- DO NOT try to modify this equipment without authorization of the manufacturer.
- Must read the following information before operating this product.

2.2 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.

2.3 Placement

- You need to select the most convenient room in your house for using your oxygen concentrator. The concentrator can be rolled easily from one room to another 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.
- It can be affected by ground-level pollution so should be placed in a location avoiding pollutants or fumes.
- DO NOT place items on top of the concentrator.
- DO NOT place it on a soft surface, such as a bed or couch, where the concentrator may tip or fall.
- NEVER block the air openings of the unit.
- Keep the openings free from lint, hair, and the like.

2.4 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 material 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 meet the oxygen concentrator under pressure. These substances **MUST** be kept away from the oxygen concentrator, tubing and connections, and all other oxygen equipment.
- **DO NOT** use any lubricant unless recommended by manufacturer.

2.5 Maintenance

- Oxygen concentrator shall be maintained once a year at least. Only the professional or healthcare person familiar with the operation of this device can be allowed to do the maintenance or debugging of oxygen concentrator.
- **DO NOT** service or maintain while patient is using it.
- 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.

2.6 Radio Frequency Interference

- Most electronic equipment are influenced by Radio Frequency Interference (RFI). Always exercise **CAUTION** regarding 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.

2.7 To Reduce the Risk of Burns, Electrocution, 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) away from the bath.
- **DO NOT** come in contact with the concentrator while wet.
- **DO NOT** place or store product where it can come drop into water or other liquid.
- **DO NOT** touch it if it has fallen into water. **UNPLUG IMMEDIATELY** and call a 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 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. We recommend 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, please call a Qualified Service Personnel for examination and repair.
- Keep the cord away from HEATED or HOT surface.
- Do not move or relocate concentrator by pulling the cord.
- NEVER drop or insert any object into any opening.

• 3. HANDLING •

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

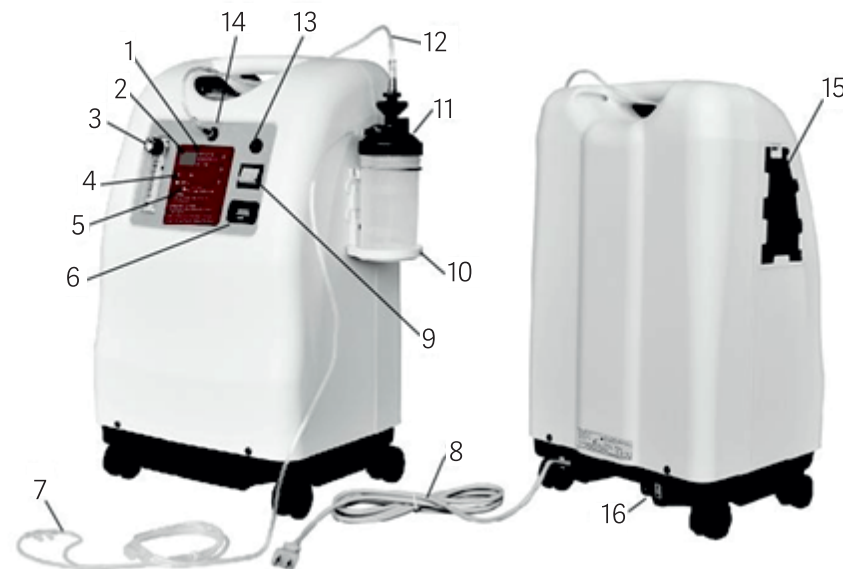
- Examine exterior of the oxygen concentrator for nicks, dents, scratches, or other damages.
- Inspect all components.

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 •

4.1 Product View



1---Indicator of digital tube

Indicates the instant state of digital tube display.

2---Digital tube display

Real-time display of the flow rate, oxygen concentration, as well as the timing value.

3---Flow meter

Setting oxygen flow rate by adjusting the knob.

4---"+/-" button

Setting timing value, as well as switching the display of oxygen concentration and flow rate.

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

6---Elapsed Time Meter

Record total operation time, guide user use device scientifically.



- 7---Oxygen tube
 - 8---Power cord
 - 9---Power switch
 - 10---Foldable holder of humidifier bottle
- Unfold the holder when using a humidifier bottle.
- 11---Humidifier bottle

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

- 12---Connecting pipe of humidifier bottle

- 13---Breaker

To protect the machine and user, breaker will cut off power automatically when current $\geq 4A$. After cooling, machine can be turn on if push up the breaker.

