



RHYTHM
HEALTHCARE

















ITEM# P2









P2 PORTABLE OXYGEN CONCENTRATOR



TABLE OF CONTENTS

Symbol.....	1-2
Intended use:	3
Contraindications	4-7
General Precautions	4
Parts Diagram	8
User Interface Buttons and Display Symbols.....	9-12
Alerts.....	13-15
Power Supply.....	16-17
Accessories.....	17-18
General Operation	19-22
Troubleshooting	23
Cleaning the Case	24
Cannula Replacement	24
Filter Cleaning and Replacement.....	24-25
Battery Care and Maintenance	25-26
Disposal of Equipment and Accessories.....	27
Replacement Items.....	27
Specifications.....	28-29
Classifications	29
Standards Compliance.....	30
EMC Information	31-32
Electromagnetic Emissions:.....	32
Warranty	33

Symbol	Description
WARNING	A warning indicates that the personal safety of the patient may be involved. Disregarding a warning could result in significant injury.
CAUTION	A caution indicates that a precaution or service procedure must be followed. Disregarding a caution could lead to a minor injury or damage to equipment.
	See User Manual for Instructions.
	AC Power
	DC Power
	U.S. Federal Regulation Restricts this Device to Sale by Order of Physician. May also be applicable in other Countries
	No Smoking
	Keep away from open flames
	Keep Dry
	Do not use Oil or Grease
	Do Not Disassemble (contact your equipment provider for servicing by authorized personnel)
	Do Not Dispose of In Unsorted Municipal Waste
	Type BF Applied Part
	Complies with all applicable EU Directives; including the EU Medical Device Directive.
	Class II (Double Insulated)
	See Instructions for Use
	Manufacturer
	Authorized representative in the European Community.
IP22	Protects against solid objects over 12mm and direct sprays of water up to 15° of vertical

	Date of manufacture
	Serial Number
	This side up
	Fragile
	Storage Humidity(Non-condensing)
	Storage Temperature
	Magnetic Resonance unsafe
	The manufacturer of this POC has determined this device conforms to all applicable FAA requirements for POC carriage and use on board aircraft.

Intended use:

The P2 Oxygen Concentrator is prescribed for patients requiring supplemental oxygen. It supplies a high concentration of oxygen and is used with a nasal cannula to deliver oxygen from the concentrator to the patient. The P2 is a small and portable device that may be used at the home and can be taken with you while performing your daily activities.

WARNING

This device is not intended to be life-sustaining or life-supporting. This device is not intended for newborn and infant use.

WARNING

A backup oxygen source is recommended for power outages or mechanical problems. Be sure to have an available backup oxygen source that is recommended by your doctor or healthcare provider.

CAUTION

In most countries, this device must be purchased from a doctor or with a doctor's prescription.

CAUTION!

MUST HAVE BACK UP OXYGEN SUPPLY WHEN TRAVELING.

It is the responsibility of the patient to make back-up arrangements for alternative oxygen supply when traveling. We assume no liability for persons that do not adhere to manufacturer recommendations.

Service Item

P2 Oxygen Concentrator:
Molecular Sieve Beds:
Batteries:

Expected Life

5 Years
2 Years
500 full charge/discharge cycles

CAUTION

The expected life is depending on the environment of usage and the maintenance. Bad conditions will shorten the lifetime of the concentrator.

WARNING

The operator should read and understand this entire manual before using the device.

Contraindications

CAUTION

- This device is not intended to be life sustaining or life supporting.
- Patients who are unable to hear or see an alert from the device, or who are unable to communicate discomfort while wearing the device, will require additional monitoring to avoid injury or harm. If the patient experiences any new symptoms seek medical attention immediately.
- In certain circumstances, oxygen therapy can be hazardous. Please seek medical advice before using this device.
- The P2 is not designed or specified to be used in conjunction with a humidifier, nebulizer or connected with any other equipment. Do not modify the P2 Concentrator. Any modifications performed on the equipment may impair performance or damage equipment and will void your warranty.

General Precautions

WARNING

Oxygen supports combustion. To avoid risk of fire, oxygen therapy should never be used while smoking, while in the same room as someone who is smoking or in the presence of an open flame.

WARNING

Do not submerge the P2 or any of the accessories in liquid.

Do not expose to water or precipitation.

Do not operate in the rain/wet weather conditions.

Exposure to moisture can lead to electrical shock and/or damage.

CAUTION

Do not use oil or grease on the concentrator or its components as these substances, when combined with oxygen, can greatly increase the potential for a fire hazard and personal injury

CAUTION

Never leave the P2 in high temperatures/high humidity such as in a car in high heat or a bathroom with high humidity. This can damage the device.

WARNING

Geriatric patients or any other patients unable to communicate discomfort, hear or see alarms while using this device, may require additional monitoring.

