

RESMED

RESMED **S7**[™] *Lightweight* USER'S MANUAL

Reorder number: 308167/1 04 05



Manufactured by:

ResMed Ltd 97 Waterloo Road North Ryde NSW 2113 Australia

Tel: +61 (2) 9886 5000 or 1 800 658 189 (toll free) Fax: +61 (2) 9878 0120 Email: reception@resmed.com.au

Distributed by:

ResMed Corp 14040 Danielson Street Poway CA 92064-6857 USA

Tel: +1 (858) 746-2400 or 1-800-424-0737 (toll free) Fax: +1 (858) 746-2900 Email: reception@resmed.com

US DESIGNATED AGENT: ResMed Corp

EU AUTHORIZED REPRESENTATIVE: ResMed (UK) Ltd

Internet: www.resmed.com

Protected by patents: US 4944310, US 5199424, US 5522382, US 6705315. Other patents pending.

Protected by design registrations: AU 147283, AU 147335, AU 147336, AU 154957, CH 128.709, CH 128.710, CH 128.711, DE 40202007, DE 40202008, DE 40201723, DE 40202020, ES 153514, ES 153515, ES 153516, ES 153518, ES 156136, FR 02 1407, GB 3001791, GB 3001819, GB 3001820, GB 3001821, JP 1164087, JP 1164265, JP 1164266, JP 1164267, SE 75598, SE 75599, SE 75600, SE 75715, US D467335, US D468011, US D476077, US D477868, US D487311. Other designs pending

S7, HumidAire 2i, Mirage, Protégé, and *Ultra* Mirage are trademarks of ResMed Ltd.

© 2004 ResMed Ltd.

CONTENTS

INTRODUCTION	1
DEFINITIONS	1
USER/OWNER RESPONSIBILITY	1
MEDICAL INFORMATION	1
WHAT A RESMED S7™ LIGHTWEIGHT UNIT IS FOR	1
TELL YOUR DOCTOR IF...	1
WARNINGS	2
CAUTIONS	3
THE RESMED S7 LIGHTWEIGHT SYSTEM	5
RESMED S7 LIGHTWEIGHT COMPONENTS	5
MASKS	6
HUMIDIFIER	6
PREPARING FOR USE	9
SETTING UP THE RESMED S7 LIGHTWEIGHT	9
FEATURES OF THE RESMED S7 LIGHTWEIGHT	14
OPERATING INSTRUCTIONS	17
STARTING TREATMENT	17
STOPPING TREATMENT	17
HELPFUL HINTS	18
CLEANING AND MAINTENANCE	19
DAILY	19
WEEKLY	19
PERIODICALLY	19
REPLACING THE AIR FILTER	20
SERVICING	20
TROUBLESHOOTING	21
SYSTEM SPECIFICATIONS	23
LIMITED WARRANTY	29
INDEX	31

INTRODUCTION

DEFINITIONS

This manual contains special terms that appear in the text to draw your attention to specific and important information.



WARNING

Alerts you to possible injury.



CAUTION

Explains special measures for the safe and effective use of the device.

Note: *Is an informative or helpful note.*

USER/OWNER RESPONSIBILITY

The user or owner of this system shall have sole responsibility and liability for any injury to persons or damage to property resulting from:

- operation which is not in accordance with the operating instructions supplied
- maintenance or modifications carried out unless in accordance with authorized instructions and by authorized persons.

Please read this manual carefully before use.

MEDICAL INFORMATION

WHAT A RESMED S7™ LIGHTWEIGHT UNIT IS FOR

The RESMED S7™ LIGHTWEIGHT system is intended for the treatment of adult patients with obstructive sleep apnea (OSA).



CAUTION

In the USA, federal law restricts this device to sale by or on the order of a physician.

TELL YOUR DOCTOR IF...

You must tell your doctor, and CPAP (continuous positive airway pressure) therapy must not be used, if you have any of the following conditions:

- pneumothorax or pneumomediastinum (air in the pleural cavity or mediastinum)
- severe heart failure, low blood pressure, or dehydration
- surgery to the brain, middle or inner ear, pituitary gland, or sinuses
- respiratory distress syndrome
- middle ear infection or perforated ear drum
- severe nosebleed.

WARNINGS

CPAP therapy should be used with caution if you have any of the following conditions:

- respiratory failure
- cavities or cysts in the lung (called bullae, and usually due to emphysema), or previous history of pneumothorax
- previous history of severe nosebleed
- sinus infection.

Tell your doctor if you have any of these conditions. Your doctor will advise you whether the likely benefits of CPAP therapy outweigh the expected risks.

Special care should be exercised if you are dehydrated, or may become dehydrated, for example as a result of fluid restriction or diuretic therapy (including changes in therapy).

Discontinue therapy and seek medical advice if, during therapy or when you start therapy each night, you feel faint or light-headed.

The following are general warnings that pertain to your use of a **RESMED S7 LIGHTWEIGHT** unit. Specific warnings appear next to the relevant instructions in the manual.

- **This is NOT a life support device.** It may stop operating with power failure or if a fault occurs in the unit.
- The air flow for breathing produced by this device can be as much as 11°F (6°C) higher than the temperature of the room. Caution should be exercised if the room temperature is warmer than 90°F (32°C).
- The **RESMED S7 LIGHTWEIGHT** unit should only be used with masks (and connectors)* recommended by ResMed, or by your physician or respiratory therapist. A mask should not be used unless the **RESMED S7 LIGHTWEIGHT** unit is turned on and operating properly. The vent hole or holes associated with the mask should never be blocked.

