ScientificAir™
by SteriLumen

Instruction Manual
User Guide

ScientificAir
S400

Read instructions before operating.

Retain for future reference.

Also available at
www.sterilumen.com

Questions or comments call toll free
800.627.4913 in North America
3625 Kennesaw N. Ind.Pkwy.
Kennesaw, GA 30144

EPA Est. No. 74574-GA-1 MET UL507

120 VAC* 5 Amp (max) 60Hz

*Also available in 220V

SteriLumen, Inc. has a policy of continuous product development, therefore we reserve the right to modify the design and specifications without notice.
Version: 400-04272022

ScientificAir™
by SteriLumen

READ AND SAVE THESE IMPORTANT SAFETY INSTRUCTIONS

Questions? 800.627.4913

When using electrical appliances, basic safety precaution should always be followed to reduce the risk of fire, electric shock, and injury to persons.

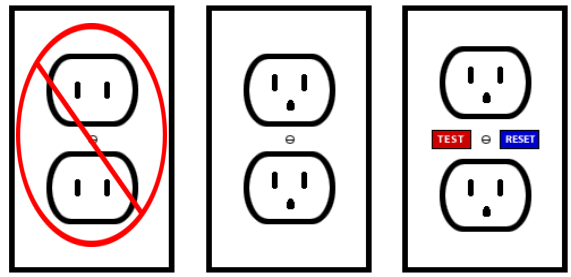
These precautions include:

- Read all instructions before using the appliance. To avoid potential fire or shock hazard, plug the appliance directly into a 110-120V*AC outlet.
- If the device is covered by a bag when shipped, remove plastic bag before use.
- Keep the cord out of heavy traffic areas. To avoid potential fire hazard, NEVER put the cord under rugs, near heat registers, radiators, stoves, or heaters.
- To protect against electrical hazards, DO NOT immerse the appliance in water or other liquids.
- Do not use near water or outdoors.
- Close supervision is necessary when any appliance is used by or near children, or disabled persons.
- Always unplug the air cleaner before moving or cleaning the unit.
- To disconnect the unit, be sure to pull the plug and not the cord.
- NEVER drop or insert any objects into the openings of the unit.
- Do not operate any appliance with a damaged cord or plug. If the motor fan fails to operate or the unit has been dropped or damaged in any manner, return appliance to manufacturer for examination and/or repair.
- Use appliance only for intended use as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock, or injury to persons.
- Certain cleaning solutions may cause hazards, and or damage - check with Manufacturer.
- DO NOT use outdoors.
- NEVER place on a soft surface such as a bed or sofa as this could cause the unit to tip over and block the air inlet out outlet grills.
- Keep unit away from heated surfaces and open flames.

*Also available in 220V

- The inside of the unit contains no user serviceable parts.
- DO NOT attempt to repair or adjust any electrical or mechanical functions on this unit. Doing so will void your warranty.
- All servicing to be performed by qualified personnel only.
- DO NOT place anything on top of unit.
- NEVER use detergents, gasoline, glass cleaner, furniture polish, paint thinner, or other household solvents to clean any part of the appliance. A damp cloth can be used.
- Always turn the appliance off before unplugging it.
- A static charge may be felt if the unit is not properly grounded. To avoid a static charge, plug the unit's three-prong plug into a grounded outlet, or properly install a ground adapter (see PLUG SAFETY).
- This appliance should only be used in a room with temperatures between 40° F and 110° F.

PLUG SAFETY: To reduce the risk of electric shock, THE ScientificAir S400 IS EQUIPPED WITH A 3-PRONG PLUG, a grounding type plug that has a third (grounding) pin.



Plug into any Standard Ground outlet or a Ground Fault Circuit Interrupter (GFCI) outlet (See Illustration above).

DO NOT attempt to plug the ScientificAir S400 into an unground-ed outlet (See Illustration above).

DO NOT remove the ground pole from plug or use an adapter for grounding! DO NOT ALTER PLUG OR CORD

DO NOT OPEN THIS APPLIANCE!

There are NO user serviceable parts in this apparatus!