General Precautions-continued

WARNING

If you feel any discomfort or are experiencing a medical emergency while using this product, seek medical assistance immediately to avoid harm.

WARNING

Reassess the oxygen delivery settings of this POC periodically to ensure effectiveness of the oxygen therapy.

WARNING

Set the device at the prescribed level and do not increase or decrease your flow rate without first consulting with your doctor or healthcare professional.

WARNING

Use this device only as prescribed.

The use of oxygen therapy can be hazardous in some circumstances.

Always consult your health care practitioner before using the POC.

WARNING

To ensure that you receive the correct therapeutic amount of oxygen delivery according to your medical condition, the P2:

- Must be used only after one or more settings have been individually determined or prescribed for you at your specific levels.
- Must only use the parts and accessories that are provided by the manufacturer.

WARNING

The settings of the P2 might not correspond with a continuous flow of oxygen.

WARNING

The settings of other models or brands of oxygen therapy equipment do not correspond with the settings of the P2

WARNING

There is a risk of fire associated with oxygen equipment and therapy. Do not use near sparks or open flames.

General Precautions-continued

WARNING

Use only water-based lotions or skin creams that are oxygen compatible during setup or using oxygen therapy. To avoid the risk of fire and burns, never use petroleum or oil-based lotions or salves.

WARNING

Smoking during oxygen therapy is dangerous and may result in fire which can cause serious injury or death of the patient and others.

WARNING

To ensure that you receive the correct therapeutic amount of oxygen delivery according to your medical condition, the P2:

- Must be used only after one or more settings have been individually determined or prescribed for you at your specific activity levels.
- Must use only the parts and accessories that were provided by the manufacturer, and those that were used while your personalized settings were configured.

WARNING

Do not lubricate replaceable fittings, connections, tubing, or other accessories of the oxygen concentrator to avoid the risk of fire and burns

WARNING

Use only spare parts recommended by the manufacturer to ensure proper function and to avoid the risk of fire and burns

WARNING

Wind or strong drafts can adversely affect accurate delivery of oxygen therapy.

Examples include:

- Using this equipment beside an open window or in front of a fan.
- Using this equipment in the back seat of an open convertible car.

General Precautions-continued

WARNING

If any of the following occurs, STOP using immediately and contact your equipment provider:

- Unexplained changes in the performance of this device
- Unusual or harsh sounds
- Dropping or mishandling the device or the power supply
- Water spilled into the enclosure
- Broken enclosure

WARNING

Oxygen is a combustion supporting gas, a fire may start easily if device is used improperly.

Do not leave the nasal cannula on bed coverings or chair cushions if the oxygen concentrator is turned on, but not in use. Always turn the oxygen concentrator off when not in use.

WARNING

To ensure proper function and to avoid the risk of fire and burns:

- Use only with P2 AC power supply
- Use only with P2 batteries
- Use only approved P2 accessories

WARNING

Remove the battery from the device if the P2 will not be used for an extended period of time.

WARNING

Device operation exceeding the voltage, breath rate, temperature, humidity and/or altitude values specified may decrease oxygen concentration levels.

WARNING

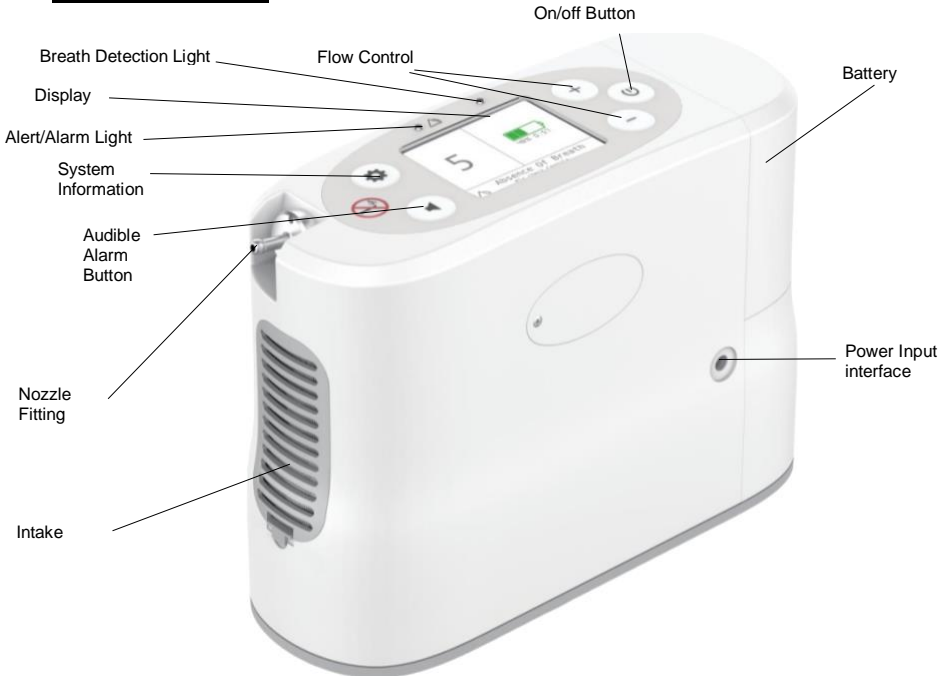
Do not modify this system or equipment in any way. Modifications could result in hazards to the user.