Explanation: The **RESMED S7 LIGHTWEIGHT** unit is intended to be used with special masks (or connectors)* which have vent holes to allow continuous flow of air out of the mask. When the device is turned on and functioning properly, new air from the device flushes the exhaled air out through the mask vent holes. However, when the device is not operating, insufficient fresh air will be provided through the mask, and the exhaled air may be rebreathed. Rebreathing of exhaled air for longer than several minutes can, in some circumstances, lead to suffocation. This applies to most models of CPAP devices.

- The **RESMED S7 LIGHTWEIGHT** unit should only be connected to the components, humidifiers, or accessories specified in this manual. Connection of other items may result in injury, or damage to the **RESMED S7 LIGHTWEIGHT** unit.
- At low pressures, the flow through the exhalation ports of your mask may not clear all exhaled gas from the tubing. Some rebreathing may occur.
- This device is not intended for use with supplemental oxygen.

* Ports may be incorporated in the mask or in connectors that are near the mask.

- Explosion hazard—do not use in the vicinity of flammable anesthetics.
- Blocking the hose while in operation could lead to overheating of the device.

WARNINGS RELATED TO OXYGEN USE



WARNING

If oxygen is used with this device, the oxygen flow must be turned off when the device is not operating.

Explanation: when the device is not in operation and the oxygen flow is left on, oxygen delivered into the air delivery tubing may accumulate within the device enclosure and create a risk of fire. This applies to most types of CPAP machines.

- Oxygen supports combustion. Oxygen should not be used while smoking or in the presence of an open flame.
- Always ensure airflow is being generated by the device before the oxygen supply is turned on.
- Always turn the oxygen supply off before stopping the airflow from the device.

Note: *At a fixed rate of supplemental oxygen flow, the inhaled oxygen concentration will vary, depending on where the oxygen is introduced, the pressure settings, patient breathing pattern, mask selection, and leak rate.*

WARNINGS RELATED TO TREATMENT



WARNING

- If you stop your CPAP treatment, your sleep apnea will return.
- Always consult your clinician if you expect to be in a situation where you cannot use your **RESMED S7 LIGHTWEIGHT** unit.
- If you are admitted to a hospital or prescribed any other form of medical treatment, always inform the medical staff that you are being treated with CPAP. It is also important to contact the clinician who is treating you for sleep apnea.
- If you experience an infection of the upper respiratory tract, middle ear, or sinuses, contact your clinician before continuing your CPAP treatment. You may be advised to stop treatment until the infection has cleared. If you continue with treatment during an infection, be sure to clean your mask and tubing after every use.

CAUTIONS

The following are general cautions. Specific cautions appear next to the relevant instructions in the manual.

- Do not open the **RESMED S7 LIGHTWEIGHT** case. There are no user serviceable parts inside. Repairs and internal servicing should only be performed by an authorized service agent.

POSSIBLE SIDE EFFECTS

The RESMED S7 LIGHTWEIGHT flow generator helps you have a good night's sleep. However, you need to be aware of possible problems that may arise during CPAP treatment.



WARNING

Consult your clinician immediately if you experience any of the following symptoms during your CPAP treatment:

- headache
- middle ear or sinus discomfort
- chest pain
- dryness of the nose, mouth, or throat
- feeling bloated due to air swallowing
- air continually leaking out of the mouth while sleeping
- recurrence of any sleep apnea symptoms while on CPAP.

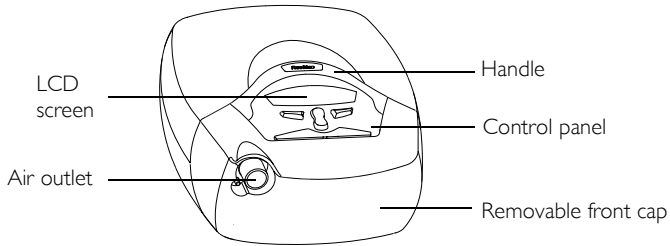
Skin irritation may occur from sensitivity to the mask materials or from excessively tight headgear straps. A correctly fitted mask and appropriately adjusted straps will often prevent skin irritation. If problems persist, contact your clinician for advice.

THE RESMED S7 LIGHTWEIGHT SYSTEM

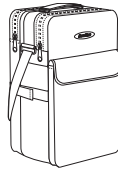
RESMED S7 LIGHTWEIGHT COMPONENTS

Please identify and familiarize yourself with the following components of the ResMED S7 LIGHTWEIGHT unit:

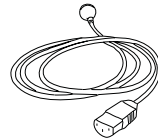
ResMed S7 Lightweight unit Front view



Air tubing, 6'6" (2 m)



Carry bag



Power cord

ACCESSORIES

The following accessories may be purchased separately.

RESMED S7 LIGHTWEIGHT ACCESSORIES



Air tubing,
9'10" (3 m)

HUMIDIFIER ACCESSORIES

(HUMIDAIRE and ResMed PASSOVER only)



Medium air tubing
21" (52 cm) for
humidifier connection

MASKS

You will also need a **ResMed mask system** (supplied separately).

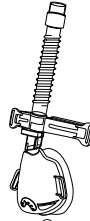
The following ResMed mask systems are recommended for use with the **RESMED S7 LIGHTWEIGHT**:



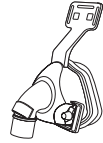
MIRAGE VISTA™
MASK



ULTRA MIRAGE™
MASK



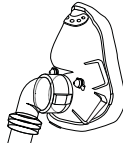
MIRAGE® MASK



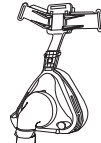
PROTÉGÉ™ MASK



MIRAGE® FULL FACE
MASK SERIES 2



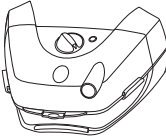
MIRAGE® FULL FACE MASK



MODULAR MASK

HUMIDIFIER

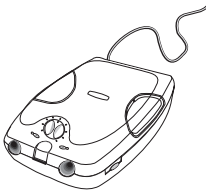
A humidifier may be required if you are experiencing dryness of the nose, throat, or mouth. The **RESMED S7 LIGHTWEIGHT** is compatible for use with the following humidifiers:



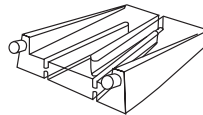
HUMIDAIRE 2i heated humidifier



HUMIDAIRE 2iC passover humidifier



HUMIDAIRE heated humidifier



ResMed PASSOVER humidifier



WARNING

Only the HumidAire 2i, HumidAire 2iC, HumidAire heated humidifier, and the ResMed Passover are compatible for use with the ResMed S7 Lightweight. Please

refer to “Warnings” on page 2.

