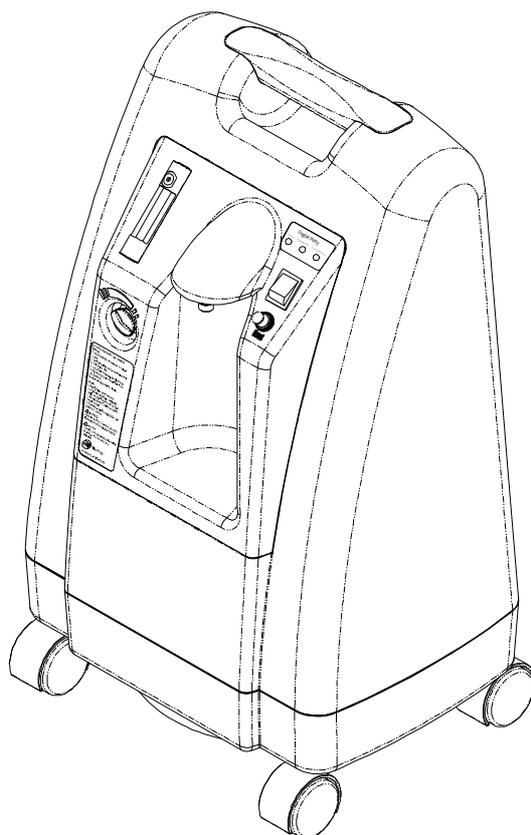




PIONEER

Q155 OXYGEN CONCENTRATOR

USER'S MANUAL



Merits Health Products Co., Ltd.

Read this manual before
using concentrator and
save for future reference.

TABLE OF CONTENTS

0. IEC SYMBOLS	2
1. CAUTIONS	2
2. WARNINGS	3
3. PRECAUTIONS	4
4. INTENDED USE	4
5. DESCRIPTION	5
6. SPECIFICATION	6
7. HANDLING	8
7.1 Unpacking	8
8. OPERATION	9
8.1 Select a Location	9
8.2 Plug in Power Cord	9
8.3 Connect Humidifier (if prescribed by your physician)	10
8.4 Turn On Power Switch	11
8.5 Adjust Flowrate	11
8.6 Oxygen Purity Indicator	11
8.7 Start Oxygen Therapy	11
9. ALARMS	12
10. MAINTENANCE	12
10.1 General caring	12
10.2 Cleaning the Cabinet Filter	13
10.3 Replacement of the Intake Filter	14
10.4 Cabinet	14
10.5 Humidifier	14
10.6 Disinfection	15
10.7 Reset the Circuit Breaker	15
11. TROUBLESHOOTING	16
Warranty	17

0. IEC SYMBOLS



Caution, Attention or Consult accompanying documents.



Alternating Current



Type BF Equipment



Class II Electrical Protection– Double Insulated



No Smoking or Naked Flames



Use No Oil or Grease



1. CAUTIONS

- I Federal Law restricts this device to sale by or on the order of a physician.
- I Do not adjust your prescribed level of oxygen flow without consulting your physician.



2. WARNINGS

- | Fire Hazard-Oxygen promotes rapid burning. No Smoking or Open Flames.
- | Electrical Shock Hazard - do not remove the cabinet or open the cover.
- | Disconnect the power cord from the electrical outlet before cleaning or servicing.
- | Do not place this equipment near hot, sparking or burning objects.
- | Do not use oil or grease on or near this device.
- | Do not use the concentrator in the presence of pollutants or dangerous fumes.
- | An alternate source of oxygen should always be available to avoid any interruption in supply.
- | This unit is not intended for life sustaining or life supporting applications.
- | Turn the unit off when it is not in use.
- | In the event of an alarm, contact your equipment provider.
- | Consult your physician immediately if you are experiencing any signs of discomfort.
- | Merits recommends that each concentrator be on and running for a minimum of 60 minutes at a time.
- | Keep the cord away from HEATED or HOT surfaces.
- | NEVER drop or insert any object into any opening.
- | NEVER block the air openings of the product or place it on a soft surface, such as a bed or couch, where the air opening may be blocked.
- | Avoid the operation in wet or damp locations.
- | Geriatric, pediatric, or any other patients unable to communicate discomfort while using this concentrator may need additional monitoring under physicians or medical professionals.
- | Children may need pediatric flowmeter to use with this concentrator, consult your physician before usage.