For Authorized FACTORY Service Personnel Only

CAUTION

UV — High intensity ultraviolet light. Avoid eye & skin exposure.Wear proper eye & skin protection.

WARNING: To reduce the risk of electrical shock, DO NOT expose to water or rain.

Skin or eye damage may result from directly viewing the light produced by the lamp in this apparatus. ALWAYS disconnect the power before re-lamping or servicing.

Replace Lamp with Lamp Model GPH318T5L
Manufactured by SteriLumen, Inc.

Suitable for use with solid-state controls

120 VAC	5 Amp (max)	50/60 HZ

*also available in 220 Volt version.

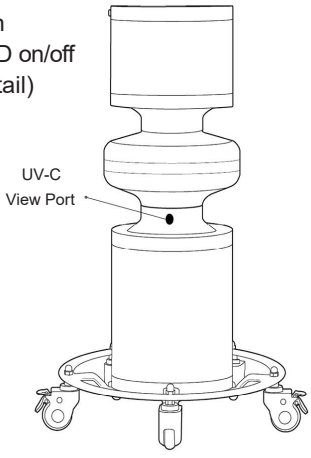
ScientificAir S400
Operating Instructions

1. Plug into a working 110-120V*AC electrical grounded outlet (see Plug Safety). * Also available in 220V.

2. Touch digital screen (fig. 1) anywhere on screen surface and digital screen will illuminate. Press RED on/off icon and the device will power on. (See Screen Detail)

The Digital Monitor Display Screen (fig.1) will illuminate letting you know the power is on and the fan is running. Look to the front of unit (Front View Illustration) for the UV-C View Port illuminating green confirming the purification, disinfection, and odor control features are operating at optimum performance.

3. With power on, you can select the desired fan speed by touching the minus (Decrease Speed) or plus (Increase Speed) Icons (See Screen Detail) and fan speed will increase or decrease to desired fan speed.



