Home Care Provider Setup Instructions

Always use these instructions along with the User Manual when assembling or adjusting this equipment.

System Contents

CPAP Device
- Filter Cap
- Pollen Filters
- Power Cord
- Carrying Case
- User Manual
- 6 ft. (1.83 m) Flexible Tubing

Symbols

**Display Screen**
- Elevation
- Ramp Start Pressure
- Humidifier Setting
- Hours of Use
- Number of nights with more than 4 hours usage
- Therapy Setup Menu
- Settings are being erased

**Control Buttons**
- Pressure On / Off
- Ramp
- Humidifier On / Off

**REMstar Plus Device**
- Attention, consult accompanying documents
- DC Power
- Type BF Applied Part
- Class II (Double Insulated)
- IPX0 Ordinary Equipment
- European CE Declaration of Conformity

Specifications

AC Power Consumption: 100 to 240 VAC, 50/60 Hz, 1.0 A max.
DC Power Consumption: 12 VDC, 3.0 A max.
Pressure Range: 4 to 20 cm H₂O (in 1 cm increments)
Mode of Operation: Continuous

Type of Protection against Electric Shock: Class II Equipment
Degree of Protection against Electric Shock: Type BF Applied Part
Degree of Protection against Ingress of Water: IPX0 Ordinary Equipment
Warnings & Cautions

CAUTION!

- US federal law restricts this device to sale by or on the order of a physician.

WARNING!
Indicates the possibility for injury to the user or the operator.

- This device is intended for adult use only.
- This device is not intended for life support.
- CPAP devices have the potential to induce rebreathing of exhaled air. To reduce this potential, observe the following:
  - Use Respironics circuit accessories.
  - Do not wear the mask and headgear for more than a few minutes while the unit is not operating.
  - Do not block or try to seal the vent holes in the exhalation port.
- As with most CPAP devices, at low CPAP pressures, some exhaled gas (CO₂) may remain in the mask and be rebreathed.
- Do not use this device if the room temperature is warmer than 95°F (35°C). If this device is used at room temperatures warmer than 95°F (35°C), the temperature of the airflow may exceed 106°F (41°C). This could cause irritation to the patient's airway.
- This equipment is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
- To avoid electrical shock, disconnect the power cord before cleaning. DO NOT immerse the REMstar Plus in any fluids.

CAUTION!
Indicates the possibility of damage to the device.

- If you notice any unexplained changes in the performance of this device, if it is making unusual or harsh sounds, if it has been dropped or mishandled, or if the enclosure is broken, discontinue use. Contact Respironics Technical Services Department and replace any damaged parts before continuing use.
- Tobacco smoke may cause tar build-up that may result in the REMstar Plus malfunctioning.

Contraindications

When assessing the relative risks and benefits of using this equipment, the clinician should understand that this device can deliver pressures up to 20 cm H₂O. In the event of certain fault conditions, a maximum pressure of 30 cm H₂O is possible. Studies have shown that the following pre-existing conditions may contraindicate the use of CPAP therapy for some patients:

- Bullous Lung Disease
- Pathologically Low Blood Pressure
- Pneumothorax
- Pneumocephalus has been reported in a patient using nasal Continuous Positive Airway Pressure. Caution should be used when prescribing CPAP for susceptible patients such as those with: cerebral spinal fluid (CSF) leaks, abnormalities of the cribriform plate, prior history of head trauma, and/or pneumocephalus. (Chest 1989; 96:1425-1426)

The use of CPAP therapy may be temporarily contraindicated if a patient exhibits signs of a sinus or middle ear infection. Not for use with patients whose upper airways are bypassed. Should your patient have any of these conditions, a physician will determine if CPAP therapy is appropriate.
WARNING! Do not connect any equipment to the REMstar Plus unless recommended by Respirronics or the doctor. Verify that an exhalation port is present to exhaust CO₂ from the circuit. If circuit accessories, other than those recommended by Respirronics, are connected to the REMstar Plus, pressures must be verified. Use of these accessories may alter the pressure you actually receive, reducing the effectiveness of your treatment.