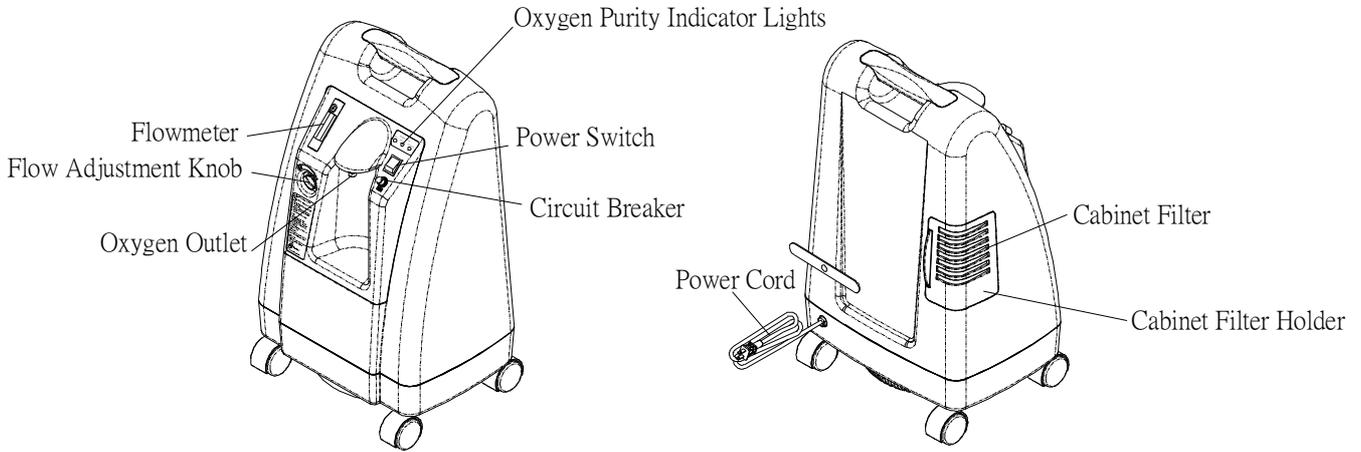
3. PRECAUTIONS

- | Always plug into a 15 AMP power outlet. DO NOT USE AN EXTENSION CORD.
- | Place the unit where sides and bottom are unobstructed to ensure proper airflow. (Be sure that the machine is placed away from drapes or other objects that might block the flow of incoming air and/or alarm indicators.)
- | Only operate the concentrator in an upright position.
- | Do not use oxygen tubing that exceeds 50 feet in length. The manufacturer recommends crush resistant tubing.
- | Do not place liquids on the unit or use liquids to clean the unit. Do not use petroleum-based solvents. Clean unit and power cord with mild household cleaner applied with a damp cloth or sponge, then wipe dry.
- | **The Salter Labs 7100 350c.c. Bubble Humidifier and the B&F Medical Bubble Humidifier are suitable for use with the Oxygen Concentrators. Use of certain humidifiers not specified for use with this oxygen concentrator may impair the performance.**
- | **Always choose the FDA or CE approved accessories, such as Masks or cannulas & Humidifiers to ensure the reliability and performance.**
- | **Different personnel to prevent cross infection should never use the same mask or cannula.**

4. INTENDED USE

The Merit Oxygen Concentrator is intended to be used to supply supplemental oxygen to patients in their home. The devices are not intended for life support nor do they provide any patient monitoring capabilities.

5. DESCRIPTION



The Merit Oxygen Concentrator operates using standard AC Power from a wall outlet. The concentrator takes in and processes room air through a Molecular Sieve filter system resulting in high purity oxygen at flow up to five liters per minute. Unlike liquid or cylinder oxygen, the concentrator does not require refilling and operates at low pressure. The device only requires minimal cleaning and periodic dealer service checks to ensure optimum performance. The oxygen is delivered via an oxygen cannula or catheter and can be used in conjunction with a humidifier, depending on your physician's orders.

