

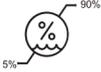
P2-S3 PORTABLE OXYGEN CONCENTRATOR



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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
	Class II (Double Insulated)
	See Instructions for Use
	Manufacturer
IP22	Protects against solid objects over 12.5mm and direct sprays of water up to 15° of vertical
	Date of Manufacture

Symbol	Description
	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.
	Service Required Alert

Intended Use, Contraindications and General Precautions

Intended Use:

The P2-S3 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-S3 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

Clinical effect should be regularly evaluated by your 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-S3 Oxygen Concentrator: Molecular Sieve Beds: Batteries:

CAUTION

The expected life is dependent on the use environment and regular maintenance. Poor conditions will shorten the lifetime of the concentrator.

Expected Life	
3 Years	2 Years
500 full charge/discharge cycles	

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-S3 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-S3 Oxygen Concentrator. Any modifications performed on the equipment may impair performance or damage equipment and will void your warranty.

General Precautions

WARNING



Smoking during oxygen therapy is dangerous and is likely to result in facial burns or death. Do not allow smoking within the same room where the oxygen concentrator or any oxygen carrying accessories are located. If unable to leave the room, you must wait 10 minutes after you have turned the oxygen concentrator off.

WARNING



Do not submerge the P2-S3 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-S3 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

The settings of the P2-S3 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-S3.

WARNING

Open flames during oxygen therapy are dangerous and is likely to result in fire or death. Do not allow open flames within 2 m of the oxygen concentrator or any oxygen-carrying accessories.

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-S3:

- 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.

WARNING

Use of this device at an altitude above 10,000 ft (3,048 meters) or outside a temperature of 41°F to 104°F (5°C to 40°C) or a relative humidity above 90% is expected to adversely affect the flow rate and the percentage of oxygen and consequently the quality of the therapy.

WARNING

The P2-S3 is not intended for use with a tracheostomized patient.

General Precautions-continued

WARNING



If any of the following occurs, STOP using immediately and contact your 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
- Enclosure is broken or cracked

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-S3 AC and DC Power Supply
- Use only with P2-S3 batteries
- Use only approved P2-S3 accessories

WARNING



Remove the battery from the device if the P2-S3 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



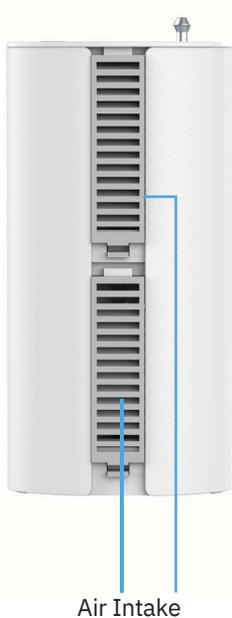
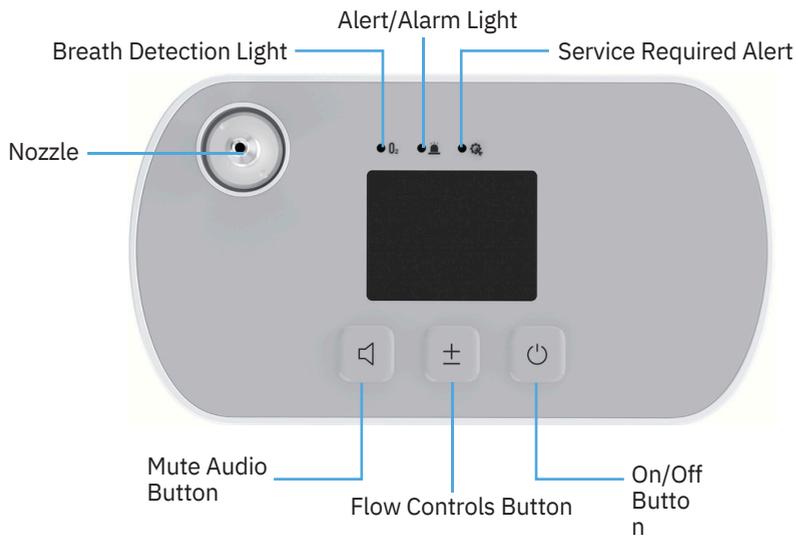
Changes in altitude may affect the amount of oxygen supplied by the device. Consult your physician before travelling to a place with altitude changes.