Note: Additional warnings, cautions, and notes are located throughout the manual.

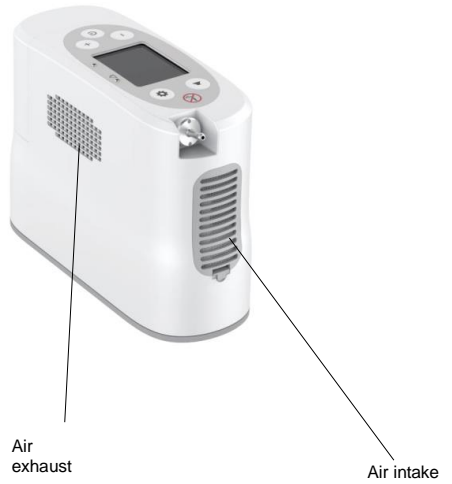
WARNING

Changes in altitude may affect the amount of oxygen supplied by the device. Consult your physician before travelling to a place with altitude changes.

Parts Diagram









Set	Battery Life
1	5h 00min
2	4h 00min
3	3h 00min
4	2h 00min
5	1h 00min



User Interface Buttons and Display Symbols

Display Panel

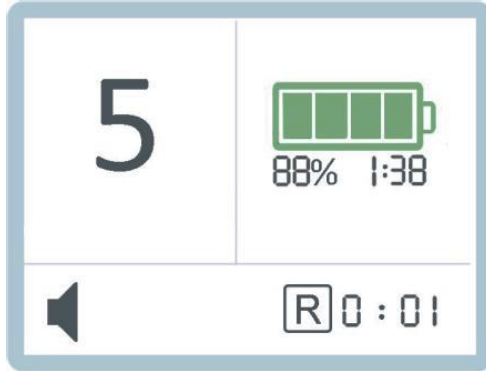



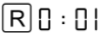


Symbol	Description	Instructions
	ON IOFF Button	Press once to turn "ON". Press and hold for one second to turn"OFF"
	Audio Alarm Button	Press once to toggle between audible and silent mode. The panel will display the appropriate icon to indicate which mode is enabled: Audible mode-----  Silent mode-----  When audible mode is enabled,a yellow light will turn on, and a message will display on the screen. Press this button to mute or unmute alarms.
	Flow Setting Control Buttons	Increase or decrease the oxygen flow setting by pressing +or -. Flow settings range from 1 to 5.
	Device Information	Press to display information about the device, including battery temperature, battery status, molecular sieve temperature molecular sieve runtime, device model, device temperature device runtime, firmware version,hardware version.

User Interface Buttons and Display Symbols

Home Screen









Home screen will show the icon as:



Icon	Description
5	Current flow setting (range is 1 to 5)
	Battery charge level: <ul style="list-style-type: none"> ● Battery percentage remaining ● Battery time remaining (hours: minutes)
	Device runtime since powered on (hours:minutes)
	Alerts are silenced
	Alerts are audible

Additionally, screen will also display the following icons (see next page):

User Interface Buttons and Display Symbols

ICON	DESCRIPTION
	Powered by AC only
	<ol style="list-style-type: none"> 1. Powered by battery only (not plugged in and charging) 2. Battery level percentage and time remaining (hours:minutes). 3.Device ON
	<ol style="list-style-type: none"> 1. Battery is charging. 2.Battery level percentage and estimated time to fully charge the battery. 3.Device is ON.
	<ol style="list-style-type: none"> 1. Battery is charging. 2.Battery level percentage and estimated time to fully charge the battery. 3.Device is OFF.
	The device has detected an active alarm while in silent mode.
	The device has detected an active alarm while in audible mode.
	Runtime of device (hours:minutes)since it was powered on. (sample shows 2 hours 35 minutes).
	Multiple alerts have been detected. Display will scroll to display all alerts.

User Interface Buttons and Display Symbols

Audible Mode:

Below shows the device has detected an active alarm while in Audible Mode. Example below shows "Absence of Breath" .



Alert in Silent Mode:

The display below shows that the device has detected an active alarm while in Silent Mode.

Example below shows "Absence of Breath".