6. SPECIFICATIONS

Electrical Requirements	115 VAC±10% , 60Hz	230 VAC±10% , 50Hz								
Rated Current Input	3.0 A (115VAC/60Hz)	1.6 A (230VAC/50Hz)								
Sound Level	48dB(A) Average									
Operating Altitude	Do not use at altitude over 4000 meters.									
Oxygen Concentration	$\geq 90\%$ at 1~5LPM * Stated performance maximum achieved after 60 min. of run time.									
Maximum Oxygen Delivery Pressure:	6±0.6psi. (40±4 kPa.)									
Optional Oxygen Sensor	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Oxygen Purity</th> <th>LED Indicator</th> </tr> </thead> <tbody> <tr> <td>Over 85% ($\pm 3\%$)</td> <td>GREEN Indicator light</td> </tr> <tr> <td>70% ($\pm 3\%$) to 85% ($\pm 3\%$)</td> <td>YELLOW Indicator light</td> </tr> <tr> <td>Below 70% ($\pm 3\%$)</td> <td>RED Indicator light</td> </tr> </tbody> </table>		Oxygen Purity	LED Indicator	Over 85% ($\pm 3\%$)	GREEN Indicator light	70% ($\pm 3\%$) to 85% ($\pm 3\%$)	YELLOW Indicator light	Below 70% ($\pm 3\%$)	RED Indicator light
Oxygen Purity	LED Indicator									
Over 85% ($\pm 3\%$)	GREEN Indicator light									
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Below 70% ($\pm 3\%$)	RED Indicator light									
Flow Range / Maximum Recommended Flow	0-5 LPM / 5 LPM									
Average Power Consumption	350W									
Pressure Relief Activation	250kPa±10%									
Filters:	Cabinet, Bacteria and Compressor Inlet									
Alarms – (Visual/Audible)	High temperature w/ compressor – power shutdown High / Low pressure alarm Power loss alarm									
Dimensions	61cm(24”) High × 42cm(16.5”) Wide × 33.5cm(13.2”) Deep									
Circuit Breaker & Fuse	(115VAC/60Hz) Circuit Breaker: 8A	(230VAC/50Hz) Circuit Breaker: 4A								
Weight	24 Kg (53lb)									
Shipping Weight	27 Kg (59.5lb)									
Operating Ambient Temperature & Humidity	10°C ~ 35°C, Dry (up to 95% non-condensing), well ventilated area									

Hydrostatical pressure	860hPa ~1060hPa
Cabinet	Impact resistant flame-retardant plastic cabinet
Regulatory Listing	CSA 601 / UL 2601/ IEC/EN-60601-1
Change in Max. Flow with 7 kpa Back Pressure	0.3 LPM
Recommended Storage and Shipping Temperature	Dry (Up to 95% non-condensing), well ventilated area -20°C ~ 60°C

- (1). Conditions may vary based on altitude above sea level, barometric pressure and temperature. Specification subjects to change without notice.
- (2). This product complies with the following standards: C22.2 No 601.1-M90, UL Std. No 2601-1 and IEC/EN 60601-1.
- (3). For electromagnetic compatibility the standards are based as follow: CSA 601.1-2 and IEC/EN 60601-1-2.
- (4). Protection against electric shock is classified as **Type II**.
- (5). Degree of protection against electric shock is classified as **Type BF**.
- (6). Mode of operation belongs to continuous mode.
- (7). Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
- (8). Degree of protection against ingress of water is rated as IPX0.