WARNING



Some respiratory efforts of the patient might not trigger the P2-S3.

Parts Diagram



User Interface Buttons and Display Symbols

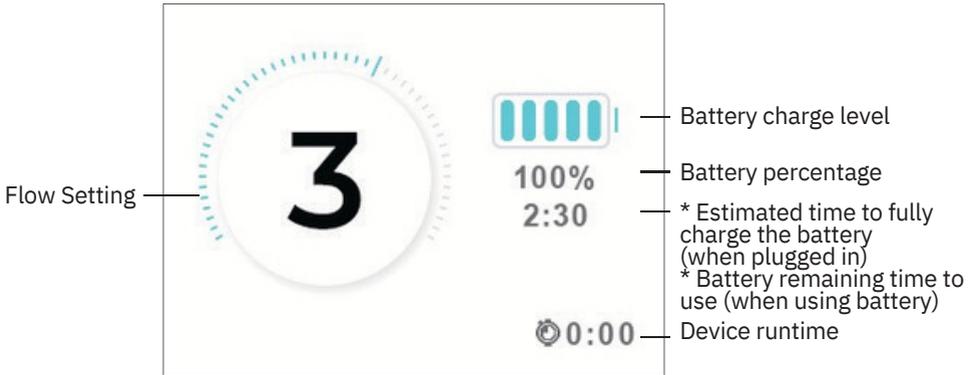
Display Panel



Symbol	Description	Instructions
	On/Off Button	Press once to turn On. Press and hold for three seconds to turn Off.
	Audio Alarm Button	<p>Press once to toggle between audible and silent mode.</p> <p>The panel will display the appropriate icon to indicate which mode is enabled:</p> <p>Audible mode----- </p> <p>Silent mode----- </p> <p>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.</p>
	Flow Setting Control Button	Increase or decrease the oxygen flow setting by pressing \pm . Flow settings range from 1 to 3.
	Device Information	Press and hold to display information about the device, including battery temperature, battery status, molecular sieve runtime, device model, device temperature device, runtime, firmware version, hardware version.

User Interface Buttons and Display Symbols

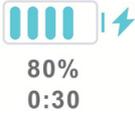
Home Screen



Icon	Description
	Current flow setting (range is 1 to 3)
	Battery charge level: <ul style="list-style-type: none"> • Battery percentage remaining • Battery time remaining (hours: minutes)
	Alerts are silenced
	Audible Alerts are on

The screen will also display the following icons (Continued on next page):

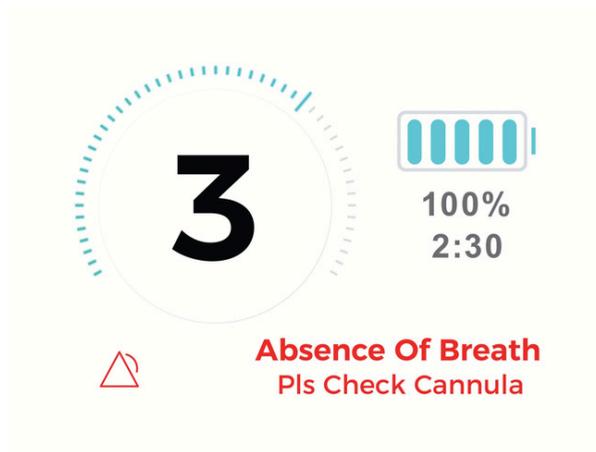
User Interface Buttons and Display Symbols

Icon	Description
	Powered by AC or DC 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. 4.Display on the right of screen, shown together with Flow Setting.
	<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. 4.Display on the center of screen. No other symbols shown together.
	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. (Example displays: 0 hours 0 minutes).
	Multiple alerts have been detected. Display will scroll to display all alerts.
Alarm light	Light will turn yellow to indicate an Alarm.
Service Required Alert light	Light will turn red to indicate Service Required due to a critical part failure. Stop using the POC immediately and contact your provider.