PREPARING FOR USE

SETTING UP THE RESMED S7 LIGHTWEIGHT

- 1 Place the RESMED S7 LIGHTWEIGHT unit on a table near the head of your bed.



CAUTION

Be careful not to place the device where it can be bumped or where someone is likely to trip over the power cord.

Note: The ResMed S7 Lightweight unit may be placed on the floor beside or underneath your bed. Ensure that the area is free from dust and clear of bedding, clothes, or any other objects that could block the air inlet.

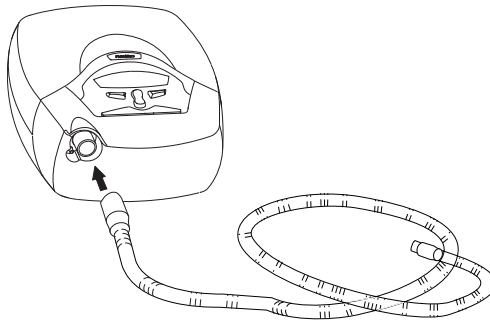
-
- 2 Connect the power cord to the socket at the rear of the flow generator. Plug the other end of the power cord into a power outlet.



WARNING

- Make sure the power cord and plug are in good condition and the equipment is not damaged.
- The air filter cover protects the device in the event of accidental liquid spillage onto the device. Ensure that the air filter and air filter cover are fitted at all times.

-
- 3 Connect one end of the air tubing firmly onto the air outlet of the unit.

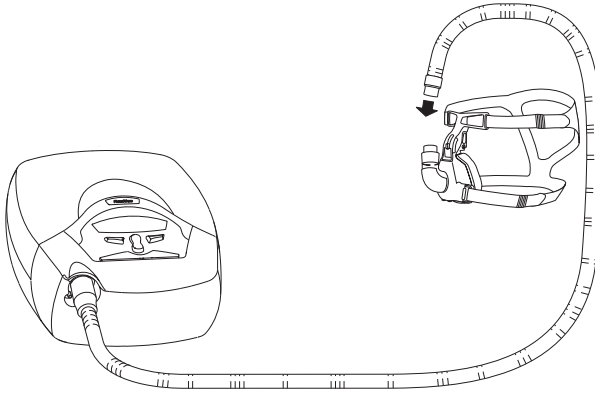


WARNING

Only ResMed air tubing should be used with your flow generator. A different type of air tubing may alter the pressure you actually receive reducing the effectiveness of your treatment.

-
- 4 Assemble your mask system according to the mask user instructions.

- 5 Connect your mask system to the free end of the air tubing.



The **RESMED S7 LIGHTWEIGHT** is now ready for use. To start treatment, see “Operating Instructions” on page 17.

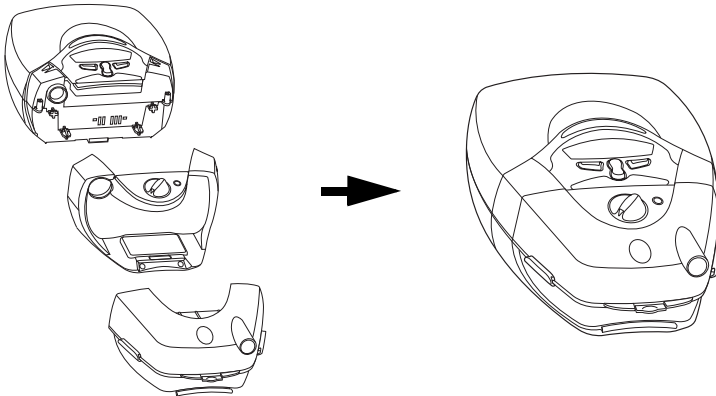
HUMIDIFIER USE

Notes

- The ResMed S7 Lightweight has no humidifier setting options.
- The ResMed S7 Lightweight does not have the Warm-Up and cooling down features mentioned in the HumidAire 2i User’s Manual. When the HumidAire 2i is attached to the ResMed S7 Lightweight, you may begin therapy immediately.

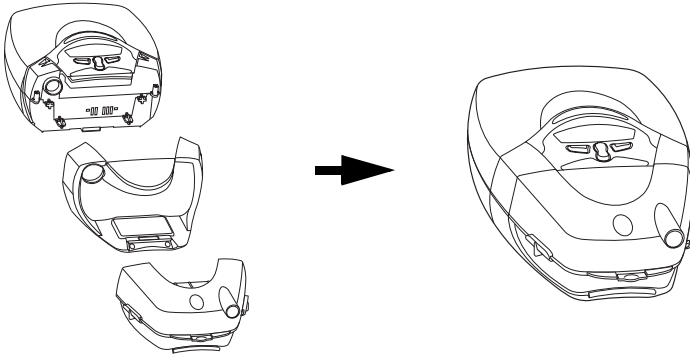
HUMIDAIRE 2i

The **HUMIDAIRE 2i** attaches to the front of the **RESMED S7 LIGHTWEIGHT** to provide heated humidification. No other accessories are required for its use. Please refer to the *HumidAire 2i User’s Manual* for details.