- 14---Outlet connector

- 15---Transom filter

- 16---Atomization connector

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



Figure 1: Oxygen Concentrator Holder

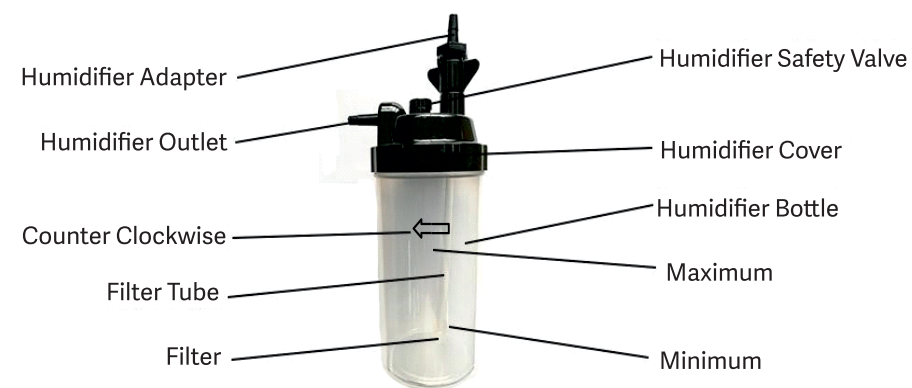


Figure 2: Humidifier Features

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 between maximum and minimum water level in use. When the tube of oxygen exits of humidifier wrested or jammed, the pressure in humidifier will ascend to $25 \pm 5kPa$, the safety valve of humidifier will open to release the pressure.

Inspection of performance of humidifier:

1. Use the soft PVC 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.



4.2. Prepare Work

- Unscrew the cover of the humidifier, fill the purified 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, 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.

4.3 Turning the Concentrator ON

Press power switch to the "I" position. The display will show "HELLO". At that time green, yellow, red light all will be ON which means the functionality of the machine is normal. After 1 second, only green light will remain ON. After 4 seconds, the display will show accumulation work time.

To read the flowmeter properly, 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.

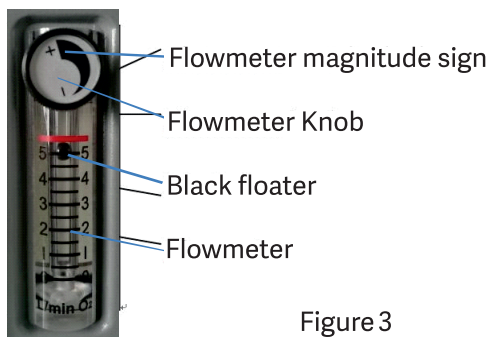


Figure 3

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.

4.4 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 O₂ concentration to reach maximum.

When the unit turns ON, the green light illuminates (O₂ concentration greater than 82%±3%). After 5 minutes, the oxygen sensor will start operating normal with controlling the indicator lights depending on oxygen concentration values.

The explanation of the indicator light functions is as follows.

4.5 Alarm Signal Cue










1. O₂ concentration is greater than 85%±2%. Green light illuminates. Normal Operation.
2. O₂ concentration is greater than 73%± 2% and less than 85%±2%. Yellow light illuminates.
3. O₂ concentration is less than 73%±2%. Red light illuminates, intermittent audible alarm sounds.

4.6 Turning the Concentrator Off

1. Press power switch to the "O" position and unplug the concentrator's AC connector from the power outlet.
2. Use the plug device to isolate the concentrator from the supply mains.



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 smking prohibited
CE	CE MARK		EC-representative
	Serial number		Date of Manufacture
	Up		Manufacturer
	Keep dry		Temperature limitation
	Fragile, handle with care	2	Height

5. MAINTENANCE

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

DO NOT service or maintain the device while it is in use.

The concentrator needs no extra maintenance efforts as it is pressure and oxygen purity self-check unit. It shall be maintained once a year. In location with much dust, the maintenance can be performed if necessary.

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.
- Use a soft dry cloth, a damp sponge, or wipes with alcohol-based solution to clean the outside of the concentrator.
- 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 installing filters, or filters are wet. These actions could permanently damage the concentrator.