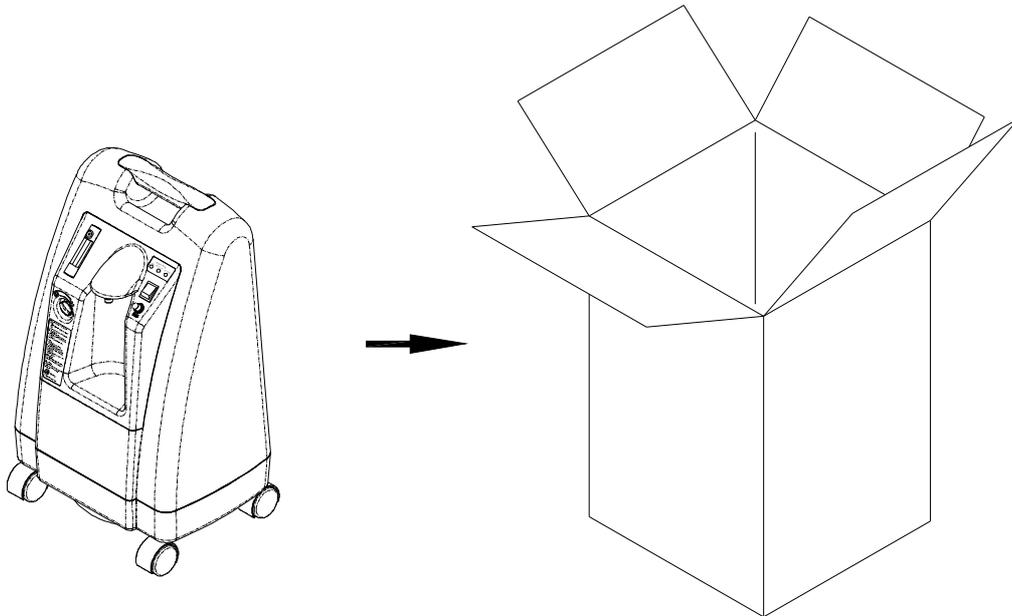
7. HANDLING

The concentrator should always be kept in the upright position to prevent cabinet damage while being transported. The shipping container has been designed to assure maximum protection of the concentrator.

If the concentrator is to be reshipped by common carrier, additional cartons are available from Merits.

7.1 UNPACKING

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



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

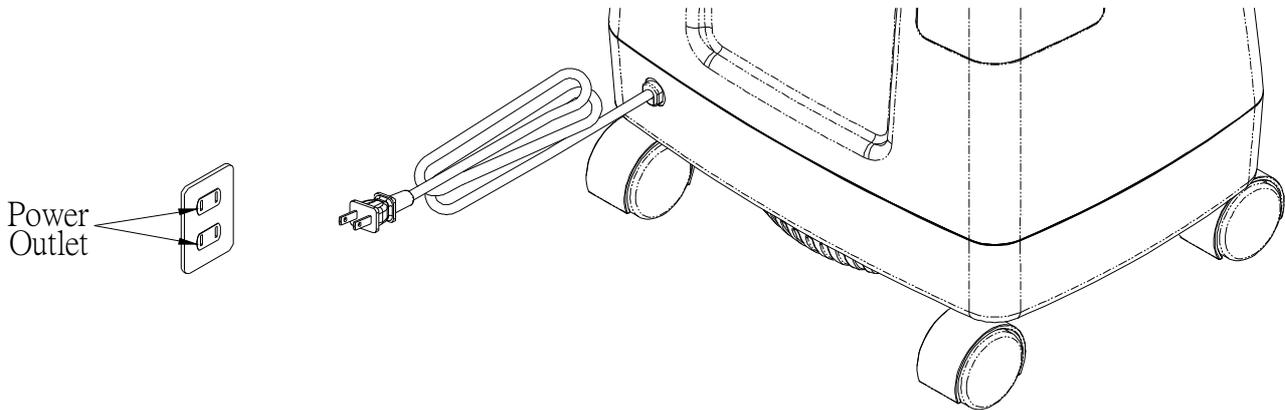
8. OPERATION

8.1 SELECT A LOCATION

Select a location where sides and bottom are unobstructed to ensure proper airflow. Be sure that the machine is placed away from drapes or other objects that might block the flow of incoming air and/or alarm indicators. The area should be free of pollutants or dangerous fumes. The unit should be placed on a stable level surface. The location should have access to a power outlet without use of an extension cord or where the cord is placed across a traffic area. Do not place near a source of heat or open flame or hot, sparking objects.

8.2 PLUG IN POWER CORD

Plug the power cord into a 15 AMP power outlet.



