CREATING CLEAN AIR TO BREATHE

Indoor Air Purifier

B1 / B2 / B3 / B4

Standalone / Portable / Ducted

Commercial

CenterPoint™ Photocatalytic Oxidation Technology

June 2022 06242200

Product Description

The B unit is a stand-alone unit used to reduce the levels of Volatile Organic Compounds (VOC's) and viable airborne biological contaminants. The unit may be utilized as a roll-around "point-of-use" air purifier or may be ducted in for permanent installations. The B uses (1) to (4) 2021 Populated Catalyst Panel(s). The B may also be equipped with a 20" x 24" x 6" HEPA filter. The B is suitable for spaces between 1,800 and 6,400 square feet. For recommend configurations, consult the manufacturer's engineering department. The B incorporates 3-step GAP™ Technology: MERV Filtration, UVGI Lamps, and Photocatalyst.

Refer to page 8 for performance at different room sizes.

Suitable Locations

- Medical Facilities, Education Facilities, Restaurants, Hotels, Smoking Environments, Office Spaces, Residential, Green Houses, and Hydroponics Facilities.

Shipping and Packing List

Standard Equipment:

(1) B Housing

(0) to (4) 2021 PCP(s)

(1) 20" x 24" x 4" MERV 13 Pre-filter

(1) 24" x 20" UV Shielding

Features:

- Variable Speed Control
- Caster Wheels
- Lifting Handles
- Powder Coated Exterior

Optional Equipment:

- Hinged Lid
- 20" x 24" x 6" HEPA filter
- 20" x 24" x 2" MERV 13 Filter and 20" x 24" x 2" Carbon filter

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Revision Summary

Original IOM manual create in November 2019.

Current manual last revised on June 24th, 2022.

Table of Contents

Safety Certifications

UL Classified UL File No. E326567

FIFRA….EPA EST No. 87747--TX--001

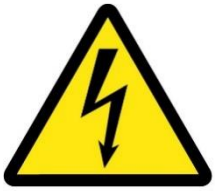
UL Requirements

- 105°C minimum supply connection rating.
- For catalyst marked “XXXX”, 50°C/122°F maximum ambient temperature. For those marked “XXXX-E”, 80°C/176°F maximum ambient temperature.
- Suitable for air-handling units
- Access above ceiling may be required.
- The health aspects associated with the use of this product and its ability to aid in disinfection of environment air have not been investigated by UL.
- Only use type T5 lamps specified by the PCP manufactured by First Light Technologies, Inc or UV Engineering Solutions LLC.
- **Caution:** *Equipment Damage Hazard. Ultraviolet light can cause color shift or surface degradation and sometimes structural degradation of non-metallic components. Select mounting location rubber hoses, wiring insulation, filtration media, etc. If mounting options are limited, items above should be protected with ultraviolet resistant materials such as aluminum foil, aluminum duct tape or metallic shields.*

CARB Certified Air Cleaning Device….EO No. G-11-040

Meets California ozone emissions limit: CARB certified

Applicable Warning Labels



⚠WARNING

Electric / Shock Hazard
Electrical Shock can cause serious injury or death. Disconnect all remote electrical power supplies before servicing.

⚠WARNING

To reduce the potential of electric shock or fire, the wiring required by this manual should be performed by a licensed electrician in accordance with applicable National Electric Code, NFPA 70, and local codes.

⚠WARNING

UVC Light hazard. UVC light can cause temporary or permanent loss of vision and sunburn. Take proper precautions to protect eyes and skin from direct exposure. Replace lamp with Model No. 2813, Manufactured by First Light Technologies, Inc., or lamp with Model No. GEN9093, Manufactured by UV Engineering Solutions LLC.

⚠WARNING

Mercury Hazard
Do not break lamps. Each UVC lamp contains a small amount of Mercury. In case of breakage use proper lamp disposal techniques on page 13.

⚠WARNING

Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or death. Installation and service must be performed by a qualified installer or service agency.

⚠WARNING

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

a.) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

b.) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent waring device, such as a tag to the service panel.

⚠WARNING

Use of accessories, transducers, and cables other than those specified or provided by the manufacture of this equipment could result in increased electromagnetic emissions or decrease electromagnetic immunity of this equipment and result in improper operation.

⚠WARNING

Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the unit, including cables specified by the manufacture. Otherwise, degradation of the performance of this equipment could result.

