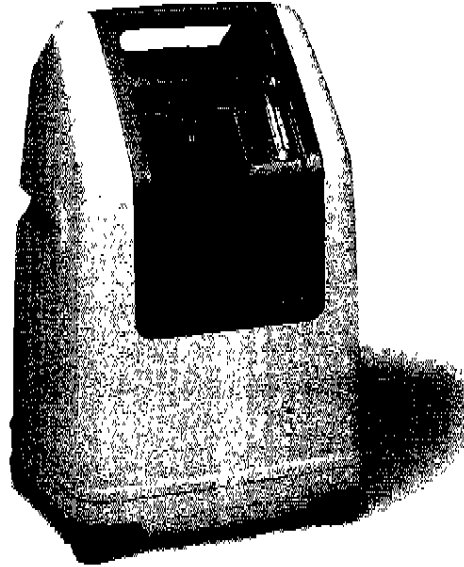



DEVILBISS



515 Series
Serie de 515
Série 515
515 Serie
Serie da 515
515 Serie


DeVilbiss® Oxygen Concentrator Instruction Guide

WARNING- Read instruction guide before operating this equipment.
CAUTION- Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.

 DANGER-NO SMOKING


Guía de Instrucciones del Concentrador de Oxígeno de *DeVilbiss*®

ADVERTENCIA- Lea la guía de instrucciones antes de poner a funcionar este equipo.
PRECAUCION- La ley federal (EE.UU.) establece que este aparato sólo lo puede vender un médico o por prescripción del mismo.

 PELIGRO-NO FUMAR

Guide d'instructions Concentrateur d'Oxygène *DeVilbiss*®

AVERTISSEMENT- Lire le mode d'emploi avant d'utiliser ce dispositif.
ATTENTION- En vertu de la Loi fédérale américaine, la vente de cet appareil n'est autorisée que par un médecin ou sur ordonnance de ce dernier.

 DANGER-NE PAS FUMER


DeVilbiss® Sauerstoffkonzentrator Bedienungsanleitung

WARNUNG- Vor Inbetriebnahme des Gerätes Bedienungsanweisung lesen.
ACHTUNG- Dieses Gerät darf US-Bundesgesetzen zufolge nur von Ärzten oder auf deren Anweisung hin verkauft werden.

 GEFAHR-RAUCHEN VERBOTEN

DeVilbiss® Manuale di Istruzioni del Concentratore di Ossigeno

AVVERTENZA- Leggere il manuale di istruzioni prima di usare l'apparecchio.
ATTENZIONE- La legislazione federale degli Stati Uniti limita la vendita di questo prodotto al personale medico o alle persone munite di prescrizione medica.

 PERICOLO - NON FUMARE

DeVilbiss® Zuurstofconcentrator Instructiehandboekje

WAARSCHUWING- Lees dit instructiehandboekje zorgvuldig door voordat u het apparaat gaat gebruiken.
ATTENTIE- De federale wetgeving in de Verenigde Staten schrijft voor dat dit apparaat uitsluitend mag worden verkocht of voorgeschreven door een arts.

 GEVAAR- VERBODEN TE ROKEN

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CAUTION– Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.

INDICATIONS FOR USE– The DeVilbiss Oxygen Concentrator is intended for use as an oxygen concentrator to provide supplemental low flow oxygen therapy in the home, nursing homes, patient care facilities, etc.

WARNING

Under certain circumstances, oxygen therapy can be hazardous.
Seeking medical advice before using an oxygen concentrator is advisable.

Physician Information

Physician Name: _____
Telephone: _____
Address: _____

Prescription Information

Name: _____
Oxygen liters per minute
at rest: _____ during activity: _____
other: _____

Oxygen use per day

Hours: _____ Minutes: _____
Comments: _____

DeVilbiss Oxygen Concentrator Serial Number: _____
(check one)

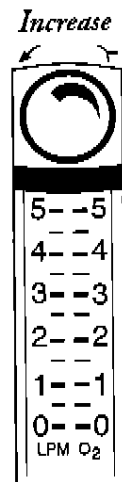
4-Liter with OSD 5-Liter 5-Liter with OSD _____

Sunrise Medical/DeVilbiss Equipment Provider Information

Set-Up Person: _____

This instruction guide was reviewed with me and I have been instructed on the safe use and care of the DeVilbiss Oxygen Concentrator.