Alerts

Adapter plug/unplug:

An adapter icon displays when adapter is plugged in and disappears when unplugged. An audible alarm (if enabled) will also be heard.

Battery plug/unplug

A battery icon displays when battery is connected and disappears when disconnected. An audible alarm (if enabled) will also be heard.

Alarm audio selection:

An alert will indicate when unit is turned on or off.

Alarm audio pulse duration:

An audible alert (if enabled) will pulse between 150ms On, 150ms off repeat 2 times.

Alarm audio pulse group interval:

15.5s (until Alarm returns to normal)

Alarm details

Reference the table below for additional alarm details.

Alerts-continued

Alarm item	Alarm condition	System process	Display of screen
Battery Exhausted	Battery cycle> 500 or battery health<50%	Alarm only	Battery is exhausted. Replace battery
Replace Sieve Bed	Sieve Bed expired or Sieve Bed chip error	Alarm only	Replace Sieve Bed Contact provider
Low Input Voltage	Adapter input <17.0v	Auto-switch to battery until the adapter input >18v	Low Input Voltage Check Adapter
Absence Of Breath	No breath detected continuously for more than 15 seconds	Alarm only	Absence of Berath Check cannula
Oxygen concentration<87%	Concentration<87% continuously for more than 300 seconds	Alarm only	Low O2: 87% Contact provider
Low Battery	5% ≤ RSOC ≤ 20% Without adapter	Alarm only	Low Battery Charge now
Oxygen concentration <50%	Concentration<50% continuously for more than 300 seconds	Auto-shut down after 30s	Low O2:< 50% Contact provider
Breath Sensor Fail	Breath Sensor failed	Auto-shut down after 30s	Breath Sensor Fail Contact provider
Oxygen Sensor Fail	Oxygen Sensor failed	Auto-shut down after 30s	Oxygen Sensor Fail Contact provider
Gas Delivery Fail	No delivery detected after injection	Auto-shut down after 30s	Gas Delivery Fail Contact provider
Gas Obstruction	Pipe or nasal blocked	Auto-shut down after 30s	Gas Obstruction Contact provider
Tank Pressure Fail	Tank pressure failed	Auto-shut down after 30s	Tank Pressure Fail Check cannula
Sieve Bed Fail	Sieve Bed failure or is invalid	Auto-shut down after 10s	Sieve Bed Fail Contact provider
Compressor Fail	Compressor failed	Auto-shut down after 10s	Compressor Fail Contact Provider

Alerts-continued

Alarm item	Alarm condition	System process	Display of screen
Valve Check Fail	Valve switch failed	Auto-shut down after 10s	Valve Check Fail Contact Provider
Cooling Fan Fail	Cooling fan failed	Auto-shut down after 10s	Cooling Fan Fail Contact Provider
Battery Depleted	RSOC \leq 5% Without adapter	Auto-shut down after 10s	Battery Depleted: Replace battery or connect to adapter
System Cold	System temperature < 32°F / 0°C	Auto-shut down after 10s	System Cold: Shut down, Move to warmer place
Battery Cold	Battery Temperature < 32°F / 0°C	Auto-shut down after 10s	Battery Cold: Shut down, Move to warmer place
System Hot	System temperature > 140°F / 60°C	Auto-shut down after 10s	System Hot: Shut down, Move to cooler place
Battery Hot	Battery temperature > 149°F / 65°C	Auto-shut down after 10s	Battery Hot: Shut down, Only use adapter
Gas Supply Fail	Flow or concentration below normal after injection	Auto-shut down after 10s	Gas Supply Fail Contact Provider
System Startup Fail	Concentration less than 87% continuously > 15S after system startup	Auto-shut down after 10s	System Startup Fail Contact Provider
Power Supply Fail	System voltage < 10.5v	Auto-shut down after 10s	Power Supply Fail Contact Provider

Power Supply

Standard Lithium-Ion Battery # P2BY001-2

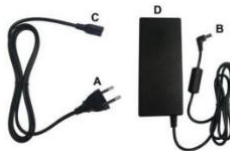
The P2 is powered by a standard lithium-ion battery. When fully charged the battery can last for up to 5 hours of operation. The battery is recharged by AC power when it's installed in the P2 and the power supply is connected. Recharging time is not more than 4 hours.



AC Power Supply # P2ACA-1

The AC power supply is used to power the P2 Oxygen Concentrator from an AC power source. When using the AC charger, the power supply automatically adapts to input voltages from 100V to 240V (50-60HZ) allowing it to be used with most power sources through out the world.

1. Connect A plug to nearest AC power outlet
2. Connect C to D port
3. Connect B to the P2



WARNING ⚠

Do not use power supplies or power cables other than the specified above.
Do not use power supplies /adapters or accessories other than those specified above.
The use of non-specified accessories may create a safety hazard and/or impair equipment performance.