Disassembling Filters

(1) Transom Filter

The Transom Filter need to clean per half mont (Figure 4)



Figure 4



(2) Intake Filter

The Intake Filter need to clean per half month.
(Figure5)

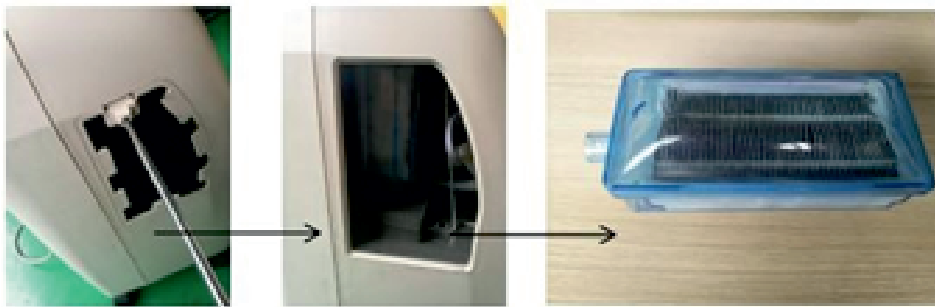


Figure 5

- 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) and unscrew the filter core. To remove the intake filter.
- Washing or change frequency of filter shall base on actual use time and environment. If the filtration core becomes black, no matter how long.

5.3 Cleaning the Humidifier Bottle

Change the water in the humidifier bottle every day.

Clean: Wash the humidifier bottle weekly. First use household detergent to wash the bottle, then rinse under running water and dry it.

Disinfect: Disinfect the humidifier parts by immersing them in a disinfection solution. Afterward, rinse them under running water and dry.

Disassembling Humidifier Bottle

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

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



Figure 6



Figure 7

5.4 Oxygen Nasal Cannula

Put the nasal cannula upward into nostrils. Adjust it until it becomes comfortable then adjust it below your chin by sliding the tube adjustor up and down.

5.5 Tube Maintenance

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

IMPORTANT

For Each New Patient

- Follow the instructions from the humidifier manufacturer. The cabinet air filter should be washed or replaced.
- The entire oxygen administration circuit (oxygen therapy nasal cannula, etc.) must be changed.



5.6. Key Preventive Maintenance Items for Users

Transom filters- Clean once in half month and replace as needed.

Intake filter- Clean once in half month, replace as needed.

Humidifier- Wash weekly, replace as needed. Use original spare parts only.

5.7. Replacement Part list

Description	Num./each
Buzzer	1
Caster	4
Circuit Breaker	1
Compressor Capacitor	1
Compressor	1
Cabinet Top (outer shell)	1
Combined Gas Valve	1
Fans	2
Flow Meter	1
Humidifier	1
Intake Filter	1
Inlet Muffler	1
LCD Display	1
Led Plate	1

Main Control Board	1
Oxygen Outlet Nipple	1
Oxygen Sensor	1
Outlet Sound Silencer	1
Panel	1
Power Cord	1
Pressure Regulator	1
Power Switch	1
Product Tank	1
Sieve Bed	2
Transom Filter	2
Transformer	1

WARNING

Replacement of a component could result in an unacceptable risk. Only the professional person approved by manufacturer can do maintenance of replacement component or debug the concentrator. Use original spare parts only.

• 6. SPECIFICATIONS •

1 Power Supply: AC230V, 50Hz; Current: 2.3A; Power: 390VA

2 Sound Level: ≤ 46dB (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 L/min
- 5 **Oxygen Concentration:** When 0.5~5L/min, 93%±3% (after turning on 30 minutes)
- 6 **Output Pressure:** 38kPa±5kPa
- 7 **Release Pressure by Machine Operation:** 250kPa±50kPa
- 8 **Weight:** 15kg
- 9 **Dimension:** 330×260×540(mm)
- 10 **Height Above Sea Level:** The oxygen concentration will not decrease on 1828-meter height above sea level, from 1828 meter to 4000 meters; the efficiency will decrease to less than 90%.
- 11 **Safety System:**
1. Current overload or line surge shutdown.
 2. High temperature compressor shutdown.
 3. High pressure alarm shutdown.
 4. Low pressure alarm shutdown.
 5. Low 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 : ≤2000
1. Temperature range: 5°C~40°C (41°F~104°F)
 2. Relative humidity: ≤80%

NOTE:

- ① When the storage temperature is lower than 5°C, the equipment shall be laid in normal operation temperature environment for at least 4 hours.
- ② The lifetime or equipment will be affected and the efficiency will be lowered if the equipment runs under conditions exceeding normality.

- 16 **Oxygen Output Temperature:** Less than Ambient +6°C
- 17 **Temperature of gas-exit:** Not higher than environment temperature for 6°C.
- 18 **Tube:** To prevent folding of tube, nasal oxygen 2 meters, prolonged tube not longer than 15.2 meters (no flattening).
- 19 **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.