Signature: _____ Date: _____



DeVilbiss 4- and 5-Liter Series

IMPORTANT SAFEGUARDS

▲ Read this entire guide before using your DeVilbiss concentrator. Important information is highlighted by these terms throughout this guide:


DANGER Urgent safety information for hazards that will cause serious injury or death.

WARNING Important safety information for hazards that might cause serious injury.

CAUTION Information for preventing damage to the product.

NOTE Information to which you should pay special attention.

Important safeguards are indicated throughout this guide; pay special attention to all safety information.

 **DANGER—NO SMOKING**

SAVE THESE INSTRUCTIONS.

INTRODUCTION

This instruction guide will acquaint you with the DeVilbiss oxygen concentrator. Make sure that you read and understand this guide before operating your unit. Important safeguards are indicated throughout this guide; pay special attention to all safety information. Contact your Sunrise Medical/DeVilbiss equipment provider should you have any questions.

▲ WARNING

For your safety, the oxygen concentrator must be used according to the prescription determined by your physician.

▲ DANGER

Oxygen causes rapid burning. Do not smoke while your oxygen concentrator is operating, or when you are near a person utilizing oxygen therapy. Do not use within 5 feet (1.6m) of hot, sparking objects or naked sources of flame.

Why Your Physician Prescribed Supplemental Oxygen

Today, many people suffer from heart, lung, and other respiratory diseases. Many of these people can benefit from supplemental oxygen therapy. Your body requires a steady supply of oxygen to function properly. Your physician prescribed supplemental oxygen for you because you are not getting enough oxygen from room air alone. Supplemental oxygen will increase the amount of oxygen that your body receives.

Supplemental oxygen is not addictive. Your physician prescribed a specific oxygen flow to improve symptoms such as headaches, drowsiness, confusion, fatigue, or increased irritability. If these symptoms persist after you begin your supplemental oxygen program, consult your physician.

How Your DeVilbiss Oxygen Concentrator Works

Oxygen concentrators are the most reliable, efficient, and convenient source of supplemental oxygen available today. The oxygen concentrator is electrically operated. The unit separates oxygen from room air which allows high-purity supplemental oxygen to be delivered to you through the oxygen outlet. Although the concentrator filters the oxygen in a room, it will not affect the normal amount of oxygen in your room.

IMPORTANT PARTS OF YOUR CONCENTRATOR

Please take time to familiarize yourself with your DeVilbiss oxygen concentrator before operating.

Front View (Figure 1)

1. Operating instructions
2. Green Power light – illuminates when your concentrator is operating.
3. Power Switch
 - | = ON
 - O = OFF
4. Flow meter knob
5. Flow meter
6. Circuit breaker – (selected units) resets the unit after electrical overload shutdown.
7. Oxygen outlet – oxygen is dispersed through this port.
8. Normal Oxygen (green) light – ONLY on units with the OSD® (see page 6).
9. Low Oxygen (yellow) light – ONLY on units with the OSD® (see page 6).
10. Red Service Required light – when illuminated contact your Sunrise Medical/DeVilbiss provider.

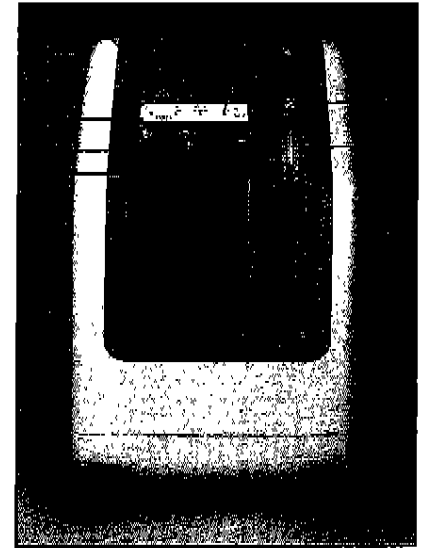


Figure 1

Back View (Figure 2)

11. Important Safeguards
12. Handgrip
13. Exhaust
14. Power cord and/or IEC power connector.
15. Line cord strap
16. Air filter – prevents dirt, dust, and lint from entering your unit.