Accessories

Nasal Cannula # P2NC-1

The P2 Oxygen Concentrator must use a single lumen nasal cannula to provide oxygen to the patient.

WARNING ⚠

Nasal cannulas should not be used by more than one person. DO NOT use a cannula that has a length exceeding 25ft (7.6m).

CAUTION

When using a long cannula the flow setting may need to be increased. Increasing the cannula length may reduce the perceived noise during oxygen bolus delivery.

CAUTION

The nasal cannula is designed for disposable use.

CAUTION

Select only FDA approved nasal cannula (e.g.P2NC-1)

Carry Bag # P2CB-1

The P2 carry bag allows you to go out for daily activities.



Accessories List

Part Number	Description
P2	Portable Oxygen Concentrator
P2NC-1	High Flow Nasal Cannula for the P2/P2-E6/P2-E7
P2CB-1	Carry Bag for the P2/P2-E6
P2ACA-1	AC Adapter for the P2/P2-E6/P2-E7
P2FC-1	Cotton Intake Filter (pack of 5) for the P2/P2-E6/P2-E7
P2BY001-2	Battery for POC (P2, P2-E6, P2-E7)

General Operation

1. Find a well-ventilated location to place the P2, make sure it's turned off.

Be sure the Intake and exhaust has clear access. Put the P2 in a suitable place where any alarms can be heard.

WARNING

Do not use P2 in the presence of flammable anesthetics, detergents, or other chemical vapors.

CAUTION

Do not block the air intake or air exhaust when operating the equipment. Blocked air circulation or proximity to the heat source can cause internal heat build-up, shut down, or damage to the concentrator.

CAUTION

The P2 Concentrator is designed for continuous use. It is useful to operate the product frequently for optimal sieve bed life.

CAUTION

P2 is shipped from factory with battery removed.

Ensure the Pre-Filter Cover is in place.



CAUTION

Do not operate the P2 without Cotton Intake Filter. Inhalation of system pre-filter cover can damage the device.

General Operation-continued

2. Install the battery.

Slide the battery into place until the latch returns to the upper position. There will be an audible sound when the battery is in position.



3. Connect the AC power to P2.

The green LED on the power adapter will turn on and there will be an audible sound when power is connected.



CAUTION

Do not place anything in the power supply port other than the supplied wall cord. Avoid the use of electrical extension cords with the P2.

CAUTION

Power supply is not waterproof. Do not disassemble the power supply.

CAUTION

When the power is disconnected from the AC outlet, disconnect it from the concentrator to avoid unnecessary battery discharge.

4. Put the P2 into the carry bag, position vents for exhaust away from user.



General Operation-continued

5. Connect the nasal cannula to the nozzle fitting.



Nozzle fitting is located on the top side of the P2 near the pre-filter.
Connect a nasal cannula to the nozzle fitting on the device.(pictured)

CAUTION

Ensure that the cannula is routed to prevent it from being pinched or kinked to avoid a disruption of oxygen flow.

CAUTION

The cannula is designed for disposable use.

6. Press On/Off button to turn on P2

The device will beep, and the indicator light will flash.

"Welcome" will appear on the display while the concentrator starts up. The display will indicate the selected flow setting and power condition. A two-minute warm up time will initiate. During this period the oxygen concentration is building to the specified value but may not have yet reached specification. Under special conditions, a longer warm-up time may be necessary, such as in extremely cold temperatures where the unit was stored or is being operated.

CAUTION

Oxygen concentration may not reach specification during the two-minute warm up time.

CAUTION

30 seconds after startup, the P2 will enter auto-pulse mode. During these 30 seconds, inhalation will not work.

General Operation-continued

7. Set flow rate prescribed by your provider.

Press the +or- setting buttons to adjust the P2 to the desired flow rate.The current setting can be viewed on the display from 1 to 5.

CAUTION

Make sure the power is in a well-ventilated place.During operation, the power supply may get hot. Make sure the power supply is cool before handling.

8. Wear the nasal cannula on your face and breathe through your nose.



The P2 will sense if you are breathing from it. If you are not yet breathing through the cannula, the P2 will begin to pulse automatically about every 3 seconds.

As soon as you begin breathing through the cannula, the device will begin delivering pulses based on your breathing. As your breathing rate changes the P2 will sense these changes and adjust the amount of oxygen at your next inhale.

WARNING

If you feel discomfort using the device, consult your doctor immediately.

CAUTION

A Low O2:< 87% alert will display on the screen if the oxygen level drops below recommended levels. If the alarm persists contact your provider.

CAUTION

If there is no operation for 30 seconds, the display screen will dim. You can press any button to light up the display.