Front View ScientificAir S400

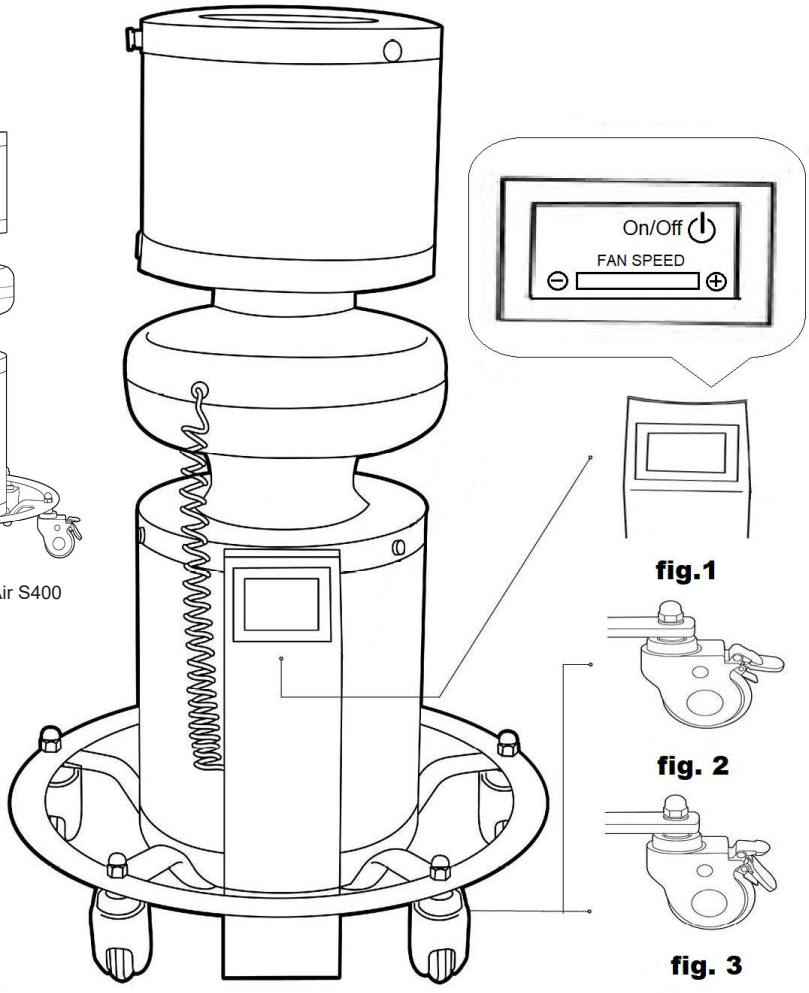


fig.1

fig. 2

fig. 3

To secure lock all five (5) wheels as in (Fig.3)

The ScientificAir S400 uses a digital LOW to HIGH fan speed settings switch (Fig. 1). You can select the Fan Speed to your desired speed.

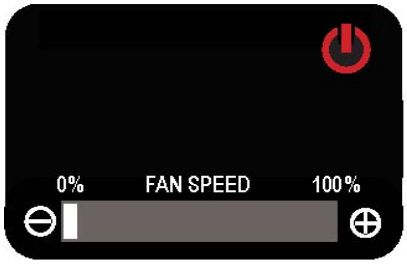
(See Whole Room Air Disinfection for room fan selections and Digital Display Monitor Screen Instructions)

Power off the ScientificAir S400 at any time by touching the GREEN On/Off Icon. On/Off Icon will illuminate RED and the Digital Screen and UV-C View Port will go off. Screen Data is stored non-volatile memory.

4. To move your ScientificAir S400 power off the device (Fig. 1) and unplug it. Roll to your next location. To LOCK; each caster has locking tabs that can be “toe operated” by pushing down on the outer most tab marked "on" (FIG. 1 and 2). To UNLOCK the caster push the shorter tab marked “off” (Fig 2). Push the forward most tab marked “on” down to lock the caster (Fig 3) once device is in your desired location.

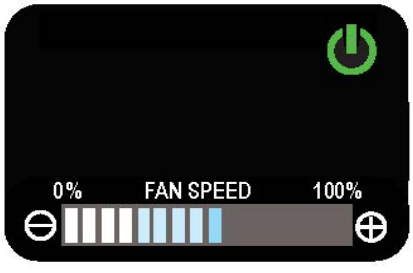
Digital Screen Power On/Off and Fan Speed Control

Touch digital screen anywhere on screen surface and screen will illuminate. Press RED POWER icon and the device will power on.



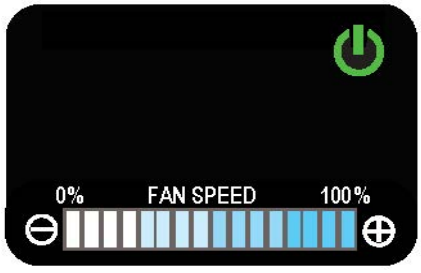
Fan Speed Low (*120 cfm)*

The Digital Display Screen will illuminate and GREEN POWER Icon lights letting you know the power is on and the fan is running.



Fan Speed Medium (*240 cfm)*

Select the desired fan speed by touching the minus (Decrease Speed) or plus (Increase Speed) Icons



Fan Speed High *(398 cfm)*

For more information on Fan Speed Air Scrubbing and Room CFM Processing see CFM Air Processed Digital Display Screen Instructions.

We recommend lower fan speeds for continued operation to reduce electricity consumption and decibel emittance.

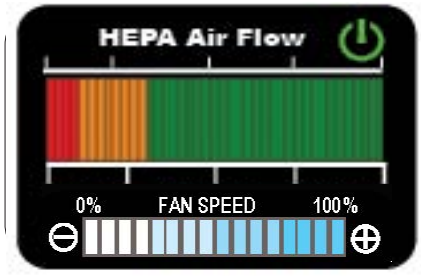
On Board Digital Monitoring and Performance Screen Instructions

The ScientificAir S400 has an on-board efficiency and continuous operational metering digital display screen. There are four continual meter readings:

1. HEPA Filter Integrity
2. UV-C Light Integrity-Intensity Status
3. Final Carbon Filtration Integrity-Saturation Status
4. CFM Air Processed (Particulates Pathogen) Volume Status (Instructions on next page)

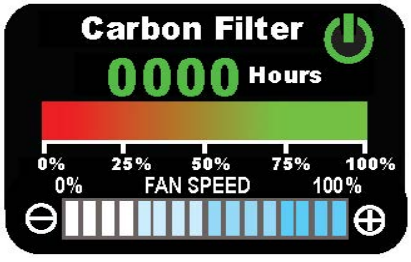
Monitoring operations will display the four (4) metered screen readings every five (5) seconds on a continuous loop. Left and Right Arrows can be pressed to access previous or next screen. If unit is powered off any meter data is stored in non-volatile memory.

Fully Operational



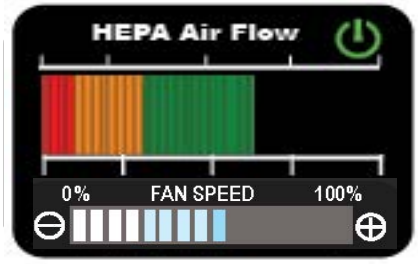
Green bar represents full filter functional and air flow capacity. No action required.

Green digits, Green and Amber bar represent full UV-C functional capacity. No action required.

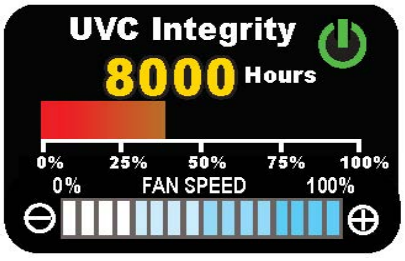


Green digits, Green and Amber bar represent full Carbon Filter function capacity. No action required.

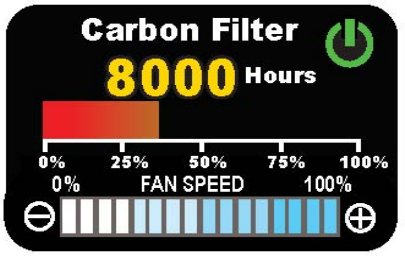
Fully Operational ***Service Required with-in 40 days.***



Note: Green bar (airflow) will reflect fan speed selection. Any green represents full functional HEPA capacity.

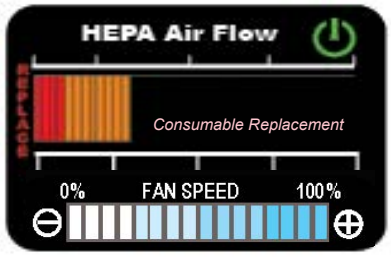


Amber digits and Amber bar represent full functional capacity but needs scheduled service.

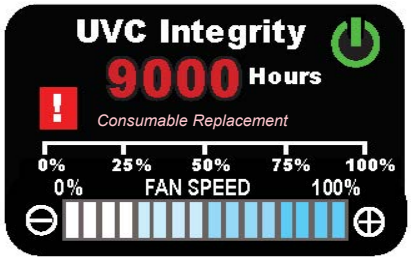


Amber digits and Amber bar represent full functional capacity but needs scheduled service.

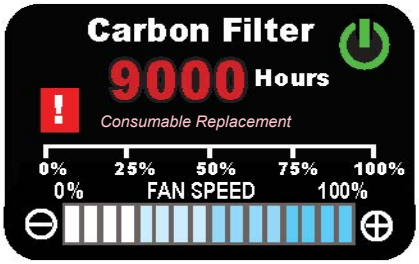
Diminished Operation Service Required.



Regardless of Fan Seed - AMBER bar represents 40 days to replacement. RED bar to change HEPA Filter.

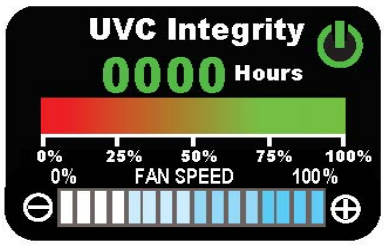


Red digits and Red bar with Alarm indicates diminished UV-C capacity. Change UV-C Light Array.