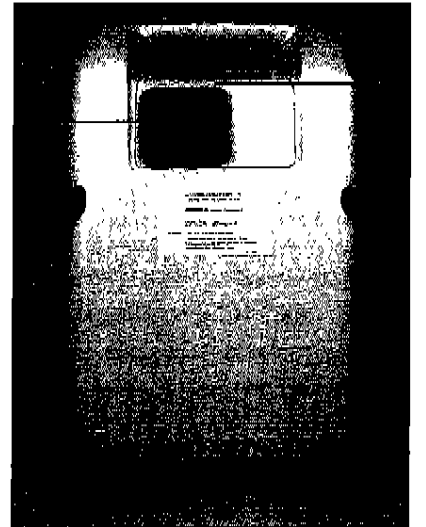


Figure 2

Accessories

The accessories below are approved for use with DeVilbiss Oxygen Concentrators:

Bubble Humidifier (200 ml Capacity)	
- 50/case	HUM16
Cannula (disposable)	
- 50/case	CAN00
Cannula w/ 2.1 m (7 ft) Oxygen Tubing (disposable)	
- 50/case	CAN70
Oxygen Outlet Connector	
- Plastic - 1/pack	CN100
- Metal - 1/pack	CN200
Oxygen Tubing (disposable)	
- 2.1 m (7 ft) - 50/case	OST07
- 4.2 m (14 ft) - 50/case	OST15
- 7.5 m (25 ft) - 25/case	OST25
- 15 m (50 ft) - 15/case	OST50

NOTE- The use of certain humidifiers and accessories not specified above may impair the oxygen concentrator's performance.

SETTING UP YOUR OXYGEN CONCENTRATOR

1. Position your unit near an electrical outlet in the room where you spend most of your time.

⚠ DANGER

Keep the oxygen concentrator at least 5 feet (1.6 m) from hot, sparking objects or naked sources of flame.

NOTE- Do not connect to an electrical outlet controlled by a wall switch. No other appliances should be plugged into the wall outlet.

2. Position your unit at least 6 inches (16 cm) from walls, draperies, or any other objects that might prevent the proper flow of air in and out of your oxygen concentrator. The oxygen concentrator should be located so as to avoid pollutants or fumes.

BEFORE OPERATING YOUR OXYGEN CONCENTRATOR

1. Before operating your unit, always check to be sure the air filter (located on the back of your unit) is clean. Proper cleaning of this filter is discussed in the Caring For Your Concentrator section on page 7.

2. Attach the appropriate oxygen accessories to the oxygen outlet.

Oxygen Tubing Connection:

- a. Thread the oxygen outlet connector onto the oxygen outlet.
- b. Attach the oxygen tubing directly to the connector (**Figure 3**).

Oxygen Tubing Connection With Humidification:

If your physician has prescribed an oxygen humidifier as part of your therapy, follow these steps:

- a. Fill the humidifier bottle with distilled water. Do not overfill. (If using a prefill, go to letter b.)
 - b. Thread the wing nut located on the top of the humidifier bottle to the oxygen outlet so that it is suspended (**Figure 4**). Make sure it is securely tightened.
 - c. Attach the oxygen tubing directly to the humidifier bottle outlet fitting (**Figure 5**).
3. Your physician has prescribed either a nasal cannula, catheter, or face mask. In most cases, they are already attached to the oxygen tubing. If not, follow the manufacturer's instructions for attachment.
 4. Remove the power cord completely from the line cord strap. Make sure the power switch is in the "Off" position, and insert the plug into the wall outlet. The unit is double insulated to guard against electric shock.