Recommended Patient Circuit*
1. Resprionics nasal mask with integrated exhalation port
   (or Resprionics mask with separate exhalation port such as the Whisper Swivel®)
2. Resprionics 6 ft. (1.83 m) reusable, flexible tubing
3. Resprionics headgear (for the mask; not shown)

Resprionics Accessories
Refer to the table below for changes in the pressure/flow characteristics when using these circuit accessories. When using accessories always follow the instructions enclosed with the accessories. Resprionics circuit accessories are for single patient use only. They are not intended to be used on multiple patients.

Patient Circuit Accessory Pressure/Flow Characteristics

<table>
<thead>
<tr>
<th>Pressure/Flow Characteristics</th>
<th>Pressure Drop @ 30 lpm (cm H₂O)</th>
<th>Pressure Drop @ 60 lpm (cm H₂O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal Mask with integrated 22 mm exhalation port*</td>
<td>0.03</td>
<td>0.09</td>
</tr>
<tr>
<td>Simplicity™ Mask</td>
<td>0.20</td>
<td>0.77</td>
</tr>
<tr>
<td>Whisper Swivel II</td>
<td>0.02</td>
<td>0.08</td>
</tr>
<tr>
<td>6 ft. (1.83 m) Reusable Flexible Tubing*</td>
<td>0.11</td>
<td>0.30</td>
</tr>
<tr>
<td>Spectrum® Full Face Mask</td>
<td>0.04</td>
<td>0.10</td>
</tr>
<tr>
<td>Plateau™ Exhalation Valve</td>
<td>0.05</td>
<td>0.20</td>
</tr>
<tr>
<td>6 ft. (1.83 m) Disposable Circuit &amp; Exhalation Port</td>
<td>0.20</td>
<td>0.34</td>
</tr>
<tr>
<td>REMstar Pass-over Humidifier</td>
<td>&lt; 0.01</td>
<td>0.30</td>
</tr>
<tr>
<td>REMstar Heated Humidifier</td>
<td>&lt; 0.01</td>
<td>0.30</td>
</tr>
<tr>
<td>24 in. (61 cm) Reusable Tubing (used with humidifier)</td>
<td>0.03</td>
<td>0.10</td>
</tr>
<tr>
<td>18 in. (46 cm) Disposable Tubing (used with humidifier)</td>
<td>&lt; 0.01</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>18 in. (46 cm) Reusable Tubing (used with humidifier)</td>
<td>&lt; 0.01</td>
<td>0.10</td>
</tr>
<tr>
<td>Resprionics Pressure Valve</td>
<td>0.10</td>
<td>0.28</td>
</tr>
<tr>
<td>King™ Bacteria Filter</td>
<td>0.74</td>
<td>1.65</td>
</tr>
<tr>
<td>Ultra-fine Filter</td>
<td>0.10</td>
<td>0.20</td>
</tr>
</tbody>
</table>

DC Power
The Resprionics DC Power Cord can be used to operate this device in a stationary recreational vehicle, boat, or motor home. The Resprionics DC Battery Adapter Cable (when used with the DC Power Cord) enables the device to be operated from a 12 VDC free-standing battery. DC Power is not intended to be used as battery back-up. DO NOT connect the DC Power System while the device is operating on AC power. System damage may occur.

Humidifiers
The Resprionics REMstar Heated Humidifier and Pass-over Humidifier are available for use with this device. The humidifiers may reduce nasal dryness and irritation by adding moisture (and heat if applicable) to the airflow.

Filters
An optional ultra-fine filter can be used in addition to the pollen filter for more complete filtration of very fine particles. The ultra-fine filter is recommended for people who are sensitive to tobacco smoke or other substances with small particles.
System Setup

CAUTION! If the REMstar Plus System has been exposed to either very hot or very cold temperatures, allow it to adjust to room temperature before beginning the following setup procedures.

Control Panel

Display Screen: All device settings will appear here.

Pressure On/Off Button: Use this button to turn the airflow on or off. DO NOT turn the airflow on until the circuit tubing is connected.

Humidifier Button: Use this button when the optional REMstar® Heated Humidifier has been prescribed. This button will control the optional heated humidifier. Follow the instructions included with the humidifier.

Ramp Button: Use this button to start the ramp cycle (which lowers the airflow pressure).

IMPORTANT! When the device is in the Therapy Setup Menu, the humidifier and ramp buttons operate as up and down keys to change the settings and the pressure on/off button will take you to the next screen.