User Interface Buttons and Display Symbols

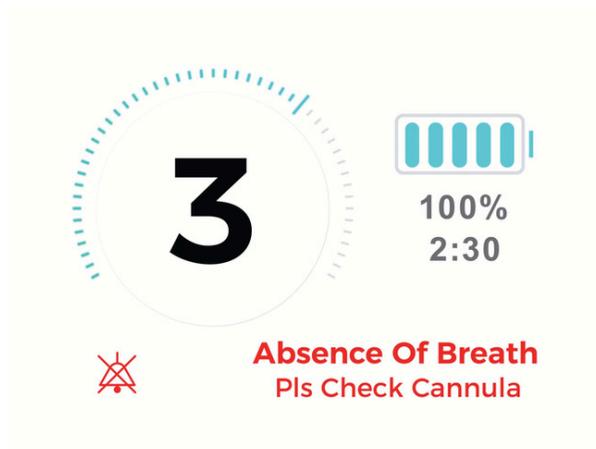
Audible Mode:

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



Alerts 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.
If enabled, an alarm will sound.

Battery plug/unplug:

A battery icon displays when battery is connected and disappears when disconnected.
If enabled, an alarm will sound.

Alarm audio selection:

An alert will indicate when unit is turned On or Off.

Alarm audio pulse duration:

If enabled, an audible alert 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)

Error Message	System Process	Screen Display	Additional Alarm Info
Battery Exhausted	Alarm only	Battery is Exhausted Replace Battery	Battery cycle >500 Or battery health <50%
Replace Sieve Bed	Alarm only	Replace Sieve Bed Contact Provider	Sieve Bed expired
Low Input Voltage	Auto-switch to battery until the adapter input >18v	Low Input Voltage Check Adapter	Adapter input <17.0v
Absence Of Breath	Alarm only	Absence of Breath Check Cannula	No breath detected continuously for more than 15 seconds
Oxygen Concentration <87%	Alarm only	Low O2: <87% Contact Provider	Concentration <87% continuously for more than 300 seconds
Low Battery	Alarm only	Low Battery Charge Now	5% \leq RSOC \leq 20% Without adapter
Oxygen Concentration <50%	Auto-shut down after 30 seconds	Low O2: <50% Contact Provider	Concentration <50% continuously for more than 300 seconds
Breath Sensor Fail	Auto-shut down after 30 seconds	Breath Sensor Fail Contact Provider	Breath Sensor failed
Oxygen Sensor Fail	Auto-shut down after 30 seconds	Oxygen Sensor Fail Contact Provider	Oxygen Sensor failed
Gas Delivery Fail	Auto-shut down after 30 seconds	Gas Delivery Fail Contact Provider	No delivery detected after injection
Gas Obstruction	Auto-shut down after 30 seconds	Gas Obstruction Contact Provider	Pipe or nasal blocked
Tank Pressure Fail	Auto-shut down after 30 seconds	Tank Pressure Fail Contact Provider	Tank pressure failed

Alerts (continued)