NOTE- (only 115 volt units) The plug on the DeVilbiss oxygen concentrator has one blade wider than the other. To reduce the risk of electric shock, this plug is intended to fit in a wall outlet only one way. Do not attempt to defeat this safety feature.

⚠ WARNING

Improper use of the power cord and plugs can cause a burn, fire, or other electric shock hazards. Do not use the unit if the power cord is damaged.

OPERATING YOUR DEVILBISS OXYGEN CONCENTRATOR

⚠ DANGER

Oxygen causes rapid burning. Do not smoke while your oxygen concentrator is operating, or when you are near a person utilizing oxygen therapy. Keep the oxygen concentrator at least 5 feet (1.6 m) from hot, sparking objects or naked sources of flame.

1. Press the power switch to the "On" position. When the unit is turned on, the Power light will illuminate, and the patient alert system – Service Required light and audible signal – will briefly alarm.

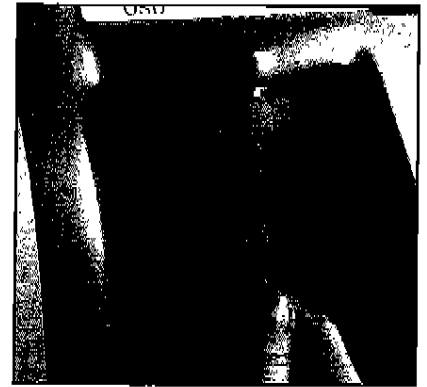


Figure 3



Figure 4



Figure 5

DEVILBISS OXYGEN CONCENTRATORS WITH OSD ONLY

The OSD (Oxygen Sensing Device) is a device within your concentrator that monitors the oxygen produced by your unit. When the unit is turned "On," all four lights (Power, Service Required, Low Oxygen, and Normal Oxygen) on the front panel will illuminate briefly. After a few seconds, only the Power and Normal Oxygen lights will remain lit.

The OSD lights on the front panel are defined as follows:

- Green Normal Oxygen light—acceptable oxygen level.
- Yellow Low Oxygen light— below an acceptable oxygen level.

If the oxygen purity falls below the acceptable level, the green Normal Oxygen light will shut off and the yellow Low Oxygen light will illuminate. Switch to your reserve oxygen system. Refer to the Minor OSD Troubleshooting section in this guide on page 8 and contact your Sunrise Medical/DeVilbiss provider.

As an added safety feature should the oxygen purity continue to drop, an intermittent audible signal will sound. Contact your Sunrise Medical/DeVilbiss provider immediately. Do not attempt any other maintenance.

NOTE— If the Service Required light illuminates and the audible signal alarms but the unit is not operating, there is no power to the unit. Refer to the Minor Troubleshooting chart on page 8 and contact your Sunrise Medical/DeVilbiss provider if necessary.

NOTE— If an audible low-frequency vibration sound is detected, the unit is not operating properly. Refer to the Minor Troubleshooting chart on page 8, and contact your Sunrise Medical/DeVilbiss provider if necessary.

2. Check the flow meter to make sure that the flow meter ball is centered on the line next to the prescribed number of your flow rate.

CAUTION— It is very important to follow your oxygen prescription. Do not increase or decrease the flow of oxygen— consult your physician.

NOTE— Your Sunrise Medical/DeVilbiss provider may have preset the flow meter so that it can not be adjusted.

NOTE— If the flow meter knob is turned clockwise, the flow decreases (and eventually will shut off the oxygen flow). If the knob is turned counterclockwise, the flow increases.

NOTE— On later models of the 515 concentrators equipped with an OSD, the low-flow alarm may be activated if the flow meter ball is set below 1 lpm. The unit will continue to run; however, the Service Required light will come on accompanied by an audible alarm. Adjust the flow meter to your prescribed flow.

3. Your DeVilbiss concentrator is now ready for use, properly position the cannula or mask (**Figure 6**). Allow 20 minutes for oxygen concentrator to reach stated performance.