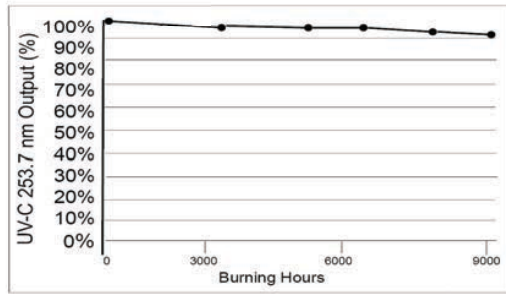
Red digits, Red bar with Alarm indicates diminished capacity. Change Carbon Filter.

UV-C Lights Monitoring - Intensity Maintenance Curve



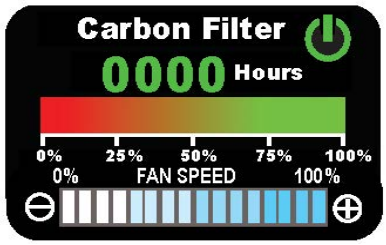
The ScientificAir S400 uses proprietary 253.7 nanometer (nm) wavelength UV-C light fixtures. UV-C 253.7 nm lights create etreme` germicidal capabilities with zero ozone production.
The useful life of our UV-C lights are greatly increased by precision design of our ignition, on/off cycle, and ballast electrical construction. Further enhancing the effective germicidal longevity of our UV-C is the inherently designed HEPA pre-filter and air flow, keeping the UV-C light fixture debris free and constantly cooled. UV-C lights are rated and output tested for 100% gradually to 92% intensity for 9000 hours.

253.7% nm UV-C arra`



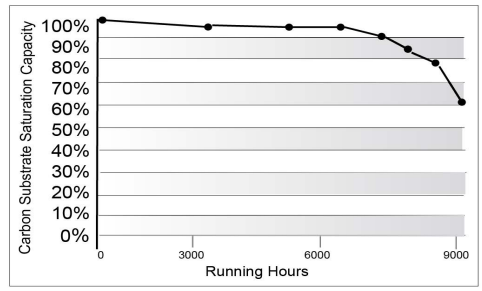
253.7% nm UV-C lights are rated and factory certified` for 100% gradually to 92% intensity for 9000 hours.

Carbon Filter Monitoring - Absorption Maintenance Curve



The ScientificAir S400 uses uses a proprietary treated carbon substrate to accomplish physical adsorption and chemisorption. This substrate has a much larger particle size with a small external surface, thus making the total number of pores and filtration surface vast (up to five micron miles). The substrate used in our canisters is chemically impregnated for several ranges in containment filtration to assist in the adsorption process. This process decreases moisture absorption while increasing filter efficacy and longevity. Carbon filtration longevity is enhanced by particulate pre-filter HEPA .

Operating in average facility humidity 30.06 inHg bm reading.



Manufacturer certified for adsorption (100%) to break out absorption (0%) at standard rate fan speed induction. Chart represents 100% through gradual 65% non-breakout capacity for 9000 hours.

UV-C and Car. on Monitor . eset Screen

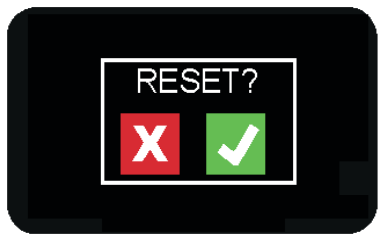
Entry to this screen requires the user to press on the 4 corners of the screen in a specific sequence as shown.

If a screen change occurs during the time the user is entering the number sequence, the sequence will continue unaffected.

If the sequence is not entered correct-ly, the reset sequence will immedi-ately cancel and the screen cycle will continue unaffected. The user must also complete the sequence within 5 seconds to avoid cancellation.

The user has 5 seconds to confirm or reject the reset request before the screen disappears and the 4-screen sequence resumes.

Successful sequence of hidden corner buttons will display the rest screen (below).