Error Message	System Process	Screen Display	Additional Alarm Info
Sieve Bed Fail	Auto-shut down after 10 seconds	Sieve Bed Fail Contact Provider	Sieve Bed failure or invalid
Compressor Fail	Auto-shut down after 10 seconds	Compressor Fail Contact Provider	Compressor failed
Valve Check Fail	Auto-shut down after 10 seconds	Valve Check Fail Contact Provider	Valve switch failed
Cooling Fan Fail	Auto-shut down after 10 seconds	Cooling Fan Fail Contact Provider	Cooling fan failed
Battery Depleted	Auto-shut down after 10 seconds	Battery Depleted Replace battery/ Connect to adapter	RSOC \leq 5% Without adapter
System Cold	Auto-shut down after 10 seconds	System Cold Shut down, Move to warmer place	System Temperature <32°F/0°C
Battery Cold	Auto-shut down after 10 seconds	Battery Cold Shut down, Move to warmer place	Battery Temperature <32°F/0°C
System Hot	Auto-shut down after 10 seconds	System Hot Shut down, Move to cooler place	System Temperature >140°F/60°C
Battery Hot	Auto-shut down after 10 seconds	Battery Hot Shut down, Only use adapter	Battery Temperature >149°F/65°C
Power Supply Fail	Auto-shut down after 10 seconds	Power Supply Fail Contact Provider	System voltage <10.5v
Gas Supply Fail	Auto-shut down after 10 seconds	Gas Supply Fail Contact Provider	Flow or concentration below normal after injection
Sys Startup Fail	Auto-shut down after 10 seconds	System Startup Fail Contact Provider	Concentration less than 87% continuously >15s after system startup

Battery Info

Single Lithium-ion Battery # S3BY001S

Double Lithium-ion Battery # S3BY001D

Triple Lithium-ion Battery # S3BY001T

P2-S3 comes standard with a single battery.

Double and triple batteries are optional and can be purchased from your provider.

Ensure the battery is installed into the P2-S3. Use the AC power supply to recharge the battery.

P2-S3 with Single Battery:

Can provide up to 2.5 hours of operation. Recharging time can take up to 2 hours.

P2-S3 with Double Battery:

Can provide up to 4.8 hours of operation. Recharging time can take up to 4 hours.

P2-S3 with Triple Battery:

Can provide up to 7.2 hours of operation. Recharging time can take up to 6 hours.



Size with Single Battery:
6.2" L x 3.4" W x 6.7" H



Single Battery
Item #: S3BY001S



Extends to 7.5" H with
Double Battery



Double Battery
Item #: S3BY001D



Extends to 8.3" H with
Triple Battery



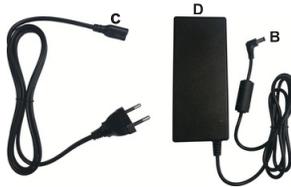
Triple Battery
Item #: S3BY001T

Power Supply

AC Power Supply # S3AC

The AC Power Supply is used to power the P2-S3 from an electrical outlet. 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 throughout the world.

- 1.Connect A plug to nearest outlet
- 2.Connect C to D port
- 3.Connect B to the P2-S3



DC Power Supply # S3DC

The DC Power Supply is designed for use with the P2-S3 Oxygen Concentrator. The DC power supply connects directly to a car cigarette lighter or an auxiliary DC port. Input voltage is 11-16Vdc, fuse rating is 15A /125V, output voltage is 19V 6.3A Max.



WARNING

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-S3 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). It should be rated for 5 liters per minute to ensure optimal oxygen delivery.

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. It is recommended to replace the nasal cannula after 24 hours of continuous use.

CAUTION

Select only FDA approved Nasal Cannula (e.g., P2NC-1)

Carry Bag # S3CB

The P2-S3 Carry Bag allows you to go out for daily activities.

See the Carry Bag Instructions for detailed Use.



P2-S3 Accessories

Item	Description
Number	Portable Oxygen Concentrator Single Battery for the
P2-S3	P2-S3/P2-S4 Double Battery for the P2-S3/P2-S4
S3BY001S	(optional) Triple Battery for the P2-S3/P2-S4
S3BY001D	(optional) Nasal Cannula for the POC Cotton Intake
S3BY001I	Filter for the P2-S3/P2-S4 (Pack of 5) AC Adapter for
P2NC-1 S3FC	the P2-S3/P2-S4 DC Adapter for the P2-S3/P2-S4
S3AC S3DC	Carry Bag for the P2-S3/P2-S4
S3CB	

Operating Instructions

General Operation

1. Find a well ventilated location to place the P2-S3. Ensure that the unit is turned off.

Ensure the Intake and exhaust has clear access. The P2-S3 should be placed where alarms can be heard.

