

*Sun-Pure*  
*Air Purifier*

*Model SP-20*

*User's Guide*

*Ultra-Sun Technologies*

*Corona, California U.S.A.*

Manufactured by  
Ultra-Sun Technologies  
Corona, California

## IMPORTANT SAFETY INSTRUCTIONS

Always unplug the air purifier when it is not in operation, while the filters or ultraviolet light are being changed, and when cleaning.

After servicing this equipment both the front and top grill assemblies must be reinstalled in exactly the same manner as prior to removal. If either grill is not reinstalled properly the air purifier will not turn on. This is a built in safety feature.

Before using the air purifier extend the power cord and inspect for any signs of damage. Do not use the product if the power cord has been damaged.

**Warning** – This appliance is designed to be used on a flat level surface, and may not work properly on an uneven surface. To reduce the risk of electric shock and injury, do not place in a window. Always place the air purifier at least 12 inches (30.48 centimeters) away for heat sources such as stoves, radiators, or heaters.

Do not move the air purifier while it is in operation. Always unplug prior to moving.

Do not immerse the air purifier in water, as permanent damage will occur. Refer to the “Performing Maintenance” section in this user’s guide.

**Read and save these instructions.**

## SPECIFICATIONS - SP-20

Dimensions (inches).....	21.5 wide x 18.0 high x 8.0 deep
Weight .....	23 pounds
Maximum Air Volume .....	265 CFM
UV Lamp .....	254 nanometers (germicidal)
Line Voltage .....	120V, 60 Hz/230V-50Hz
Maximum Watts .....	110 watts
Maximum Amperes .....	0.95 amperes
Blower .....	Forward-curved motorized impeller

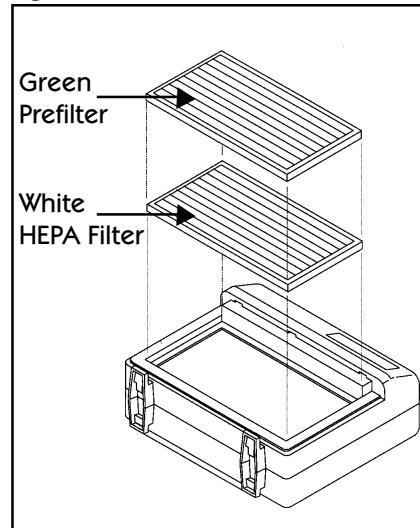
## Ultra-Sun Technologies

Limited Life Time Warranty

Each **Sun-Pure® SP-20 Air Purifier** comes with a **limited life time warranty** excluding expendable parts such as filters and UV lamp. This exceptional warranty provides for repair or replacement of any defective parts or components for two years from the date of purchase at no charge for labor or materials. Warranty work for the remaining life of the product will be provided with a maximum cost not to exceed \$55.00 dollars to the original owner. This warranty does not cover the expendable ultraviolet lamp, which **must** be replaced on an annual basis (1-year) or the expendable filter cartridge media, which **must** be replaced on a biannual basis (2-years) or sooner depending on environmental conditions. All warranty repair work must be performed either at the factory or by a factory certified service center. Shipping cost to the factory or service center is the responsibility of the owner of the Air Purifier. Warranty return shipping from the factory is prepaid for the first two years only. This warranty is provided to the original purchaser of the Air Purifier and may not be transferred, sold or bartered. This product is not warranted against freight damage, failure resulting from misuse, connection to incorrect voltage, or acts of God such as fires, earthquakes, or floods.

7. Install the new pre-filter in the remaining slot with its green side facing upwards.
8. Replace grill. Slide its upper end into grill slot and snap the bottom into place until it locks.
9. Reset the Filter Replacement timer by lightly pressing the related **RESET** button on the Service Panel with a pin or similar object. The **Filter OK** light will become green and time will again be counted from zero.

figure 10



This completes filter replacement procedures.

Restore the Purifier to normal operation as follows:

1. Set the unit in its normal operating position.
2. Plug the power cord into the wall outlet.

## SUN-PURE MODEL SP-20 AIR PURIFIER

Thank you for purchasing a Sun-Pure SP-20 Air Purifier, a product developed by Ultra-Sun Technologies.