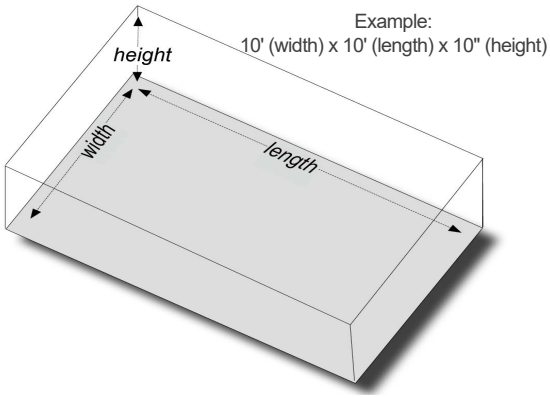


Manual Scroll Arrows

Hidden Left and Right arrow scroll buttons at the middle left and right of each screen allow the user to jump forward or back from each screen without having to wait for the five (5) second timeout.

The ScientificAir S400 includes a CFM Air Processed reporting system. This enables the user to estimate and report the amount of air processed (particulate, pathogen, mold, and odor removal) for any given location and time period.

By calculating the location's Cubic Foot volume this meter will correlate the amount of times that location's air was "scrubbed" and brought down to "zero contaminates" in a room via air changes.



Example:
10' (width) x 10' (length) x 10" (height)

10' x 10' x 10 ' = 1000 Cu Ft

CFM Air Proceeded Reading (24 hrs)	288,000	TCF
Example location:	1000	CUR.
Room Total Air Changes:	288	TAC
Passes for Room Air Disinfection:	3**	Passes
Total Room Air Changes Processed Daily:	96	Per Day
Total Room Air Changes Processed Hour:	4	Per Hour

Location has been processed for whole room pathogens, particulates mold, and odors: *96x in 24 hours or 4x per hour*.

Using the CFM Air Processed Screen for reporting

Place unit in desired location. Power unit up.
Reset CFM Air Processed Monitor (see below).

After desired time period, record CFM Air Processed (24 hours in this example) Estimate cubic feet of location (see example to left).

$$\frac{\text{Total CFM Air Processed}}{\text{Approximate Room Cubic Feet}} = \text{Total Air Changes}$$

$$\frac{\text{Total Air Changes}}{\text{3 (passes)}} = \text{Total Processed Air Changes}$$

$$\frac{\text{Total Processed Air Changes}}{\text{Run Time}} = \text{Processed Air Changes Hour}$$

**Per certified studies an average of 3 "passes" or room air changes are required for full room pathogen, particulate, mold, odor, and VOC elimination.

CFM Air Processed Monitor Reset from Screen

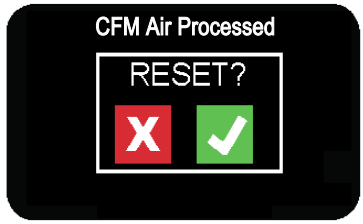
Entry to this screen requires the user to press on the 4 corners of the screen in a specific sequence as shown.

If a screen change occurs during the time the user is entering the number sequence, the sequence will continue unaffected.

If the sequence is not entered correctly, the reset sequence will immediately cancel and the screen cycle will continue unaffected. The user must also complete the sequence within 5 seconds to avoid cancellation.

The user has 5 seconds to confirm or reject the reset request before the screen disappears and the 4-screen sequence resumes.

A successful number sequence will display the reset screen.



Manual Scroll Arrows

Hidden Left and Right arrow scroll buttons at the middle left and right of each screen allow the user to jump forward or back from each screen without having to wait for the five (5) second timeout.

ScientificAir™
by SteriLumen

Preventive maintenance tasks:

The ScientificAir S400 is designed, manufactured, and quality control tested for continual 24/7 use at peak performance for over one year with virtually no preventive maintenance required. A complete Maintenance Service and Consumables Replenishment Kit must be purchased and installed annually to keep unit operating at its maximum capacity and efficiency. CAUTION: Service of this device should be designated only to facility personnel familiarized with Scientific Air Management's authorized service instructions and using only authorized Scientific Air Management's replacement parts. Failure to comply will void Manufacturer's Warranty.