Therapy Setup Menu

1. Plug the pronged end of the power cord into an electrical outlet. To enter the Therapy Setup Menu hold the ramp and pressure on/off buttons down while plugging the power cord into the device. The airflow will automatically turn ON and the display screen will show the current elevation setting and the unlock symbol.

IMPORTANT! Prescribed therapy settings can be set only using the Therapy Setup Menu. To prevent patients from tampering with the settings, the directions to access the Therapy Setup Menu should not be revealed to the patient.

Elevation Setting

a. The elevation setting and symbol will be displayed. The patient also has access to this setting in the Patient Setup Menu.

Lo = less than 2,500 ft. (< 762 m)
M = 2,500 to 5,000 ft. (762 m to 1524 m)
Hi = 5,001 to 7,500 ft. (1525 m to 2286 m)

NOTE: Altitudes of 7,500 ft. (2,286 m) may affect the accuracy of the pressure. Verify the pressure settings with a water column manometer.

To change the elevation setting, press and release the ramp or humidifier button until the correct setting is displayed.
Press and release the pressure on/off button to go to the next setting.

Pressure Setting

b. The CPAP pressure setting will appear.

To change the setting, press and release the ramp or humidifier button.

Range: 4 to 20 cm H₂O (in 1 cm H₂O increments)
Press and release the pressure on/off button to go to the next setting.
Fine Adjustment Setting

c. The CPAP fine adjustment setting will appear. This setting allows you to calibrate the device so that the pressure setting can be verified with a manometer.

If you do not want to calibrate the device, press and release the pressure on/off button to go to the next setting.

If you do want to calibrate the device, follow the directions below:
1. Connect the patient circuit to the REMstar Plus. Make sure there is an exhalation leak in the circuit.
2. Zero the manometer, and connect the manometer at the patient mask. Make sure the pressure has stabilized (let the manometer sit for at least 60 seconds).
3. If the pressure setting is not the same as the manometer reading, press and release the ramp or humidifier button to change the setting.
   Range: -0.9 to 0.9 cm H₂O (in 0.1 cm H₂O increments)
   Press and release the pressure on/off button to go to the next setting.

Ramp Time Setting

d. The Ramp Time symbol and setting will appear. The patient also has access to this setting in the Patient Setup Menu.

To change the setting, press and release the ramp or humidifier button.

Range: 0 to 45 minutes (in 5 minute increments)
Press and release the pressure on/off button to go to the next setting.
NOTE: If the ramp time is set to "0" minutes, or if the CPAP pressure setting is 4 cm H₂O, the following ramp setting will not be displayed. Go to Step f.

Ramp Starting Pressure Setting

e. The Ramp Starting Pressure symbol and setting will appear.

To change the setting, press and release the ramp or humidifier button.

Range: 4 to Prescription Setting (in 1 cm H₂O increments)
Press and release the pressure on/off button to go to the next setting.

>4 Setting

f. The number of times this device has been used for more than four consecutive hours (>4) will appear. To erase the total and go back to zero, press and release the ramp or humidifier button.
   An "x" will appear in the upper left corner and the total will change to "0000." (Pressing the button again will restore the original count.)
   Press and release the pressure on/off button to go to the next setting.

LED Setting

g. The LED On/Off symbol and setting will appear. This setting allows you to have the lights behind the buttons turned on or off.

The patient also has access to this setting in the Patient Setup Menu.

1 = on
0 = off

To change the setting, press and release the ramp or humidifier button.

Exit Settings

h. To go back to the beginning of the settings, press and release the pressure on/off button.

To exit the Therapy Setup Menu, hold the pressure on/off button down and press the ramp button one time. Release the on/off button. The airflow will turn off.


3. Final Steps

a. Follow the instructions in the User Manual to install the filter.


Service

The REMstar Plus System does not require routine servicing.

If the REMstar Plus begins to function incorrectly, refer to the “Troubleshooting” section of the User Manual or contact Respirationics, Inc. Repairs and adjustments must be performed only by trained personnel fully acquainted with this equipment. Service performed by unqualified personnel or installation of unauthorized parts could cause personal injury, invalidate the warranty, or result in costly damage.

If you need technical assistance, call
Respirationics Technical Service Department
1-800-345-6443 (within the U.S. and Canada) or 1-724-387-4000

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