CAUTION

The P2 will notify you with an audible alert (if enabled) and a display showing "Absence Of Breath" if no breath has been detected for 15 seconds. After 15 seconds, the device will enter auto-pulse mode until breath is detected. Once breath is detected, the device will resume normal delivery of oxygen.

General Information

To disconnect power,unplug the power cord from the wall outlet and disconnect it from the P2.

Troubleshooting

The table below lists some common problems and solutions. If you can't resolve a problem, please contact your provider.

Problem	Possible Cause	Recommended Solution
Device Won't Turn On	Battery is not Installed correctly	Remove the battery and re-install it correctly.
	Battery is depleted	Use the AC power adapter to operate the device (with the battery inserted)to recharge the battery. If this does not resolve the problem, contact your equipment provider.
	AC supply is not Connected properly	Check AC power connection and verify solid green light on adapter.
No Oxygen	The device is not tuned on	Tun on the concentrator.
	Cannula is kinked or obstructed	Check cannula and its connection to the oxygen outlet port.
	Equipment failure	Contact your provider.
Oxygen not at full concentration	The device is warming up	Wait 2 minutes for the device. If the problem is not solved, please contact your equipment provider.
	The sieve beds may require servicing	Contact your provider to change the sieve beds.
Alarm Occurs	Refer to previous section-Alerts	Refer to Previous section-Alerts.

Cleaning the Case

The outside case should be cleaned using a damp cloth with a solution of mild detergent and water.

CAUTION

Do not allow liquids into any of the controls, the interior or the case, or the oxygen tubing connector. If this occurs, contact your provider for assistance.

WARNING

Do not use alcohol, isopropyl alcohol, ethylene chloride or petroleum-based cleaners on the cases or on the pre-filter covers.

Cannula Replacement

The nasal cannula is disposable. You can buy replacements from your physician or provider and follow the cannula manufacturer's instructions.

CAUTION

Nasal cannula should be rated for 5 liters per minute to ensure proper patient usage and oxygen delivery. Length should be less than 25ft (7.6m)

Filter Cleaning and Replacement

Filters are designed for adequate air flow through the device at the front of the P2.

Pre Filter Cover # P2PFCR-2

The Pre Filter Cover must be cleaned weekly to ensure adequate air flow. Clean with a mild liquid detergent and water. Ensure cover is completely dry before use.



CAUTION

It may be necessary to clean the pre-filter cover more often in dusty or polluted environments/conditions.

Maintenance and cleaning of P2

Cotton Intake Filter # P2FC-1

The Cotton Intake Filter is designed to ensure clean air enters the compressor.

1. Lift pre-filter cover up by bottom end to remove it.
2. Remove Cotton Intake Filter from intake chamber.
3. Install a new Cotton Intake Filter into chamber.
4. Install Pre Filter Cover.

Pre Filter Cover and Cotton Intake Filter can be purchased from your provider.

In normal conditions, the air filter must be replaced after approximately 3 months of daily use. When subject to conditions with higher levels of dust or dirt, we recommend periodically checking the air filter. If filter is grey or brown color, replace it.



Battery Care and Maintenance

The P2 Lithium-Ion Battery requires special care to ensure proper performance and long life. Only use P2 batteries # P2BY001-2 with your concentrator.

CAUTION

Keep liquids away from battery. If batteries get wet, stop using immediately and dispose of battery properly.

Battery Replacement

1. Press down on latch and slide battery out.



2. Insert the P2 battery by sliding battery into place until the latch clicks into place.



Battery Care and Maintenance-Continued

Effect of Temperature on Battery Performance

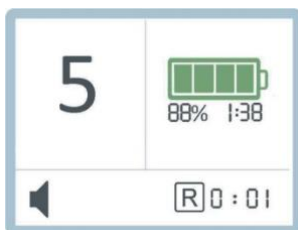
To extend the run-time of your battery, the device should be used in temperatures between 41°F and 95°F (5°C and 35°C). The number of cycles that the battery will last is highly dependent upon the temperature at which the battery is charged.

CAUTION:

We suggest that the room temperature should not exceed 75°F (24°C) when the battery is being charged.

Battery Time Remaining Clock

The P2 continuously displays the battery time remaining. This displayed time is only an estimate and the actual time remaining may vary from this value.



CAUTION

Store battery in a cool dry place with a charge of 40-50%. BATTERIES SHOULD NOT BE LEFT DORMANT FOR MORE THAN 90 DAYS AT A TIME.

CAUTION

If the device is not used for an extended period of time, please remove the battery from the device.

Disposal of Equipment and Accessories

Follow your local governing ordinances for disposal and recycling of the P2 accessories. The battery contains lithium-ion cells and should be recycled and must not be incinerated.