WARNING

Do not use P2-S3 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-S3 is designed for continuous use. It is useful to operate the product frequently for optimal sieve bed life. The P2-S3 maximum duration time is 24h/day while providing sufficient power to the device and ensuring that both the device and accessories are within expected life.

CAUTION

P2-S3 is shipped from factory with battery removed.

Ensure the Pre-Filter Covers are in place.



CAUTION

Do not operate the device without the Cotton Intake Filter and Pre-Filter Covers in place. Operating the device without these in place can damage the device.

Operating Instructions

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 AC or DC power supply to P2-S3.

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 AC/DC input port other than the supplied power cords. Do not use extension cords with the P2-S3.

CAUTION

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

CAUTION

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

Operating Instructions

General Operation (continued)

4. Place the P2-S3 into Carry Bag. Position exhaust vents away from the user.



5. Connect the Nasal Cannula to the nozzle fitting.



Nozzle fitting is located on the top side of the P2-S3 near the Pre-Filter Cover. Connect 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 which can disrupt oxygen flow.

6. Press On/Off  button to turn on P2-S3.

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

"Welcome" will appear on the display at start up. The display will indicate the selected flow setting and power condition. 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-S3 will enter auto-pulse mode. During these 30 seconds, inhalation will not work.

Operating Instructions

General Operation (continued)

7. Set flow rate prescribed by your provider.

Press the \pm setting button to adjust the P2-S3 to the desired flow rate. The current setting can be viewed on the display from 1 to 3.

CAUTION

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

8. Wear the Nasal Cannula on your face and breathe through your nose.



The P2-S3 will sense if you are breathing from it. If you are not yet breathing through the cannula, the P2-S3 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-S3 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

If the oxygen level drops below recommended levels, a Low O2: <87% alert will display on the screen. 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-S3 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.

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 or DC power supply 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.
	DC Cable is not connected properly	Check DC power connection to the POC. Also check there is a secure connection to the cigarette lighter or auxiliary DC port.
No Oxygen	The device is not turned on	Turn 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 to warm up. If the problem is not solved, contact your 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 case or Pre-Filter Covers.

Cannula Replacement

The Nasal Cannula is disposable. You can buy replacements from your provider and follow the Cannula Manufacturer's instructions.

CAUTION

Nasal Cannula should be FDA approved and the 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-S3.

Pre-Filter Cover # S3PFCR

The Pre-Filter Covers must be cleaned weekly to ensure adequate air flow. Clean with a mild liquid detergent and water. Ensure the covers are completely dry before use.



CAUTION

It may be necessary to clean the Pre-Filter Covers more often in dusty or polluted environments/conditions.

Maintenance and cleaning of P2-S3

Cotton Intake Filter # S3FC

The Cotton Intake Filter is designed to ensure clean air enters the compressor. 1. Remove the battery, check the bottom of device. 2. Lift chamber cover up by bottom end to remove it. 3. Remove Cotton Intake Filter from intake chamber. 4. Install a new Cotton Intake Filter into chamber. 5. Install chamber cover and battery.



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

In normal conditions, the Cotton Intake Filters 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 Cotton Intake Filter. If the filter is grey or brown color, replace it. The Cotton Intake Filters cannot be cleaned, it must be replaced.

Battery Care and Maintenance

The P2-S3 Lithium-ion Battery requires special care to ensure proper performance and long life. Only use P2-S3 batteries (Item #s: S3BY001S, S3BY001D, S3BY001T) with your concentrator.