HUMIDAIRE 2iC

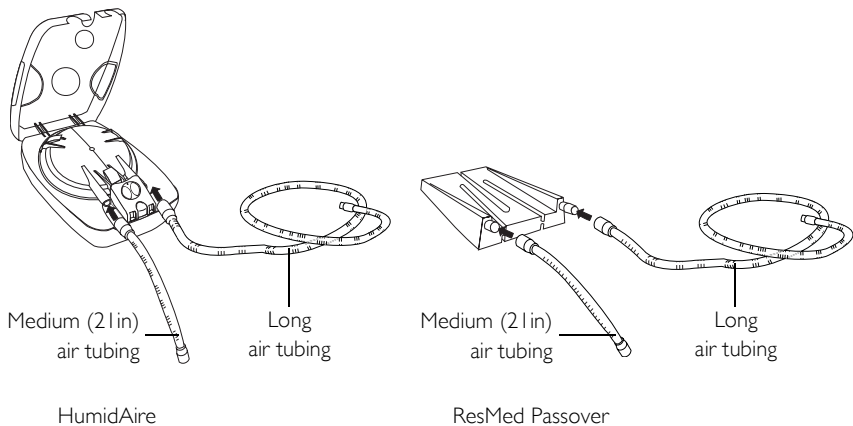
The **HUMIDAIRE 2iC** attaches to the front of a **RESMED S7 LIGHTWEIGHT** unit to provide passover humidification. No other accessories are required for its use. Please refer to the *HumidAire 2iC User's Manual* for details.



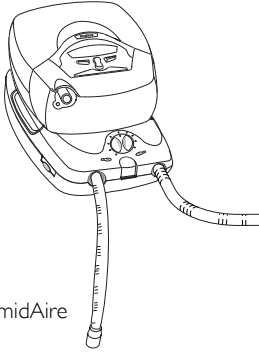
HUMIDAIRE AND RESMED PASSOVER HUMIDIFIERS

Medium size 21" (52 cm) air tubing is a necessary accessory for connecting the **RESMED S7 LIGHTWEIGHT** unit to the **HUMIDAIRE** and ResMed **PASSOVER** humidifiers.

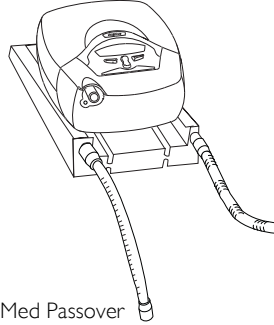
- 1 Fill the **HUMIDAIRE** or **PASSOVER** with water as described in the humidifier manual.
-
- 2 **HumidAire Users** Place the filled water chamber inside the **HUMIDAIRE**. Connect the medium 21" (52 cm) air tubing to the left connector port, and the long air tubing 6'6" or 9'10" (2 m to 3 m) to the right connector port on the humidifier. Close the **HUMIDAIRE** lid.
 - ResMed Passover Users** Connect the medium 21 in (52 cm) air tubing to the left connector port, and the long air tubing 6'6" or 9'10" (2 m to 3 m) to the right connector port on the humidifier.



- 3 Place the **RESMED S7 LIGHTWEIGHT** on top of the **HUMIDAIRE** or **PASSOVER**. Do not place the **RESMED S7 LIGHTWEIGHT** unit underneath the humidifier. (This is to avoid water spilling into the unit.)

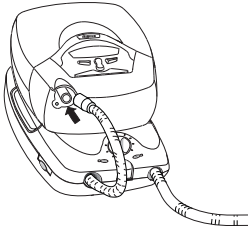


HumidAire



ResMed Passover

- 4 **HumidAire Users** Connect the free end of the medium air tubing to the air outlet of the **RESMED S7 LIGHTWEIGHT**.
ResMed Passover Users Connect the free end of the medium air tubing to the air outlet of the **RESMED S7 LIGHTWEIGHT**.

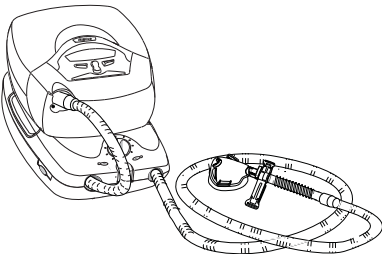


HumidAire

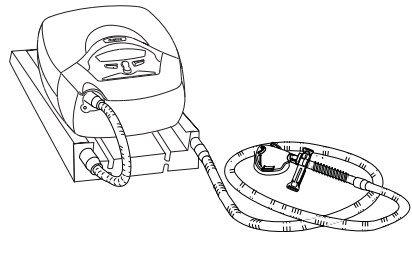


ResMed Passover

- 5 Connect the mask system to the free end of the long air tubing. The final assembly should look like this:



HumidAire



ResMed Passover

- 6 **HumidAire Users** Plug the **HUMIDAIRE** power cord into a power outlet and turn the power on.

- 7 Connect the power cord to the socket at the rear of the **RESMED S7 LIGHTWEIGHT**. Plug the other end of the power cord into a power outlet and turn the power on.



WARNING

Make sure that the power cord and plug are in good condition and the equipment is not damaged.

- 8 The **RESMED S7 LIGHTWEIGHT** is now ready for use with the **HUMIDAIRE** or **ResMed PASSOVER**.

ALTITUDE COMPENSATION

Changes in altitude will affect the pressure delivered by the **RESMED S7 LIGHTWEIGHT**. The device has a feature which compensates for these changes in altitude.

As you move or travel with the **RESMED S7 LIGHTWEIGHT** to areas of different altitudes, you will need to adjust the altitude compensation setting in the device. To change the altitude compensation setting, see “Using the Menu” on page 14.