Once power is on - below is the checklist for operational indicators:

UV-C Light View Port:

The Green Light at the front of your ScientificAir S400 is a UV-C shielded view port. Illumination when power is on is indication that the UV-C air pathogen "kill chamber" is fully functioning, additionally the on-board digital display screen will meter UV-C Integrity and Intensity (See Operators Instructions Digital Display Screen)

Fan Motor Running:

The Fan Motor engages automatically to HIGH SPEED FAN when the power is turned on. The rheostat switch can be turned clockwise to lower fan speed. Listen for smooth fan operation and slight "humming" noise. Any noise produced other than slight humming and smooth fan air flow turn the unit off and call service agent. The on-board display screen will meter air flow and fan operation as well (See Operators Instructions Digital Display Screen)

On-Board Digital Display Screen:

When powered on the On-Board Digital Display Screen will illuminate. The HEPA Filter Air Flow, UV-C Light Integrity Intensity, Carbon Final Filtration Integrity, and CFM Air Processed screens will appear in five (5) second continuous rotation schedule. If screen fails to illuminate turn the unit off and call service agent. For detail description of Digital Screen Function See Operators Instructions Digital Display Screen.

Air Pressure - Air Flow:

Powered on, the ScientificAir S400 creates an image of remarkably very little air-flow; however, our Patented 360 Degree air induction and expulsion system creates virtually unnoticeable wind pressure. Fan motor humming is best indication of air flow. However, if visual verification is desired, a standard square of tissue paper will adhere to the HEPA intake housing when placed directly on housing. The same "tissue test" can be applied to the bottom Carbon Filtration Housing in which it will be slightly pushed away.

Recommended Preventive Maintenance tasks:

Item	Schedule	Visual Inspection	Functioning	Non-Functioning	Discontinue Service
HEPA Filter	Monthly	HEPA Monitor Screen	See Display Instructions	Screen Indicates Service	No
				Schedule Service	
HEPA Filter Replacement	Facility Protocol		HEPA Service Kit Instructions		
Fan Motor	Monthly	Listen For Running	Running Smooth	Clicking or Buzzing	Yes
		Smoothly. No Clicking	Quiet "Fan" hum	Call Manufacturer	
UV-C Light Array	Monthly	UV-C View Port	Illuminated Green	Call Manufacturer	Yes
		UV-C Monitor Screen	See Display Instructions	Schedule Service	
Carbon Final Filter	Monthly	Carbon Monitor Screen	See Display Instructions	Schedule Service	Yes
		Odor			
Electrical Outlet Cord	Monthly	No breaks or rips in	No tears or rips in		Yes
		outer Insulation	outer Insulation		
		Lose conection at			
		junction box			
Screen Controls on/off fan speed	Monthly	ON/OFF/Speed Control	No on/off	Call Manufacturer	Yes
			No Speed Control		
Monitor Display Screen	Monthly	Scroll Through Readings	Illuminated with Readings	Call Manufacture	No
Caster Wheel Assembly	Monthly	Unit Rolls Easily	Easily Maneuverability	Call Manufacturer	No
		No sticking or off	Toe Locks functioning	Call Manufacturer	
		center wheels			
Annual Service Required	Manufacturer Service Requirement		See Service Instructions	Call Manufacturer	No

Exterior equipment cleaning tasks:

The ScientificAir S400 is designed, manufactured, and quality control tested for continual 24/7 use at peak performance for over one year with NO INTERIOR CLEANING REQUIRED. Follow facility protocol for equipment exterior cleaning. This device can be cleaned with standard facility cleaning products including anti-microbial "bleach-like" cleaning product. Avoid excessive cleaning product application on digital screen equipment. DO NOT use Petroleum or Acetone based cleaning products.

For assistance: 800.627.4913

ScientificAir™
by SteriLumen

Certificate of WARRANTY

One (1) Year Limited Warranty

For service or repair contact a qualified ScientificAir S400 representative or service technician. Go to sterilumen.com or call 800.627.4913.