The Sun-Pure embodies unique air-purification technologies not found in any other air purifier.

### SUN-PURE FEATURES

Only Sun-Pure has all these features:

- A quiet, energy-efficient backward-curved impeller that moves 265 cubic feet of air per minute.
- An advanced electronic control system that monitors air quality, room occupancy, air flow and volume, filter and ultraviolet lamp replacement time.
- A five-stage filtration system with gas-absorption media that absorbs toxic gas, organic hydrocarbons, exhaust fumes, formaldehyde, cleaning chemicals, low level ozone, unpleasant odors, and paint solvents.

A hospital-grade three-stage HEPA filter removes allergens such as pollen, mold fungal spores, tobacco smoke, insecticide dust, dust mites, and particles down to 0.3 microns (0.00003 inch).

- A photo-oxidation chamber reduces the spread of airborne disease in the home environment. Ultraviolet light 10,000 times the intensity of that in bright sunlight kills virus and bacteria on contact.
- Oxygen in the air, activated by the ultraviolet light, oxidizes airborne impurities too small to be filtered-out. Small amounts of residual activated oxygen and negative ions keep the air clean and fresh in exactly the same way sunlight and oxygen clean the air we breathe in the outdoor environment. The name **Sun-Pure** was chosen to reflect this benefit.

## INSTALLING THE SUN-PURE SP-20

### Unpacking the Purifier

Before unpacking the product, inspect the shipping container for visible damage. If you feel that you may have received the product in a damaged condition, notify the shipper or supplier before opening the container. Remove the product from the box and inspect it for damage. Handle it carefully. Do not drop it!

### Installing the Purifier

#### CAUTION

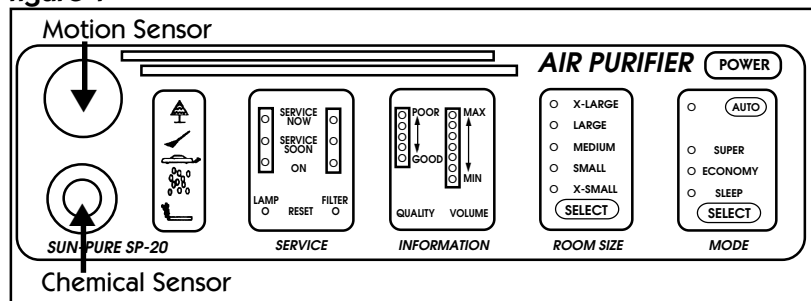
This product is for indoor use only.

Place the Purifier in a location that will not restrict air flow through either the air inlet or the air outlet, then plug-in the electrical cord at the nearest electrical wall outlet.

## USING THE SUN-PURE SP-20

1. Press-in Power **ON/OFF** button to turn-on the Purifier. Lights on the control panel (figure 1) will turn-on and the ultraviolet lamp will be On.

figure 1



2. Look into the air outlet at the top of the Sun-Pure Purifier and confirm that the ultraviolet lamp is operating. You will see a faint blue glow when the lamp is on. If the lamp appears to be Off, refer to **Maintaining the Sun-Pure Purifier**.

When the lamp is On, the product is ready for operation.

## Replacing the Filters

When the Yellow Filter indicator lights, filter should be replaced within 30 days. Here's the step-by-step procedure:

1. Unplug the Purifier's power cord from the electrical outlet.
2. Rest the Purifier on its back (figure 8) to access the bottom of the unit.
3. Press-in locking clip at each end of the front grill.
4. Lift bottom of grill upwards and slid-out the grill from the top of the unit (figure 9).
5. Pull out the two filters, individually, and discard them.
6. Install new HEPA filter in lower slot with its white layer facing upwards.