CAUTION

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

Battery Replacement

1. Press down on latch and slide battery out.



2. Slide battery into place until the latch clicks into place.



Battery Care and Maintenance (continued)

Effect of Temperature on Battery Performance

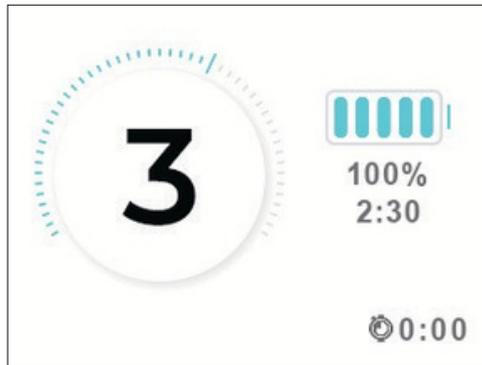
To extend the run-time of your battery, the device should be used in temperatures between 41°F and 95°F (5°C and 35°C). The number of cycles that the battery will last is highly dependent upon the temperature at which the battery is charged.

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-S3 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 and charge it every 3 months.

Maintenance and cleaning of P2-S3

Disposal of Equipment and Accessories

Follow your local governing ordinances for disposal and recycling of the P2-S3 accessories. The battery contains Lithium-ion cells and should be recycled and must not be incinerated.



P2-S3 Replacement Items

Part number	Description
S3BY001S	Single Battery for the P2-S3/P2-S4
S3BY001S	Double Battery for the P2-S3/P2-S4 (optional)
S3BY001D	Triple Battery for the P2-S3/P2-S4 (optional)
S3BY001T	Pre-Filter Cover for the P2-S3
S3PFCR S3FC	Cotton Intake Filter for the P2-S3/P2-S4 (Pack of 5)

If you need assistance, please contact your provider.

System Specifications

Specifications

Dimensions	Single Battery: (L/W/H) 6.2" x 3.4" x 6.7"/15.7 x 8.6 x 17cm Double Battery: (L/W/H) 6.2" x 3.4" x 7.5"/15.7 x 8.6 x 19cm Triple Battery: (L/W/H) 6.2" x 3.4" x 8.3"/15.7 x 8.6 x 21.1cm			
Weight	Single Battery: 3.3lbs/1.5kg Double Battery: 4lbs/1.8kg Triple Battery: 4.4lbs/2kg			
User Interface	2 inch large LCD color display screen			
Sound Level	<45 dB(A) (on setting 3)			
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
	Breath Rate	Pulse Volumes(ml)		
	10	21	42	63
	15	14	28	42
	20	10.5	21	31.5
	25	8.4	16.8	25.2
	30	7	14	21
	35	6	12	18
	40	5.3	10.5	15.8
	±15% at STPD* (standard temperature and pressure, dry) +/-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			
Time Delay from Onset of Inspiration	<10ms			
Delivery pressure at the device outlet	16 PSI ± 10%			
Use Mode	Continuous Use			
Available Mode	Triggered Pulse Delivery Mode			

System Specifications

Specifications (continued)

Power: AC Power Supply DC Power Supply Rechargeable Battery	AC Input: 100 to 240 VAC 50 to 60 Hz DC Input: 11-16 VDC DC Output: 19V \approx 6.3A Voltage: 14.4 VDC Single Battery Rated Capacity: 3,400 mAh Double Battery Rated Capacity: 6,800 mAh Triple Battery Rated Capacity: 10,200 mAh		
Battery Duration	Single Battery Duration Setting 1: 2.5h Setting 2: 1.7h Setting 3: 1.2h	Double Battery Duration Setting 1: 4.8h Setting 2: 3.5h Setting 3: 2.5h	Triple Battery Duration Setting 1: 7.2h Setting 2: 5h Setting 3: 3.5h
Battery Charging Time	Up to 2 hours for Single Battery Up to 4 hours for Double Battery Up to 6 hours for Triple Battery		
Environmental Ranges Intended for Operation	Temperature: 41 °F to 104 °F (5 °C to 40 °C) Humidity: 10% - 90%, non-condensing Altitude: 0 - 10,000 ft. (0 to 3,048 meters, 70 kPa to 106 kPa)		
Environmental Ranges Intended for Shipping And Storage	Temperature: -4 °F to 158 °F (-20 °C to 70 °C) Humidity: 5% - 90% Non-condensing. Store in a dry environment Altitude: 0 - 10,000 ft (0 to 3,048 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	IP22 - Protects against solid objects over 12.5mm and direct sprays of water up to 15° of vertical (IEC 60529)