There are three altitude settings to choose from:

Altitude Settings	
0–2000 ft	(0–610 m)
2001–4000 ft	(611–1219 m)
4001–7000 ft	(1220–2134 m)

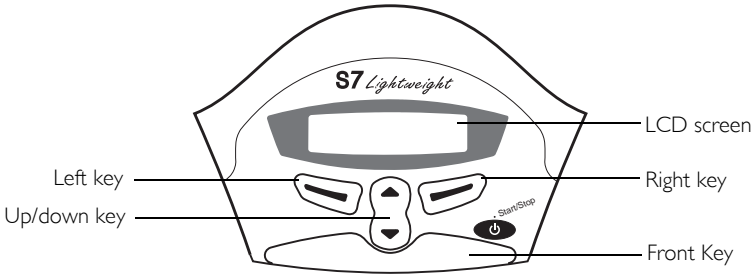
For example, if you are at an altitude of 3107 ft (947 m), your altitude compensation setting would be 2001–4000 ft (611–1219 m), as 3107 ft falls within that range.

Note: *If you are above 7000 ft (2134 m), consider consulting your clinician.*





FEATURES OF THE RESMED S7 LIGHTWEIGHT

LCD SCREEN AND KEYPAD

The control panel of the RESMED S7 LIGHTWEIGHT includes an LCD screen and keypad.



The RESMED S7 LIGHTWEIGHT keypad has the following keys:

Key	Function
Front 	<ul style="list-style-type: none">Starts or stops treatment
Up/Down 	<ul style="list-style-type: none">Allows you to scroll through the ResMed S7 LIGHTWEIGHT menus and setting options.
Left 	<ul style="list-style-type: none">Performs the function indicated by the guiding text displayed above it on the LCD screen. Guiding text includes menu, change, and apply.
Right 	<ul style="list-style-type: none">Performs the function indicated by the guiding text displayed above it on the LCD screen. Guiding text includes exit and cancel.

To assist you in adjusting the RESMED S7 LIGHTWEIGHT the keypad is equipped with a backlight. The keypad is backlit with power-up of the unit. Under normal operation, the keypad remains illuminated to indicate that the device is ON.

USING THE MENUS

The ResMed S7 LIGHTWEIGHT unit provides a set of functions which are arranged in menus. Via the LCD screen, the menus allow you to view and change the settings for a particular function. You can access the menus when the Ramp screen is displayed. After the Welcome Screen appears and device self-checks are complete, the Ramp screen appears. In the Ramp screen, you can immediately set a ramp time. Ramp time is the period during which the pressure increases from a low comfortable pressure to

the prescribed treatment pressure. Ramp time can be altered in 5 minute increments (from 0min to a maximum ramp time set by your clinician) by using the **Up/Down** key.

See Figure 1 for a summary of the **RESMED S7 LIGHTWEIGHT** menus.

- To access the **RESMED S7 LIGHTWEIGHT** menus:
Press the **Left** key (menu) while the Ramp screen is displayed.
- To scroll through items within a menu:
Press the **Up/Down** key
- To change a setting option for a function:
 1. Press the **Left** key (change)
 2. Press the **Up/Down** key until the desired setting option appears.
 3. Press the **Left** key (apply) to select the setting option.
- To exit without changing options:
Press the **Right** key (cancel)
- To exit out of a menu or submenu:
Press the **Right** key (exit)

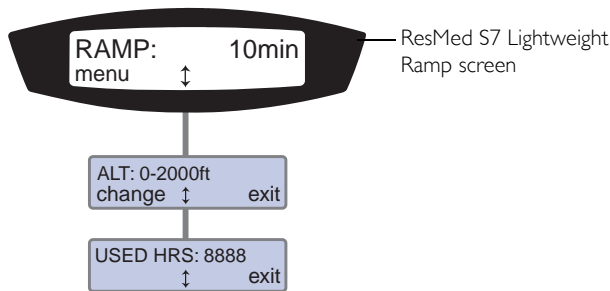


Figure 1: ResMed S7 Lightweight Menu Series

MENU FUNCTIONS

The **RESMED S7 LIGHTWEIGHT** menu functions are summarized in Table 1 with a brief description of what each function does and the available setting options. To access these functions see “Using the Menus” on page 14.

SETTINGS MENU

The Settings Menu allows you to view and change certain operating features of the **RESMED S7 LIGHTWEIGHT** unit.

Table 1: Settings Menu Functions

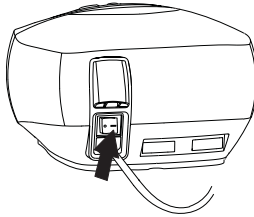
Function	Function Description	Setting Options
Altitude (Compensation)	Sets the altitude compensation range.	0–2000 ft (0–610 m), 2001–4000 ft (611–1219 m), 4001–7000 ft (1220–2134 m)
Used hours	Displays the total number of treatment hours.	(View only)

OPERATING INSTRUCTIONS

STARTING TREATMENT

The **RESMED S7 LIGHTWEIGHT** unit should be assembled beside your bed with the air tubing and mask system connected. See “Setting Up The ResMed S7 Lightweight” on page 9.

- 1 Turn the main power switch at the back of the unit to on (I).



When the **RESMED S7 LIGHTWEIGHT** is turned on, the software version is displayed on the LCD screen. The Ramp screen then appears.

- 2 Fit your mask as described in the mask user instructions.
- 3 Lie down and arrange the air tubing so that it is free to move if you turn in your sleep.



CAUTION

- Do not leave long lengths of air tubing around the top of your bed. It could twist around your head or neck while you are sleeping.
- Make sure the area around the flow generator is dry and clean. It should also be clear of bedding, clothes, and other potential blockages.