RESERVE OXYGEN SYSTEM

As a precaution, your Sunrise Medical/DeVilbiss provider may supply you with a reserve oxygen system. If your unit loses electrical power or fails to operate correctly, the Patient Alert System will sound to signal you to switch to your reserve oxygen system (if provided) and contact your Sunrise Medical/DeVilbiss provider.

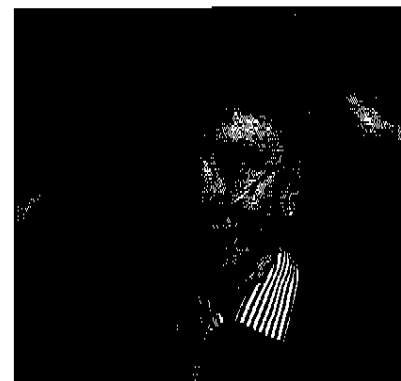


Figure 6

CARING FOR YOUR DEVILBISS OXYGEN CONCENTRATOR

Note— Use no lubricants, oils or grease.

⚠ WARNING

Before attempting any cleaning procedures, turn the unit "Off."

Oxygen Humidifier (reusable bottles)

If your physician has prescribed humidification, clean your humidifier bottle daily. Follow the instructions supplied by the manufacturer. If no cleaning instructions were supplied, follow these steps:

1. Wash the humidifier in a solution of hot water and dishwashing detergent (**Figure 7**).
2. Soak the humidifier in a solution of one part white vinegar to three parts hot water for 30 minutes (**Figure 8**). This solution acts as a germicidal agent.
3. Rinse thoroughly with hot tap water and refill with distilled water (**Figure 9**) for use. Do not overfill.

Cannula, Mask, and Tubing

Clean and replace the cannula, mask, and tubing as instructed by your Sunrise Medical/DeVilbiss provider.

Air Filter and Oxygen Outlet Connector

The air filter and connector should be cleaned at least once a week. To clean, follow these steps:

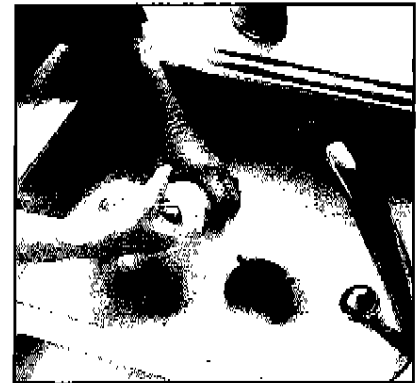
1. Remove the air filter, located on the back of the unit. Remove the oxygen outlet connector (if used).
2. Wash in a solution of warm water and dishwashing detergent (**Figure 10**).
3. Rinse thoroughly with warm tap water and towel dry. The filter should be completely dry before reinstalling.

CAUTION— To prevent product damage, do not attempt to operate the unit without the air filter or while the filter is still damp.

Exterior Cabinet**⚠ WARNING**

To avoid electric shock, do not remove the concentrator cabinet. The cabinet should only be removed by a qualified Sunrise Medical/DeVilbiss technician. Do not apply liquid directly to the cabinet or utilize any petroleum-based solvents or cleaning agents.

Clean the concentrator exterior cabinet by using a damp cloth or sponge with a mild household cleaner and wipe it dry.

*Figure 7**Figure 8**Figure 9**Figure 10*

TROUBLESHOOTING

The following troubleshooting chart will help you analyze and correct minor oxygen concentrator malfunctions. If the suggested procedures do not help, switch to your reserve oxygen system and call your Sunrise Medical/DeVilbiss homecare provider. Do not attempt any other maintenance.

⚠ WARNING

To avoid electric shock hazard, do not remove the cabinet. The cabinet should only be removed by a qualified Sunrise Medical/DeVilbiss homecare technician.