Replacement Items

Part number	Description
P2BY001-2	Battery for POC (P2, P2-E6, P2-E7)
P2PFCR-2	Pre Filter Cover for the P2
P2FC-1	Cotton Intake Filter (pack of 5) for the P2/P2-E6/P2-E7

If you need assistance contact your provider.

System Specifications

Specifications

Dimensions	L/W/H: 8.70" × 3.35" × 6.30" 22.1cmL × 8.5cmW × 16.0cmH					
Weight	4.37 pounds 1.98Kg (with battery)					
User Interface	2.8" LCD color display screen					
Sound Level	49 dB(A) (on setting 2)					
Time from Turning on the Concentrator to Reach Stated Performance	2 minutes					
Oxygen Concentration	90% - 3% /+ 6% at all settings					
Flow Control Settings and Pulse Volumes	Settings					
		1	2	3	4	5
	Breath Rate	Pulse Volumes(ml)				
	10	21	42	63	84	100
	15	14	28	42	56	66.7
	20	10.5	21	31.5	42	50
	25	8.4	16.8	25.2	33.6	40
	30	7	14	21	28	33.3
	35	6	12	18	24	28.6
	40	5.3	10.5	15.8	21	25
± 15% at STPD* +/-25% over the rated environmental range *STPD is 101.3 kPa at an operating temperature of 68 °F, dry						
Breathing Frequency	10 to 40 BPM					
Inspiratory Trigger Sensitivity	≤ 0.12 cm H2O					
Delivery pressure at the device outlet	Maximum 25 PSI					
Use Mode	Continuous Use					

System Specifications

Concentrator Specifications-Continued

Power: AC Power supply Rechargeable Battery	AC Input: 100 to 240V AC 50 to 60 Hz Voltage: 14.4V DC Rated capacity: 6.8Ah
Battery Duration	setting 1: 5h setting 2: 4h setting 3: 3h setting 4: 4h setting 5: 5h
Battery Charging Time	Not more than 4 hours
Environmental Ranges Intended for Operation	Temperature: 41°F-104°F(5 to 40°C) Humidity: 10% to 90%, non-condensing Altitude: 0 to 10000 ft. (0 to 3048 meters, 70 kPa to 106 kPa)
Environmental Ranges Intended for Shipping And Storage	Temperature: -4°F-158°F(-20 to 70°C) Humidity: 5% to 90%, No condensing. Store in a dry environment Altitude: 0 a 10,000 ft (de 0 to 3048 meters, 70 kPa to 106 kPa)
Transportation	Keep Dry,Handle With Care

Classifications

Mode of Operation:	Continuous Duty
Type of Protection Against Electrical Shock:	Class II
Degree of Protection to Concentrator Components Against Electrical Shock:	Type BF Not intended for cardiac application
Degree of Protection to Concentrator Components Against Ingress of Water	Protects against solid objects over 12mm and direct sprays of water up to 15° of vertical (IEC 60529)

Standards Compliance

The device is designed to conform to the following standards:

- IEC 60601-1-2, 2014, Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral Standard: Electromagnetic disturbances - Requirements and tests
- IEC 60601 - 1: Medical Electrical Equipment - part 1: General Requirements for Basic safety & Essential Performance
- AAMI ES60601-1: Medical Electrical Equipment - Part 1: General Requirements for Basic safety and Essential Performance
- IEC 60601-1-8 Medical electrical equipment - Part 1-8: General Requirements for Basic Safety and Essential Performance - Collateral Standard: General requirements, tests, and guidance for alarm systems in medical electrical equipment and medical electrical systems
- IEC 60601-1-11 Medical electrical equipment - Part 1-11: General Requirements for Basic Safety and Essential Performance - Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the home healthcare environment
- ISO 80601-2-67, Medical electrical equipment, Part 2-67: Requirements for basic safety and essential performance of oxygen conserving equipment
- ISO 80601-2-69, Medical electrical equipment, Part 2-69: Requirements for basic safety and essential performance of oxygen concentrator equipment
- ISO18562-1: 2017 Biocompatibility, evaluation of breathing gas pathways in healthcare applications -- Part 1: Evaluation and testing within a risk management process
- ISO18562-2 : 2017 Biocompatibility evaluation of breathing gas pathways in healthcare applications -- Part 2: Tests for emissions of particulate matter
- ISO18562-3 : 2017 Biocompatibility evaluation of breathing gas pathways in healthcare applications -- Part 3: Tests for emissions of volatile organic compounds (VOCs)
- ISO 10993-1 Biological evaluation of medical devices -- Part 1: Evaluation and testing within a risk management process
- AAMI/ANSI/ISO 10993-10:2010, Biological Evaluation of Medical Devices - Part 10: Tests for Skin Irritation
- AAMI/ANSI/ISO 10993-5:2009, biological Evaluation of Medical Devices - Part 5: Tests for in vitro Cytotoxicity

System Specifications

EMC Information

The device has been designed to meet EMC standards throughout its Service Life.