8.3 CONNECT HUMIDIFIER (if prescribed by your physician)

The Salter Labs 7100 350c.c. Bubble Humidifier and the B&F Medical Bubble Humidifier are suitable for use with the Oxygen Concentrators. Use of certain humidifiers not specified for use with this oxygen concentrator may impair the performance.

Fill the humidifier with distilled water according to the manufacturer's instructions (FIG.1). Do not overfill. Attach the humidifier to the oxygen outlet of the concentrator (FIG.2).



FIGURE 1 — FILLING THE HUMIDIFIER

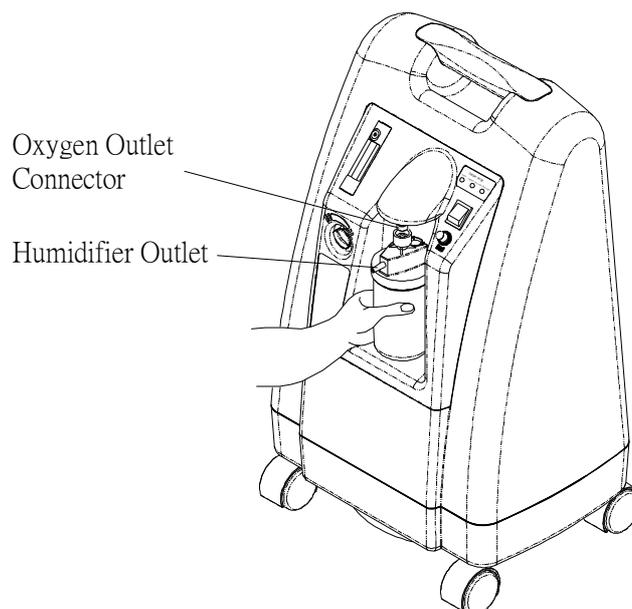


FIGURE 2 — ATTACHING THE HUMIDIFIER TO THE OXYGEN OUTLET

8.4 TURN ON POWER SWITCH

Press the power switch to the I position. All indicator lights will be illuminated accompanied with one beep and then off in 2 seconds except for the indicator light of present oxygen purity.

8.5 ADJUST FLOWRATE

Turn the knob below the flowmeter to adjust the flowrate to that prescribed by your physician. The ball inside the flowmeter must be centered on the flow line for the desired flowrate.

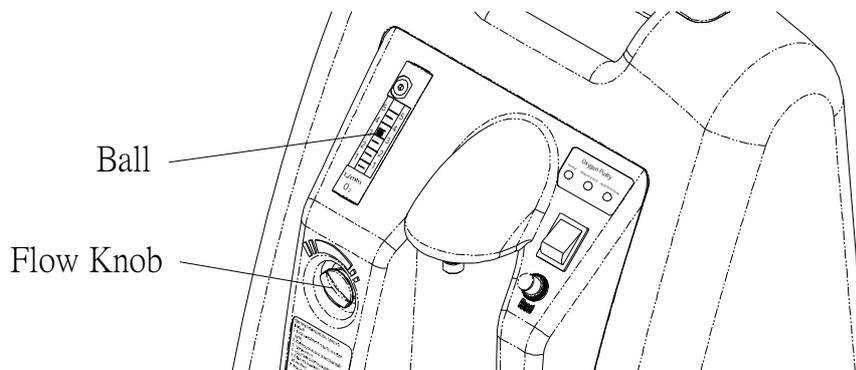


FIGURE 3 — ADJUSTING THE FLOWRATE

8.6 OXYGEN PURITY INDICATOR

This feature monitors the purity of oxygen generated by the oxygen concentrator. If purity falls below factory preset standards, indicator lights on the control panel will illuminate.

8.7 START OXYGEN THERAPY

You can use the output of the oxygen concentrator immediately. However, it may take up to 60 minutes to reach maximum oxygen concentration.

9. ALARMS

The concentrator is equipped with a visual and an audible indicator.

POWER LOSS:

An audible alarm will sound and the power indicator light will turn off.

PRESSURE ALARM:

Visual and audible alarms will occur when pressure is abnormal, indicating a possible problem with the concentrator or signaling that oxygen flow is beyond flow. For detail information, please refer to 11. TROUBLESHOOTING or contact your service dealer.