MINOR TROUBLESHOOTING CHART

Symptom	Possible Cause	Remedy
A. Unit does not operate. Power light is off when the power switch is "On." Audible alarm is pulsing and Service Required light is flashing.	<ol style="list-style-type: none"> 1. Power cord not properly inserted into wall outlet. 2. No power at wall outlet. 3. Oxygen concentrator circuit breaker activated (selected units). 	<ol style="list-style-type: none"> 1. Check power cord connection at the wall outlet. On 230 volt units, also check the back of the unit. 2. Check your home circuit breaker and reset if necessary. Use a different wall outlet if the situation occurs again. 3. Press the concentrator circuit breaker reset button (if equipped) located below the power switch. Use a different wall outlet if the situation occurs again. If the above remedies do not work, contact your Sunrise Medical/DeVilbiss provider.
B. Unit operates, the Power light is on when the power switch is "On." Red Service Required light is illuminated. Audible alarm may be sounding.	<ol style="list-style-type: none"> 1. Air filter is blocked. 2. Exhaust is blocked. 3. Blocked or defective cannula, catheter, face mask, or oxygen tubing. 4. Blocked or defective humidifier bottle. 5. Flow meter set too low. 	<ol style="list-style-type: none"> 1. Check the air filter. If the filter is dirty, wash it following the cleaning instructions on page 7. 2. Check the exhaust area; make sure there is nothing restricting the unit exhaust. 3. Detach cannula, catheter, or face mask. If proper flow is restored, clean or replace if necessary. Disconnect the oxygen tubing at the oxygen outlet. If proper flow is restored, check oxygen tubing for obstructions or kinks. Replace if necessary. 4. Detach the humidifier from the oxygen outlet. If proper flow is obtained, clean or replace humidifier. 5. Set flow meter to prescribed flow rate. If the above remedies do not work, contact your Sunrise Medical/DeVilbiss provider.
C. Unit operates, the power light is on when power switch is "on," audible low-frequency vibration sound is detected.		<ol style="list-style-type: none"> 1. Turn your unit "Off." Switch to your reserve oxygen system, and contact your Sunrise Medical/DeVilbiss provider immediately.
D. If any other problems occur with your oxygen concentrator.		<ol style="list-style-type: none"> 1. Turn your unit "Off." Switch to your reserve oxygen system, and contact your Sunrise Medical/DeVilbiss provider immediately.

MINOR TROUBLESHOOTING CHART - ONLY OSD CONCENTRATORS

Visual Indicator Lights	Possible Cause	Remedy
A. Both the green Normal Oxygen and the yellow Low Oxygen lights are either on or off.	<ol style="list-style-type: none"> 1. OSD malfunction. 	<ol style="list-style-type: none"> 1. Contact your Sunrise Medical/DeVilbiss provider.
B. Yellow Low Oxygen light is on or the yellow Low Oxygen light is on and the intermittent audible signal is sounding.	<ol style="list-style-type: none"> 1. Flow meter is not properly set. 2. Air filter is blocked. 3. Exhaust is blocked. 	<ol style="list-style-type: none"> 1. Ensure the flow meter is properly set to the prescribed number. 2. Check the air filter. If the filter is dirty, wash it following the cleaning instructions on page 7. 3. Check the exhaust area; make sure there is nothing restricting the unit exhaust.
C. Red Service Required light is on and an intermittent audible signal is sounding.	<ol style="list-style-type: none"> 1. Flow meter is not properly set. 2. Air filter is blocked. 3. Exhaust is blocked. 	<ol style="list-style-type: none"> 1. Ensure the flow meter is properly set to the prescribed number. 2. Check the air filter. If the filter is dirty, wash it following the cleaning instructions on page 7. 3. Check the exhaust area; make sure there is nothing restricting the unit exhaust. If the above remedies do not work, contact your Sunrise Medical/DeVilbiss provider.