⚠WARNING

Keep Away from Water Danger

As with most electrical appliances, electrical parts in this device are electrically live even when dial is switched off. To reduce risk of death by electric shock:

1. Always “unplug it” after use
2. Do not place or store where device can fall or be pulled into water.
3. do not use near or place in water.
4. If device falls into water, unplug immediately. Do not reach into water.

⚠WARNING

Children should be supervised to ensure that they do not play with the appliance.

NOTICE

Do Not Block Air Grille

Blocking inlet or exhaust grilles may result in improper operation of air cleaning equipment. Overheating may result and cause permanent damage to equipment.

⚠WARNING

Do Not Stack

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

Product Overview

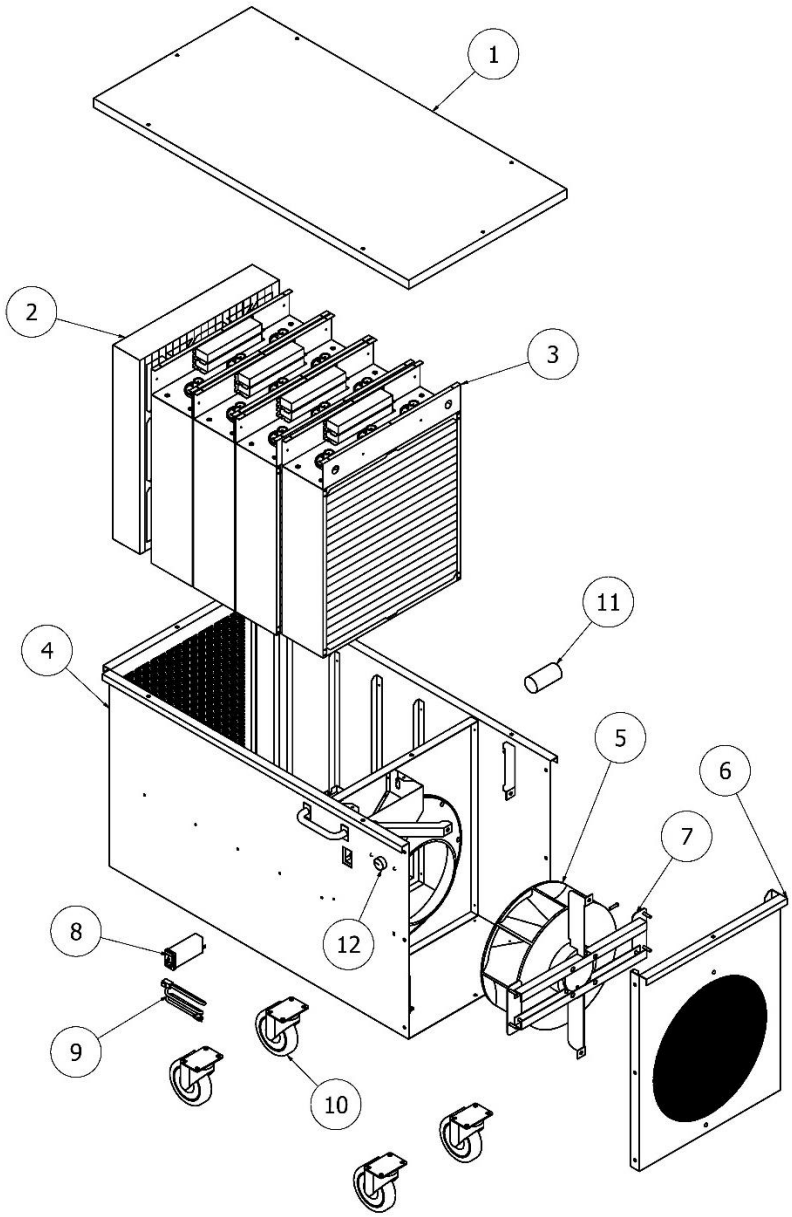


Figure 1: Components of the B

1.) Lid – Covers the top of the unit.

2.) Pre-filter – 20” x 24“ x 4” MERV 13. Removes particle from air stream. May be replaced with a 20” x 24” x 2” MERV 13 filter and 20” x 24” x 2” carbon filter.

3.) 2021 PCP – CenterPoint PCO Technology. Contains ballast tray, UVC lamps, Catalyst mesh, and UVC shielding. This is not a particle filter. May be replaced with a 20” x 24” x 6” HEPA Filter.

4.) Shell – Housing which contains all components.