THERMAL PROTECTION ALARM:

Visual and audible alarms will occur when temperature inside the concentrator is too high, indicating a possible problem with the concentrator or signaling that cabinet filters need to be clean. For detail information, please refer to 11. TROUBLESHOOTING or contact your service dealer.

Concentrator With Optional Oxygen Concentration Sensor

This sensor provides the indication of oxygen purity as follows:

RED LIGHT—Oxygen concentration level falls below 70%(±3%). Discontinue use and call for service - obtain alternative source of oxygen.

YELLOW LIGHT—Oxygen concentration level is between 70%(±3%) ~ 85%(±3%). You may continue to use the concentrator unless instructed otherwise by your supplier. Call for service immediately. Be certain that BACKUP OXYGEN is reachable.

GREEN LIGHT—Unit is operating - Oxygen at a concentration above 85%(±3%).

10. MAINTENANCE

10.1 GENERAL CARING

1. Daily inspection of the cabinet filter should occur. Lightly vacuum or sweep off. Do not use any sharp or corrosive materials.
2. Always use, clean and/or replace the humidifier in accordance with manufacturer's or dealer's instructions.
3. The patient should never service or open this machine. It is to be serviced by qualified personnel only.
4. The oxygen concentration should be checked every 90 days for units without optional oxygen sensors. The oxygen concentration should be checked every 6 months for units with optional oxygen sensors.

10.2 CLEANING THE CABINET FILTER

NOTE: All concentrator models have one cabinet filter located at rear side of the cabinet. (FIG. 4)

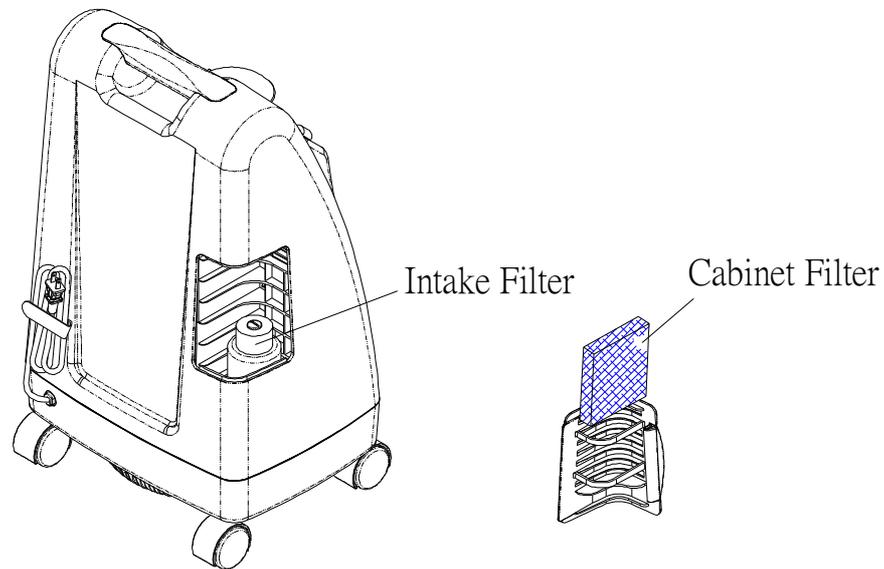


FIGURE 4 — CABINET FILTER LOCATION

1. Remove the cabinet filter and **CLEAN AT LEAST ONCE A WEEK** depending on environmental conditions. (FIG.5)
2. Clean the cabinet filter with a vacuum cleaner or wash in warm soapy water and rinse thoroughly. (FIG. 5)
3. Dry the filters thoroughly before reinstallation.