System Specifications

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/ANSIISO 10993-10: 2010, Biological Evaluation of Medical Devices - Part 10: Tests for Skin Irritation
- AAMI/ANSI/ISO 10993-23: 2021, Biological evaluation of medical devices -- Part 23: Tests for irritation
- AAMI/ANSI/ISO 10993-5: 2009, biological Evaluation of Medical Devices - Part 5: Tests for in vitro Cytotoxicity
- ISO 14971: 2019, Medical devices — Application of risk management to medical devices

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) IEC 61000-4-2	±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 IEC 61000-4-4	±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 IEC 61000-4-5	±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 IEC 61000-4-11	<5% UT (>95% Dip in UT) for 0.5 Cycle at 45 degree increments 70% UT (30% Dip in UT) for 0.5 seconds <5% UT (>95% Dip in UT) for 5 Seconds	<5% UT (>95% Dip in UT) for 0.5 Cycle at 45-degree increments 70% UT (30% Dip in UT) for 0.5 seconds <5% UT (>95% Dip in UT) 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 IEC 61000-4-8	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: UT is the A.C. mains voltage prior to application of the test level			

System Specifications

EMC Information (continued)

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

CAUTION

Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic, immunity of this equipment and result in improper operation.

CAUTION

Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 12"/30cm to any part of the Oxygen Concentrator, including cables specified by the manufacturer. Otherwise, degradation of the performance of this.

CAUTION

Keep far away from HF Surgical Equipment and the RF shielded room of an ME System for magnetic resonance imaging in hospitals.

CAUTION

Do not use near other equipment. Do not stack with other equipment. This can result in faulty or improper operation. If using near other equipment is necessary, all equipment should be observed carefully to ensure normal and safe operation. Use extreme caution.

System Specifications

Guidance and Manufacturer's Declaration - Electromagnetic Emissions:

The P2-S3 is intended for use in the electromagnetic environment specified below. The user of the P2-S3 should ensure it is used in such an environment.

Emission Test	Compliance	Electromagnetic Environment - Guidance
RF Emissions CISPR 11	Group 1	The P2-S3 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-S3 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 IEC 61000-3-2	Class A	
Voltage Fluctuations/Flicker Emissions IEC 61000-3-3	Complies	

System Specifications

Essential Performance List

The P2-S3 is intended for use in the electromagnetic environment specified below. The user of the P2-S3 should ensure it is used in such an environment.

Essential Performance	Relevant Requirements or Condition
Accuracy of concentration	Within 93%+3/-6% over all setting levels
The accuracy of oxygen delivery	Within 25% as indicated in the instruction for use
Power supply failure technical alarm condition	System voltage<10.5V
Internal electrical power source nears depletion technical alarm condition	RSOC \leq 5% without adapter
Low oxygen concentration technical alarm condition	Concentration<87% continuously>300s
Start-up period technical alarm condition	Concentration<87% continuously>120s after system startup
Triggering signal absence alarm condition	No breath detected continuously>15s
Gas supply failure alarm condition	Flow or concentration below normal after injection

Warranty

The P2-S3 Oxygen Concentrator warranty covers the repair or replacement of the unit. The warranty term is 24 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 24 months warranty, except as provided below:

Description	Period
P2-S3 Oxygen Concentrator	3 years
Accessories (Battery, Carry Bag, 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-S3 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-S3. 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 or an authorized Rhythm service center. This warranty does not apply to any product which is not purchased new.



RHYTHM
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