- 4 To start treatment, press the **Front** key.
If a ramp time is selected, the LCD will display the word RAMPING with set pressure indicated as dashes. At the end of the ramping period the LCD will display CPAP. After starting treatment, the LCD will look similar to one of the screens below.



The dashes represent the set pressure, where each dash is approximately equivalent to 2 cm H₂O pressure. For example, 6 dashes represents approximately 12 cm H₂O pressure.

STOPPING TREATMENT

To stop treatment at any time, remove your mask and press the **Front** key.

HELPFUL HINTS

STARTING OUT

FIRST USE

When you first use your **RESMED S7 LIGHTWEIGHT** unit, you may feel uncomfortable breathing against the air flow. This is normal. You will continue to breathe normally while you sleep. Take time to adjust to this new sensation. Taking a few deep breaths may help.

GETTING UP

If you need to get up during the night, remove your mask and turn the flow generator off. Always remember to put your mask on and turn your flow generator on when you return to bed.

MOUTH LEAKS

If using a nasal mask, try to keep your mouth closed during treatment. Air leaks from your mouth can decrease the effectiveness of your treatment. If mouth leaks are a problem, a full face mask or chin strap may help. Contact your clinician or equipment supplier for further details.

MASK FITTING

The flow generator delivers the most effective treatment when the mask is well fitted and comfortable. Treatment can be affected by leaks, so it is important to eliminate any leaks that may arise.

If you have problems trying to get a comfortable mask fit, contact your sleep clinic or equipment supplier. You may benefit from a different size or style of mask.

Before wearing your mask, wash your face to remove excess facial oils. This will allow a better fit and prolong the life of the mask cushion.

NASAL IRRITATION

DRYNESS

You may experience dryness of the nose, mouth, and/or throat during the course of treatment, especially during winter. In many cases, a humidifier may resolve this discomfort. Contact your clinician for advice.

RUNNY OR BLOCKED NOSE

You may experience sneezing and/or a runny or blocked nose during the first few weeks of treatment. In many cases, nasal irritation can be resolved with a humidifier. Consult your clinician for advice.

TRAVELLING WITH THE RESMED S7 LIGHTWEIGHT

INTERNATIONAL USE

Your **RESMED S7 LIGHTWEIGHT** flow generator has an internal power adapter that enables it to operate in other countries. It will operate on power supplies of 100–240V and 50–60Hz. No special adjustment is necessary, but you may need a plug adapter for the power outlet.

CLEANING AND MAINTENANCE

You should regularly carry out the cleaning and maintenance described in this section.

DAILY

1. Disconnect the air tubing and hang it in a clean, dry place until next use. Do not hang the air tubing in direct sunlight as it may harden and crack over time.
2. Clean the mask according to the mask user instructions.
3. If you are using a humidifier, clean it according to the instructions in the manual.

WEEKLY

1. Remove the air tubing from the **RESMED S7 LIGHTWEIGHT** unit and the mask.
2. Wash the mask system according to the instructions supplied with it.
3. Wash the air tubing in warm water using mild detergent. Rinse thoroughly, hang and allow to dry.
4. Before next use, assemble the mask and headgear according to the mask user instructions.
5. Reconnect the air tubing to the air outlet and mask.



CAUTION

- Do not use bleach, chlorine-, alcohol- or aromatic-based solutions (including all scented oils), moisturizing, or antibacterial soaps to clean the cushion, mask, air tubing, or the ResMed S7 Lightweight. These solutions may cause hardening and reduce the life of the product.
- Do not wash or dry the mask frame at a temperature above 176°F (80°C). Exposure to higher temperatures may reduce the life of the product.
- Do not hang the air tubing in direct sunlight as the tubing may harden over time and eventually crack.

PERIODICALLY

1. The mask and air tubing are subject to normal wear and tear. Inspect them regularly for damage.
2. Clean the exterior of the flow generator with a damp cloth and mild detergent.
3. Inspect the air filter to check if it is blocked by dirt or contains holes. See “Replacing the Air Filter” on page 20.



WARNING

Beware of electric shock. Do not immerse the flow generator or power cord in water. Always unplug the flow generator before cleaning and be sure that it is dry before reconnecting.



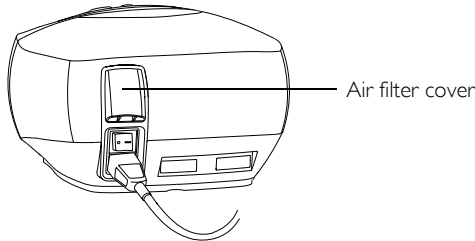
CAUTION

Do not attempt to open the ResMed S7 Lightweight. There are no user serviceable parts inside. Repairs and internal servicing should only be performed by an authorized service agent.

REPLACING THE AIR FILTER

Inspect the air filter every month to check if it is blocked by dirt or contains holes. With normal use of a RESMED S7 LIGHTWEIGHT unit, the air filter needs to be replaced every six months (or more often if your unit is in a dusty environment). To replace the air filter:

1. Remove the air filter cover at the back of the RESMED S7 LIGHTWEIGHT.



2. Remove and discard the old air filter.
3. Insert a new filter with the blue tinted side facing out from the unit.
4. Replace the air filter cover.



WARNING

Do not wash the air filter. The air filter is not washable or reusable.

Note: *The air filter should be inspected once a month.*

SERVICING

Your RESMED S7 LIGHTWEIGHT flow generator will give you years of trouble-free operation.

The flow generator should not require regular servicing if it is maintained according to the instructions in this manual. If you feel that your unit is not performing properly, see “Troubleshooting” on page 21.