figure 8

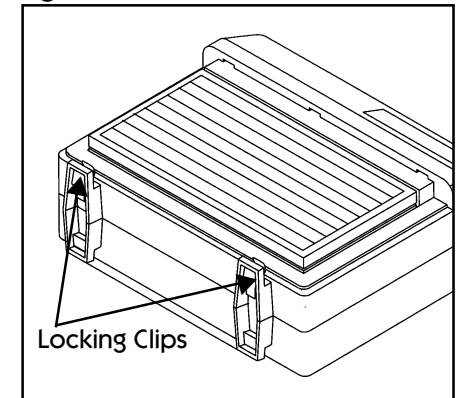
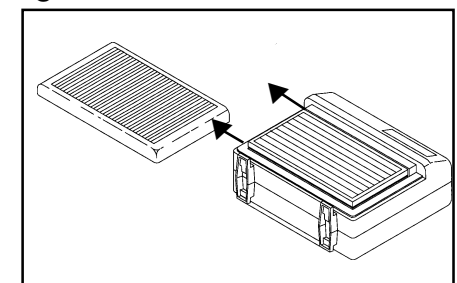


figure 9



## Performing Maintenance

Maintenance procedures are:

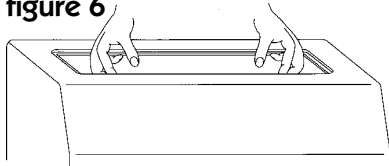
- Replacing the ultraviolet (UV) lamp.
- Replacing the filters.

### Replacing the UV Lamp

When the Yellow **UV Lamp** indicator lights, the ultraviolet lamp should be replaced within 30 days. Here's the step-by-step procedure:

1. Unplug the Purifier's power cord from the electrical outlet.
2. Using index fingers, squeeze the locking tabs (figure 6) inwards towards the center of the grill on top of the Purifier. Lift the grill up and remove.

figure 6



3. Rotate the UV Lamp one-quarter turn, top-to-rear, (figure 7) and remove lamp.

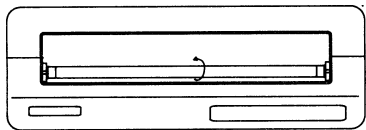


figure 7

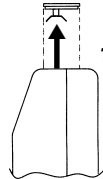


figure 7a

4. Insert the new UV lamp in place and install by rotating one-quarter turn (top-to-front).
5. Replace grill removed in previous step 2. by pressing it into position until it locks. The aluminum reflector must be positioned over the lamp, nearest the front of the unit. (figure 7a)
6. Reset UV Lamp timer by lightly pressing the related **RESET** button on the Service Panel with a pin or similar object. The **UV Lamp OK** light will return to green and time will again be counted from zero.

This completes lamp replacement procedures.

## Set Purifier for Room Size

1. Measure the room the Purifier is to serve, multiplying length by width to obtain a measurement in square feet (or square meters.)
2. On the table, find the room size and identify the respiratory condition the unit is to serve.

Heavy Duty				Light Duty			
People with Severe Respiratory Problems				Average home			
Super Mode	SQ. FT	SQ. METERS		Super Mode	SQ FT	SQ. METERS	
Extra Large	660	61		Extra Large	1980	183	
Auto Mode	SQ. FT	SQ. METERS		Auto Mode	SQ FT	SQ. METERS	
Extra Large	565	53		Extra Large	1695	159	
Large	485	45		Large	1455	135	
Medium	400	37		Medium	1200	111	
Small	350	33		Small	1050	99	
X Small	300	28		X Small	900	84	

figure 2

3. Use the "Heavy Duty" chart if you seriously suffer allergic reactions from particulate matter (pollen, dust, dust mites, animal dander, ect.) Or air borne chemicals (pesticides, herbicides, cleaning solutions, ect). Use the "light Duty" chart if the area you live in is unhealthy from time to time, or you suffer mild allergies occasionally.

### Select Operating Mode

Select the desired operating mode. Read the mode descriptions below to determine your selection.

To make your selection, press **MODE** button (figure 3) repeatedly, if necessary, until the appropriate mode light is On.

**AUTO MODE** — This is the mode, most commonly used. In this mode the electronic sensors combines the real time chemical sensor with the blower speed. If the chemical sensor detects an unhealthful amount of chemicals present in the air (indicated by the red light on the quality scale) the electronic controls will automatically speed the blower up to the next setting.