Guidance and Manufacturer's Declaration - Electromagnetic Immunity:

The Concentrator is intended for use in the electromagnetic environment specified below. The user of the Concentrator should make sure it is used in such an environment

Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment -Guidance
Electrostatic Discharge (ESD) IEC61000-4-2	±8 kV Contact ±15 kV Air	±8 kV Contact ±15 kV Air	Floors should be wood, concrete, or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Electrical Fast Transient/Burst IEC61000-4-4	±2 kV for Power Supply Lines±1 kV for Input/output Lines	±2 kV for Power Supply Lines ±1 kV for Input/output Lines	Main power supply should be that of a typical home or hospital environment.
Surge IEC61000-4-5	±1 kV Line to Line ±2 kV Line to Ground	±1 kV Line to Line ±2 kV Line to Ground	Main power supply should be that of a typical home or hospital environment.
Voltage Dips, Short Interruptions and Voltage Variations on Power Supply Input Lines IEC61000-4-11	<5% U_T (>95% Dip in U_T) for 0.5 Cycle at 45 degree increments 70% U_T (30% Dip in U_T) for 0.5 seconds <5% U_T (>95% Dip in U_T) for 5 Seconds	<5% U_T (>95% Dip in U_T) for 0.5 Cycle at 45 degree increments 70% U_T (30% Dip in U_T) for 0.5 seconds <5% U_T (>95% Dip in U_T) for 5 Seconds	Main power supply should be that of a typical home or hospital environment. If the user of the Device required continued operation during power outages, it is recommended that the Device be powered from an uninterruptible power supply or battery.
Power Frequency (50/60Hz) Magnetic Field IEC61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical home or hospital environment.
Note: U_T is the A.C. mains voltage prior to application of the test level			

System Specifications

EMC Information Continued

Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms 150 kHz to 80 MHz	Portable and mobile RFcommunications equipment should not be used closer (to any part of the device,including cables) than the recommended 11.8"30 cm separation distance. Interference may occur in the vicinity of Equipment marked with the following symbol: 
Radiated RF IEC 61000-4-3	6 Vrms Amateur Radio &ISM Bands between 150 kHz and 80 MHz	6 Vrms Amateur Radio &ISM Bands between 150 kHz and 80 MHz	
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz	10 V/m	

Guidance and Manufacturer's Declaration - Electromagnetic Emissions:

The P2 is intended for use in the electromagnetic environment specified below. The user of the P2 should ensure it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment - Guidance
RF Emissions CISPR 11	Group 1	The P2 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class B	The P2 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic Emissions IEC61000-3-2	Class A	
Voltage Fluctuations/Flicker Emissions IEC61000-3-3	Complies	

Warranty

The P2 Oxygen Concentrator warranty covers the repair or replacement of the unit. The warranty term is 36 months from the date of shipment. Please contact us by telephone or email to return defective equipment under warranty and to resolve any problems. Our trained technicians will help you with any questions or problems with your POC. Please make sure that your returned equipment is packaged safely for transportation, if possible, in its original packaging to avoid damages during shipping. Excluded from the warranty are damages caused by improper usage. Also excluded are replacements of batteries, disposable parts, and consumables. Sieve bed, filters, batteries are expressly excluded from the 36 months warranty, except as provided below:

Description	Period
P2 Oxygen Concentrator	3 years
Accessories (battery, carry bag, external battery charger, power supplies, and power cord)	1 year
Sieve Bed	2 years
Disposables (Nasal Cannula, filters)	No Warranty

Further damage compensation claims of any kind, particularly owing to breach of obligations and unpermitted handling, as well as claims on repayment of expenses paid in vain, are not included in the warranty; the same shall apply to claims on repayments of consequential harm caused by a defect.

Any further claims are excluded in this warranty. The aforementioned limitations do not apply to claims on damages from harm to life, body, or health or attributable to intent or gross negligence, or the product liability law.

This warranty does not cover damage or injury whether to P2 or to personal property or persons caused by accident, misuse, abuse, negligence, failure to install in accordance with Rhythm's installation instructions, failure to operate under conditions of normal use and in accordance with the terms of the operating manual and instructions, failure to maintain in accordance with the applicable service manuals, or alteration or any defects not related to materials or workmanship of P2. This warranty does not cover damage which may occur in shipment. This warranty does not apply to any product or individual part of a product that may have been repaired or altered by anyone other than Rhythm Healthcare or an authorized Rhythm Healthcare service center. This warranty does not apply to any product which is not purchased new.



Rhythm Healthcare
Clearwater, FL 33762

Email: contactus@rhythmhc.com
Website: www.rhythmhc.com

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