CAUTION

Inspection and repair should only be performed by an authorized service agent. Under no circumstances should you attempt to service or repair the flow generator yourself.

TROUBLESHOOTING

If there is a problem, try the following suggestions. If the problem cannot be solved, contact your equipment supplier or ResMed. Do not attempt to open the unit.

Problem	Possible Cause	Solution
<i>No display.</i>	Power not connected or switch at back is not on.	Ensure the power cable is connected and that the switch at the back of the unit is in the ON position.
<i>Insufficient air delivered from the ResMed S7 Lightweight.</i>	Ramp Time is in use.	Wait for air pressure to build up.
	Air filter is dirty.	Replace air filter.
	Air tubing is kinked or punctured.	Straighten or replace tubing.
	Air tubing not connected properly.	Check air tubing.
	Mask and headgear not positioned correctly.	Adjust position of mask and headgear.
	Cap(s) missing from access port(s) on mask.	Replace cap(s).
	Altitude compensation setting is incorrect.	Adjust altitude compensation setting to the correct altitude range.
<i>Excessive air delivered from the ResMed S7 Lightweight.</i>	Altitude compensation setting is incorrect.	Adjust altitude compensation setting to the correct altitude range.
	Pressure required for treatment may have changed.	See your clinician to adjust the pressure.
<i>Displays error message: Exxx (where xxx defines an error code)</i>	Component failure.	Return your ResMed S7 Lightweight for servicing.

SYSTEM SPECIFICATIONS

Performance

Operating pressure range: 4 to 20 cm H₂O

Dimensions (L x W x H): 10.6" x 9.1" x 5.6"

Weight: 4.6 lb.

Power Supply

Input range 100–240 V, 50–60 Hz, < 120 VA (maximum power consumption)

Actual power consumption will vary, depending on factors such as the use of accessories, height above sea level, and ambient temperature. Power consumption values for typical treatment conditions (using a breathing machine set to 0.5 L and 15 breaths/min with 6'6" air tubing and a modular mask) are given in the following table.

Device	Pressure (cm H ₂ O)	Power (VA)
ResMed S7 Lightweight	5	20
	10	24
	15	29
	20	35

Housing Construction: Flame retardant engineering thermoplastic

Environmental Conditions

Operating Temperature: +41°F (+5°C) to +104°F (+40°C)

Operating Humidity: 10%–95% non-condensing

Storage and Transport Temperature: -4°F (-20°C) to +140°F (+60°C)

Storage and Transport Humidity: 10%–95% non-condensing

Electromagnetic Compatibility: Product complies with all applicable electromagnetic compatibility requirements (EMC) according to IEC60601-1-2, for residential, commercial, and light industry environments. For further details, see “Guidance and Manufacturer’s Declaration - Electromagnetic Emissions and Immunity” on page 25.

Air Filter: Two-layered, powder-bonded, polyester non-woven fiber

Air Tubing: Flexible plastic, 6'6" (2 m) length

IEC 60601-1 Classifications: Class II (double insulation), Type CF

Note: The manufacturer reserves the right to change these specifications without notice.

GLOSSARY OF SYMBOLS



Attention, consult accompanying documents



Class II equipment



Type CF equipment



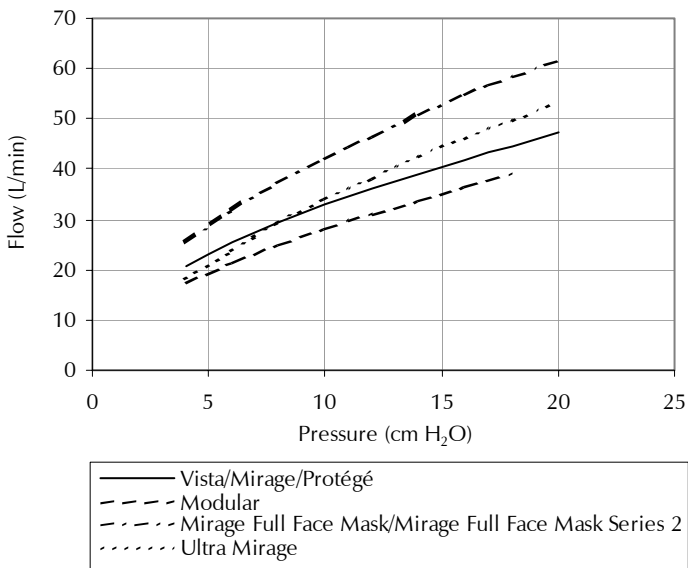
IPX1

Drip Proof



Start/Stop

FLOW/PRESSURE CHARACTERISTICS



GUIDANCE AND MANUFACTURER'S DECLARATION - ELECTROMAGNETIC EMISSIONS AND IMMUNITY

Guidance and manufacturer's declaration – electromagnetic emissions

The ResMed S7 Lightweight is intended for use in the electromagnetic environment specified below. The customer or the user of the ResMed S7 Lightweight should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR11	Group 1	The ResMed S7 Lightweight 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 ResMed S7 Lightweight is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage 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	

Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to EMC information provided in this document.

Warnings: The ResMed S7 Lightweight should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the ResMed S7 Lightweight should be observed to verify normal operation in the configuration in which it will be used.

The use of accessories (eg Humidifiers) other than those specified in this manual is not recommended. They may result in increased emissions or immunity of the ResMed S7 Lightweight.

Guidance and manufacturer's declaration – electromagnetic immunity


The ResMed S7 Lightweight is intended for use in the electromagnetic environment specified below. The customer or the user of the ResMed S7 Lightweight should assure that it is used in such an environment.