7. STANDARDS

IEC 60601-1:2005+A1 2012 Electrical safety – medical devices
EN IEC 60601-1-2 : 2007 Electromagnetic compatibility

8. TROUBLESHOOTING

Troubleshooting Guide (Need Professional Assistance)

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) Cannot 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 is not ventilated 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 cannot run or running rate turns slowly make the operating temperature too high.	2) a. Take out the winker that locks the fan. 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.	

Troubleshooting (Can be Done by Own)

Symptom	Probable cause	Solution
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.	

Troubleshooting Guide (Need Professional Assistance)

Concentrator does not 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 does not work a Red light illuminates, continuous audible alarm sounds.	High pressure alarm.	Contact Equipment Provider immediately.
Concentrator does not continuous audible sounds.	Compressor open circuit alarm.	Contact Equipment Provider immediately.
Concentrator does not continuous audible 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 have purchased the concentrator.

9. 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.



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

Available accessories:

Nasal oxygen cannula 2m : 1 set
Nasal oxygen cannula 5m: 1 set

• 10. MATERIAL IN DIRECT OR INDIRECT CONTACT WITH THE PATIENT •

Concentrator casing ABS
Power cordPVC
FilterFelt
Switch Nylon
CasterNylon
Flow adjustment knobABS
Oxygen product outlet ABS
Humidifier bottlePP
Humidifier cover ABS
LabelsPVC, KK
Pipe / tubingPVC, silicone

When the patient or other operator touch the materials above, will not constitute any unacceptable RISK.

All the materials above pass biocompatibility test.

• 11. EMC GUIDANCE •

Guidance and declaration of manufacturer -Electromagnetic emission

The Dr Trust Respiright Oxygen Concentrator -1101 is intended for use in an environment specified below. The customer of the user of Dr Trust Respiright Oxygen Concentrator -1101 should assure that the unit is used in such an environment.

Emission test	Compliance	Electromagnetic environment- regulations
RF emissions CISPR 11	Group 1	The Dr Trust Respiright Oxygen Concentrator - 1101 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 Dr Trust Respiright Oxygen Concentrator - 1101 is suitable for use in all establishments, including domestic and those directly connected to the public low-voltage power supply network that supplies building used for domestic purposes.
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	

Guidance and declaration of manufacturer -Electromagnetic Immunity

The Dr Trust Respiright Oxygen Concentrator -1101 is intended for use in the electromagnetic environment specified below. The customer of the user of Dr Trust Respiright Oxygen Concentrator -1101 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 Dr Trust Respiright Oxygen Concentrator -1101 requires continued operation during power mains interruptions, it is recommended that the Dr Trust Respiright Oxygen Concentrator -1101 be powered from an interruptible power supply or a battery
	for 40 % 0.5 UT cycle (60 % dip in UT) for 5 cycle	for 40 % 0.5 UT cycle (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.			

Guidance and declaration of manufacturer-Electromagnetic Immunity

The Dr Trust Respiright Oxygen Concentrator -1101 is intended for use in the electromagnetic environment specified below. The customer of the user of Dr Trust Respiright Oxygen Concentrator -1101 should assure that the unit is used in such an environment.

Immunity	IEC 61000 -4-2 test level	Compliance level	Electromagnetic environment-guidance
directed HF interference acc. to IEC 61000-4-6 Radiated RF IEC	1st level 3 Vrms 150 kHz to 80 MHz 3 V/m 80 kHz to 2.5 GHz	3 V 3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the Dr Trust Respiright Oxygen Concentrator -1101, 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 800 MHz $d = 2.3 \sqrt{P}$ 800 MHz to 2.5 GHz



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 should be less than the compliance level in each frequency range.^b Interference may occur in the vicinity of equipment marked with the following symbol:

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.

- 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 Dr Trust Respiright Oxygen Concentrator -1101 is used exceeds the applicable RF compliance level above, the Dr Trust Respiright Oxygen Concentrator -1101 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the *Dr Trust Respiright Oxygen Concentrator -1101*.
- b) over the frequency range from 150 kHz to 80 MHz, the field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communication equipment and the *Dr Trust Respiright Oxygen Concentrator -1101*

The Dr Trust Respiright Oxygen Concentrator -1101 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the Dr Trust Respiright Oxygen Concentrator -1101 can help to help prevent electromagnetic interferences by maintaining minimum distances between the portable and mobile RF communication equipment (transmitters) and the Dr Trust Respiright Oxygen Concentrator -1101 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	$d=1.20,12\sqrt{P}$	$d=2.30,23\sqrt{P}$
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 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.

• CUSTOMER SUPPORT •

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