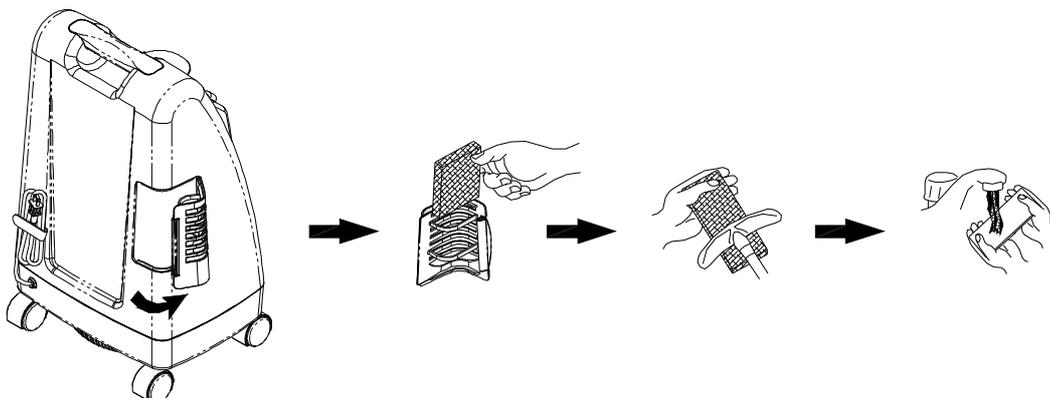


FIGURE 5 — REMOVE THE CABINET FILTER

10.3 REPLACEMENT OF THE INTAKE FILTER

Open the cabinet filter holder, there is an intake filter. **(FIG.6)** The frequency of changing the filter depends on the using conditions of the device (e.g. in more or less dusty atmosphere). Manufacturer recommends user to replace the intake filter every 6 months or a gray coloration is observed. Additional filters can be purchased from your device supplier.

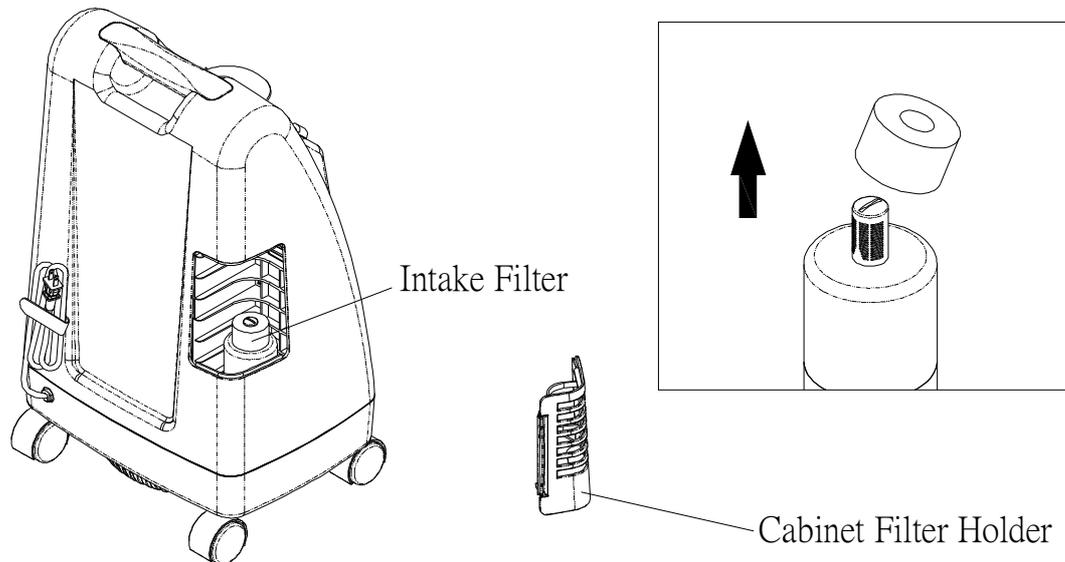


FIGURE 6 — REMOVE THE INTAKE FILTER

To replace the intake filter:

1. Remove the cabinet filter holder located on rear corner of concentrator. Pull out the old intake filter and discard it.
2. Insert a new intake filter into position, and reinstall the filter holder back to the cabinet.

10.4 CABINET

Clean the cabinet with a mild household cleaner and non-abrasive cloth or sponge.

10.5 HUMIDIFIER

NOTE: To clean the oxygen humidifier, follow the instructions provided by the manufacturer. If none are provided, follow these steps

1. Clean the humidifier every day.
2. Wash it in soapy water and rinse it with a solution of 10 parts water and 1 part vinegar.
3. Rinse again with hot water and refill with distilled water to the level shown on the humidifier.