Immunity test	IEC60601-1-2 test level	Compliance level	Electromagnetic environment –guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 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 Not Applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial 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 40% Ut (60% dip in Ut) for 5 cycles 70% Ut (30% dip in Ut) for 25 cycles <5% Ut (>95% dip in Ut) for 5 sec	< 12V (>95% dip in 240V) for 0.5 cycle 96V (60% dip in 240V) for 5 cycles 168V (30% dip in 240V) for 25 cycles <12V (>95% dip in 240V) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the ResMed S7 Lightweight requires continued operation during power mains interruptions, it is recommended that the ResMed S7 Lightweight be powered from an uninterruptible power source
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment

NOTE: Ut is the a.c. mains voltage prior to application of the test level.

Guidance and manufacturer’s declaration – electromagnetic immunity

The ResMed S7 Lightweight is intended for use in the electromagnetic environment specified below. The customer or the user of the ResMed S7 Lightweight should assure that it is used in such an environment.

Immunity test	IEC60601-1-2 test level	Compliance level	Electromagnetic environment – guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p>3 Vrms 150 kHz to 80 MHz</p> <p>10 V/m 80 MHz to 2.5 GHz</p>	<p>3 Vrms</p> <p>10 V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the ResMed S7 Lightweight, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> <p>$d = 1.17 \sqrt{P}$</p> <p>$d = 0.35 \sqrt{P}$ 80 MHz to 800 MHz</p> <p>$d = 0.70 \sqrt{P}$ 800 MHz to 2.5 GHz</p> <p>where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1: At 80 MHz and 800MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ResMed S7 Lightweight is used exceeds the applicable RF compliance level above, the ResMed S7 Lightweight should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the ResMed S7 Lightweight.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 10 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the ResMed S7 Lightweight

The ResMed S7 Lightweight is intended for use in an environment in which radiated RF disturbances are controlled. The customer or the user of the ResMed S7 Lightweight can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the ResMed S7 Lightweight as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150kHz to 80MHz $d = 1.17 \sqrt{P}$	80 MHz to 800 MHz $d = 0.35 \sqrt{P}$	800MHz to 2.5 GHz $d = 0.35 \sqrt{P}$
0.01	0.17	0.04	0.04
0.1	0.37	0.11	0.11
1	1.17	0.35	0.35
10	3.69	1.11	1.11
100	11.70	3.50	3.50

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

LIMITED WARRANTY

ResMed warrants that your ResMed product shall be free from defects in material and workmanship for the period specified below from the date of purchase by the initial consumer.

Product	Warranty Period
AutoSet CS™ flow generator, ResMed humidifiers, ResControl™, ResLink™.	1 Year
CPAP (continuous positive airway pressure), APAP (automatic positive airway pressure), bilevel, and AutoSet CS™ 2 flow generators.	2 Years
Accessories, mask systems (including mask frame, cushion, headgear and tubing). Excludes single-use devices.	90 Days

Note: *Some models are not available in all regions.*

If the product fails under conditions of normal use, ResMed will repair or replace, at its option, the defective product or any of its components. This Limited Warranty does not cover: a) any damage caused as a result of improper use, abuse, modification or alteration of the product; b) repairs carried out by any service organization that has not been expressly authorized by ResMed to perform such repairs; c) any damage or contamination due to cigarette, pipe, cigar or other smoke; d) any damage caused by water being spilled on or into the flow generator. Any product repaired or replaced under warranty will be returned, freight prepaid, to the dealer designated by the consumer. The cost of transporting the product to an authorized service organization will be borne by the consumer.

This warranty is in lieu of all other express or implied warranties, including any implied warranty of merchantability or fitness for a particular purpose. Some regions or states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

ResMed shall not be responsible for any incidental or consequential damages claimed to have occurred as a result of the sale, installation or use of any ResMed product. Some regions or states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from region to region.

For further information on your warranty rights, contact your local ResMed dealer or ResMed office.

INDEX

A

accessories 5
 Air Filter 20, 23
 Air Tubing 23
 Altitude Compensation 13
 Altitude Settings 13

B

Back-light, Keypad 14

C

Cleaning and Maintenance 19
 Cleaning Periodically 19
 Components 5

D

Daily Cleaning 19
 Definitions 1
 Dimensions 23
 Dryness 18

E

Electromagnetic Compatibility 23
 Environmental Conditions 23
 Error Messages 21

F

Features of the ResMed S7 Lightweight 14
 First Use 18
 Flow/Pressure Characteristics 24
 Front Key 14

G

Getting Up 18
 Glossary of Symbols 24

H

Helpful Hints 18
 Housing Construction 23
 HumidAire 11
 HumidAire 2i 10
 HumidAire 2iC 11
 Humidifier 6, 10
 Humidifier Use 10

I

IEC 60601-1 Classifications 23
 International Use 18

K

Keys, functions 14

L

LCD Screen and Keypad 14
 Left Key 14

M

Mask Fitting 18
 Masks 6
 Medical Information 1
 Menu 15
 Menu Functions 15
 Menus, using the ResMed S7 Lightweight
 14
 Mouth Leaks 18

N

Nasal Irritation 18

O

Operating Instructions 17

P

Performance 23
 Power Supply 23
 Preparing for Use 9

R

Ramp
 screen 14
 time 14
 Replacing the Air Filter 20
 ResMed Passover humidifier 11
 Responsibility, user/owner 1
 Right Key 14
 Runny or Blocked Nose 18

S

Servicing 20
 Servicing Menu 17
 Setting Up 9
 Settings Menu 15
 Side Effects 4
 Starting Treatment 17
 Stopping Treatment 17
 System Specifications 23

T

Travelling 18
Troubleshooting 21

U

Up/Down Key 14
User/Owner Responsibility 1
Using the Menus 14

W

Warnings Related to Oxygen Use 3
Warnings Related to Treatment 3
Weekly Cleaning 19
Weight 23