All warranty periods begin on the date of original purchase and are for a twelve-month (12) duration. If a part fails due to manufacturer's defect during the applicable warranty period manufacturer will provide a new or re-manufactured part, at their option, to replace the failed defective part at no charge for the part.

Should a fault, due to material defects or production, occur, manufacturer will either:

- replace the product,
- replace the damaged parts with factory new parts,
- or replace parts with used parts of the same specification and quality as their factory new equivalents.

Alternatively, and at its option, manufacturer will allow a credit in the amount of the then factory selling price for a new equivalent part toward the retail purchase price of a new similar product.

Except as otherwise stated herein, those are our exclusive obligations under this warranty for a product failure. All warranties in this document are subject to all provisions, conditions, limitations, and exclusions allowable in the continental United States and/or listed on this document.

COMMERCIAL APPLICATIONS

The duration of the warranty is twelve (12) months as of purchase date. The warranty is to the original purchaser only and is not transferable. As long as annual maintenance kits are purchased and installed, the 12-month warranty will be automatically renewed for the following year, up to (4) consecutive years from the original purchase date.

The repair service is currently only available in the continental United States. Please use the provided service telephone number to connect with our technical support staff, who will happily provide you with all the information you may need.

CONDITIONS:

The Limited Warranty only applies if the following conditions are met:

1. If the date of original purchase date cannot be verified, then the warranty period begins ninety (90) days from the date of product manufacture (as indicated by the model and serial number)
2. Proof of purchase may be required at time of service.
3. Warranty work must be performed by a licensed manufacturer, dealer, or contractor.
4. The unit must be utilized in accordance with local codes. Improper product usage may cause damage to the product and endanger the equipment and/or operators and void the warranty.
5. The unit must be operated in accordance with manufacturer's owners manual provided with each unit. The product must not be misused. Misuse will void this warranty.
6. Original factory/manufacture labeling and rating identifications must not be removed or defaced.
7. Proof must be supplied that the equipment has been properly maintained and serviced as per usage agreement (i.e. minimum once a year a maintenance).
8. Warranties apply only to products utilized in their original purchase location.
9. Defective parts must be returned to the manufacturer for servicing/parts credit.
10. The service phone line staff (technical support) decides the problem cannot be solved over the phone.

LIMITATIONS OF WARRANTIES

All implied warranties including implied warranties or conditions of merchantability and fitness for a use or purpose are limited in duration to the period for which the limited warranty is given and applies.

Some states or provinces do not allow limitations on how long an implied warranty or condition lasts, so this limitation may not apply to you. The express warranties made in this warranty are exclusive and may not be altered, enlarged, or changed by any distributor, dealer, or other person, whatsoever.

THIS WARRANTY DOES NOT COVER:

Damage from use in a way not in accordance with the provided instruction materials, utilization in an incorrect or improper way, if product is subjected to an electrical overload or dropped, dismantled or in any other way tampered with, serviced by anyone other than an authorized ScientificAir S400 service partner, and any damages occurring because of these actions are not covered by the warranty.

1. Normal maintenance as outlined in the installation and servicing instructions or owner's manual including filter, carbon, and/or light emitting replacements.
2. Damage or repairs required because of improper shipping or handling, faulty installation, misapplication, abuse, improper servicing, unauthorized alteration and/or improper operation.
3. Failure to start or damages due to voltage conditions, blown fuses, open circuit breakers, or the inadequacy, unavailability, or interruption of electrical service.
4. Failure or damage as a result of floods, winds, fires, lightning, accidents corrosive environments, rust and wear, or other conditions beyond the control of ScientificAir S400.
5. Using parts not supplied or designated by ScientificAir S400, or damages resulting from their use.
6. Electricity costs or increases in electricity costs for any reason whatsoever including additional or unusual use of supplemental electric services.
7. Any special, indirect, or consequential property or commercial damage of any nature whatsoever. Some states do not allow the exclusion of incidental or consequential damages, so the above limitation may not apply to you.
8. Warranty can not renew more than five (5) consecutive years from time of purchase.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state In the United States.

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