Specifications

English

9

SPECIFICATIONS

	DEVILBISS 4-LITER SERIES	DEVILBISS 5-LITER SERIES	
Catalog Number	515UK	515DS, 515DZ	515KS, 515KZ, 515NS
Delivery Rate (Lower delivery rates available for low flow applications)	1 to 4 LPM	1 to 5 LPM	
Maximum Recommended Flow	4 LPM	5 LPM	
Outlet Pressure		8.5 psig (58.6 kPa)	
Electrical Rating	230 V, 50 Hz, 1.4 Amp	115 V, 60 Hz, 4.2 Amp	220-230 V~, 50 Hz, 1.7 Amp 230 V~, 60 Hz, 1.9 Amp
Operating Voltage Range	195-253 V~, 50 Hz	97-127 V~, 60 Hz	187-255 V~, 50 Hz 218-253 V~, 60 Hz
Oxygen Percentage	1-4 LPM = 93%±3%	1-5 LPM=93%±3%	
Operating Altitude (tested at 21°C only) 0-1500 M (0-4921 ft) 1500-3000 M (4921-9842 ft) 3000-4000 M (9842-13123 ft)	Across the voltage range: No degradation of performance Not recommended/Not tested Not recommended/ Not tested	Across the voltage range: No degradation of performance Tested at nominal voltage only: No degradation in performance Not recommended/Not tested	Across the voltage range: No degradation in performance Tested at 230V/50Hz only: ~4% oxygen performance drop at 5 LPM Not recommended/Not tested
Operating Environment Range* 10°C to 35°C, humidity range of 30% to 75%	No degradation in performance across the operating voltage range (tested at sea level).	No degradation in performance across the operating voltage range (tested at sea level).	~4% oxygen performance drop at 5 LPM and 35°C condition. No degradation in performance across the operating voltage range at other liter flows (tested at 670 M).
Power Consumption	295 Watts Average	400 Watts Average	230V / 50 Hz - 365 Watts Average 230V / 60 Hz - 435 Watts Average
Weight	53 lbs. (24.5 Kilograms)	52 lbs. (23.5 Kilograms)	53 lbs. (24.5 Kilograms)
Sound Level (ISO 8359:1996 from front)	50.5 dbA overall average	52.5 dbA overall average**	50.5 dbA overall average (50Hz)
Dimensions	27.75"H x 16"W x 14"D (70.5 x 40.6 x 35.6 cm)		
Pressure Relief Valve	44 psig±3psig (303 kPa±21 kPa)		
Operating System	Time Cycle / Pressure Swing		
For units equipped with an OSD, the visible "low oxygen" indicator will activate at the following level	Units with serial numbers less than H20000: 85%±2% (The audible alarm will alert at approximately 75%) Units with serial numbers of H20000 and greater: 83.5%±1.5% (The audible alarm will alert at approximately 75%. At less than 60%, the red "service required" light will activate.)		
Storage Conditions	-40°C to 70°C, humidity range of 10% to 100%, including condensation		
Equipment Class and Type	<input type="checkbox"/> Class II Equipment Double Insulated <input checked="" type="checkbox"/> Type B Applied Part		
Approval Body and Safety Standard	TUV IEC 601-1+A1+A2 EN 60601+A1+A2 ISO 8359:1996	CSA CAN/CSA-C22.2 No. 601.1-M90	TUV IEC 601-1+A1+A2 EN 60601+A1+A2 ISO 8359:1996 (515KZ excluded)
EMC Compliance To:	IEC 601-1-2		

*Note: The OSD performance at 10°C to 35°C, 95% R.H. through voltage range on the 515DS verified at 670m.

**Note: This corresponds with a sound level of 50 dbA overall average as measured according to the guidelines of the now defunct ANSI Z79.13-1981 standard. Specifications subject to change without notice.

DECLARATION OF CONFORMITY

Manufacturers: Sunrise Medical
Respiratory Products Division

Address: 100 DeVilbiss Drive
Somerset, PA 15501-2125 USA

Product Designation: Oxygen Concentrator

Catalog Number: 515UK, 515KS, 515NS

We herewith declare that the above-mentioned product complies with the requirements of EC directive 93/42/EEC and the following (see Specifications Matrix for specific compliance by model):

Quality System Standards Applied: ISO9001/EN46001

Notified body RWTÜV

MDD Annex II Applied

Safety Standards Applied: IEC 601-1+A1+A2
EN 60601+A1+A2
ISO8359: 1996

EMC Compliance To: IEC 601-1-2

Place: Somerset, PA

Signature:

Name: John M. DeShane

Title: Quality Manager

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