10.6 DISINFECTION

If contamination concerns arise, users may perform the following processes after cleaning the cabinet to disinfect the enclosure of the concentrator. Clean the cabinet with either a common chemical disinfectant or a bleach solution* and allow it to air dry. For the bleach solution, wear eye and skin protection to prevent exposure to the chlorine. Do not allow any liquid flow into the concentrator. Retest the concentrator before your next usage.

*Note: *Make the bleach solution a 1:100 dilution of 5~6% sodium hypochlorite. Mix one part household bleach (e.g. Clorox) with 99 parts cold tap water. To measure the solution easily, take 1/4 cup of household bleach, and mix it with a gallon of cold tap water. Allow the mixture to sit on potentially contaminated surfaces for 10 minutes.*

10.7 RESET THE CIRCUIT BREAKER

If the concentrator comes to a stop all of a sudden, the circuit breaker on the control panel may have tripped. To reset the tripped circuit breaker, just push down the reset button inside the cap. If the circuit breaker keeps on tripping for several times, please call dealer for service. Internal repairs may be required. The circuit breaker may only be replaced by qualified service personnel only. The specification of the circuit breaker is recorded in the table of specifications on page 6.

11. TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	SOLUTION
Alarm: One (1) short beep, long pause Concentrator NOT operating, while Power switch ON	Main Power Loss: 1. Power cord NOT plugged in. 2. No power at outlet. 3. Tripped circuit breaker. 4. Internal repairs required.	1. Insert plug into outlet 2. Inspect house circuit breakers or fuses. If problem recurs, use a different outlet. 3. Reset the circuit breaker. 4. Call dealer for service.
Alarm: Two (2) short beeps, long pause Concentrator NOT operating, while Power switch ON	System Failure: 1. Unit overheating due to blocked air intake. 2. Internal repairs required.	1. Remove and clean cabinet filter or replace the intake filter. 2. Move oxygen concentrator at least three-inches away from walls, draperies or furniture. 3. Call dealer for service.
Alarm: Three (3) short beeps, long pause Concentrator NOT operating, while Power switch ON	System Failure: 1. Pneumatically the system is operating at over pressure. 2. Internal repairs required.	1. Shut down the system. 2. Call dealer for service.
Alarm: Four (4) short beeps, long pause	System Failure: 1. Pneumatically the system is operating at under pressure. 2. Internal repairs required.	1. Shut down the system. 2. Call dealer for service.
YELLOW or RED LIGHT illuminated.	1. Low oxygen purity. 2. Insufficient power at outlet. 3. Internal repairs required.	1. Clean or replace filters 2. Don't use extension cords. Move to another electrical outlet or circuit. 3. Call dealer for service.

Warranty

Merits Health Products Co., Ltd. warrants the **Pioneer** Oxygen Concentrator to be free from defective workmanship and materials for a period of 5 years from the date of purchase. Check with your dealer for more details. This warranty is limited to the original purchaser of the Oxygen Concentrator. Any defective part or assembly will be repaired or replaced, at the sole discretion and determination of Merits Health Products Co., Ltd., if the unit has been properly operated during the warranty period. Normal maintenance items and disposable components are not covered by this warranty. Shipping charges, if any, shall be paid by the purchaser.

Note: There is no other express warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to the duration of the express limited warranty and to the extent permitted by law and all implied warranties are excluded. This warranty does not cover providing a loaner Oxygen Concentrator, compensating for costs incurred for Oxygen Concentrator rental, or labor costs incurred in repairing or replacing defective part(s).

EC REP

Authorized European Representative:

Roma Medical Limited
Unit 23 Vale Business Park,
Cowbridge, Vale of Glamorgan CF71 7PF
United Kingdom
+44-1446-774519



Manufactured by:

Merits Health Products Co., Ltd.
No.9, Road 36, Taichung Industrial Park,
Taichung, Taiwan,
R.O.C.
(886)-4-23594985

CE Marked For Model

Q155 (Europe)
230V~, 50Hz

CE 0197