**SUPER MODE** — This mode may be selected during periods of high air pollution. For example: high winds which increase airborne

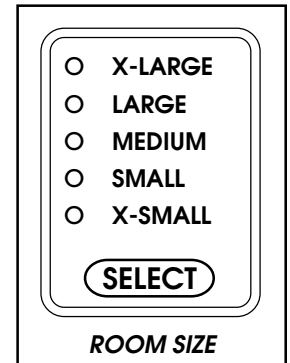
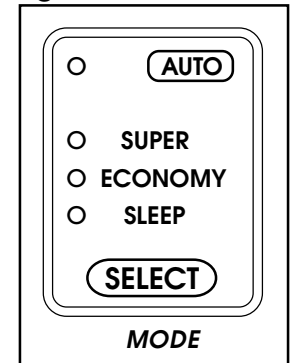


figure 3



dust and pollen. Heavy room loading, such as parties and heavy smoking. Super-Mode operation will increase blower speed approximately 25 percent above auto mode setting.

**ECONOMY MODE** — This mode saves energy cost during hours when the room is unoccupied. When people are moving in the room, operation is the same as that in the Auto Mode. When no motion has been detected in the room for 30 seconds, blower speed is reduced by 35 percent to save electricity costs. The blower returns to normal speed when motion is again detected in the room.

**SLEEP MODE** — This mode reduces the sound level by reducing blower speed by 30 percent, while still purifying room air at 70 percent of normal while the occupant sleeps.

## Monitoring Operation

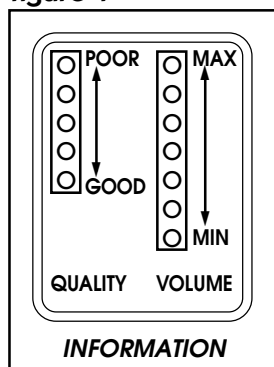
You can always monitor the quality of room air, and make sure that the Purifier is set to move a volume of air appropriate for present conditions. Note that measurements are relative to the selected room size. Make sure that the **Room Size** panel is always set for the room in which the unit operates. Quality and Volume are shown on the **Information** display.

**Air quality** is sensed by the chemical-detection sensor (see figure 1) which continually evaluates air quality. Air quality is expressed by one of five lights expressing a range from **Good** to **Poor**.

**Air volume** is shown by one of seven lights (figure 4) representing a range from greater than normal air flow, to reduced air flow (energy-saving Sleep Economy Mode). The light shows that air volume is just right for the selected room size.

You should also keep an eye on the Service Panel which tells you if maintenance will soon be required, or if maintenance is required for further operation. The Service Panel is described in **Maintaining the Sun-Pure SP-20**.

figure 4



## MAINTAINING THE SUN-PURE SP-20

### What the Service Panel Indicator Lights Mean

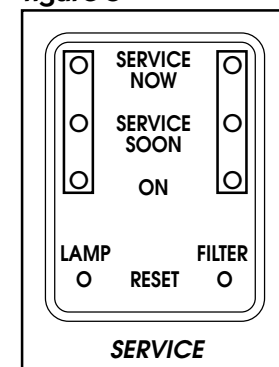
Indicator lights on the Service Panel tell you if either the ultraviolet lamp, or the air filters, will soon need to be replaced, or if they must be replaced before using the Purifier again.

### UV Lamp Indicator Lights

The ultraviolet lamp has a useful life of one year (9,000 hours) with a one-month grace period.

- Green light is On – The lamp has been in service for less than 12 months.
- Yellow **SERVICE SOON** light is On – The lamp has been in service for more than 12 months. It's time to order a new lamp.
- Red **SERVICE NOW** light is On – The lamp has been in service for more than 13 months. The lamp may not be effective and must be replaced.

figure 5



### Filter Indicator Lights

The filters have a useful life of two years in a typical residential environment.

The three **Filter** lights on the Service Panel mean:

- Green light is On – The filters have been in service for less than 24 months.
- Yellow **SERVICE SOON** light is On – The filters have been in service for more than 24 months. It's time to order new filter package.
- Red **SERVICE NOW** light is On – The filters have been in service for more than 25 months. The filters may not be effective and must be replaced.