5.) Fan Motor – Conveys air through the unit.

6.) Outlet Grille –Air outlet. Holds the motor bracket in place.

7.) Motor Bracket – Holds the fan motor in place.

8.) Power Entry Module – Power cord terminal. Main power ON / OFF switch.

9.) Power Cord – 120 Volt AC, type C13 power cord.

10.) Caster Wheels – Allows the unit to be moved easily.

11.) Capacitor - 40µF, works in conjunction with the fan motor.

12.) Steady State Speed Controller – Controls the fan speed.

Report missing or damaged parts to the manufacturer. Refer to warranty for more information.

Specifications

U.S. Patent Number: 10946116

Model Names: B1 / B2 / B3 / B4

Volumetric Flow Rate (CFM): 1,200 (Low Speed) – 2,300 (High Speed)

Power Requirements: 120 Volts, 60 Hertz

Current (amps): 6.5 / 7.6 / 8.7 / 9.8

Weight (lbs.): 163 / 174 / 185 / 197

Size: 22.5” x 30.25” x 44.5”

Number of Lamps: 3 / 6 / 9 / 12

UVGI Life Cycle: 12,000 operational hours

PCP Life Cycle: 5 years*

Standard Pre-filter: 20” x 24” x 4” MERV 13

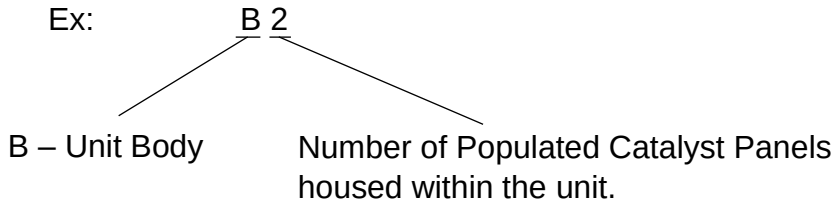
Installation Type: Portable or Ceiling Mounted

Temperature Rating: -20°F to 122°F

Sound Level (dB from 10 ft away): 61 (Mid-Range) – 76 (High Speed)

Equipment must be properly maintained to allow Catalyst Panels to last the full 5-year warranty period. If MERV particle filters are not used or are not replaced at the appropriate intervals, the life of the catalyst panels will be reduced. If PCPs are cleaned incorrectly or too frequently, the life of the catalyst panels will be reduced.* ***High pressure spray cannot be used directly on Catalyst Panels.* *Preforming maintenance improperly will result in a voided product warranty. Catalyst can exceed warranty and last up to 15 years if well maintained.*

Product Labeling Nomenclature



UV Lamp Safety Information

Ultraviolet germicidal irradiation (UVGI) is used for the activation of the PCO Catalyst. The residual light presents a variety of potential health hazards to humans. These hazards include eye damage, skin burns, and the potential to cause skin cancer. Because germicidal UV rays are invisible to the human eye, personnel may be subjected to a hazardous dose of UV without warning. There is no Occupational Safety and Health Administration standard for exposure to ultraviolet light. UV can be associated with adverse health effects depending on duration of exposure and wavelength. These adverse health effects include erythema (sunburn), photokeratitis (a feeling of sand in the eyes), skin cancer, melanoma, cataracts, and retinal burns. Ideally, activated UV sources should be attended by knowledgeable personnel at all times.

The UVC lamps in CenterPoint™ products do not produce ozone! The lamps provide a minimum intensity of 775 microwatts/cm^2 at 10.77 cm to activate the catalyst effectively to maintain tested performance. Lamps may not be substituted with an unapproved manufacturer. These lamps provide UV-C light at a wavelength of 254 nm. Despite their appearance to the naked eye, the lamp intensity will reduce over time. All lamps must be replaced every 16 months (12000 hrs.) of continuous use to maintain intensity requirements. Lamps provided contain trace amounts of mercury. Lamps include a Teflon case to encapsulate the lamp and reduce the risk of exposing the consumer and environment to mercury.

Personal Protective Equipment

While in normal operation, these units will not emit harmful levels of UV radiation to the surrounding area. When checking for proper lamp connection, you may be exposed to harmful levels of UV radiation. If you must have the lamps on to check for proper operation, follow these instructions.

- All personnel exposed to UV radiation must wear UV protective glasses.
- All personnel exposed to UV radiation must protect exposed skin with UV resistant clothing.

Installation

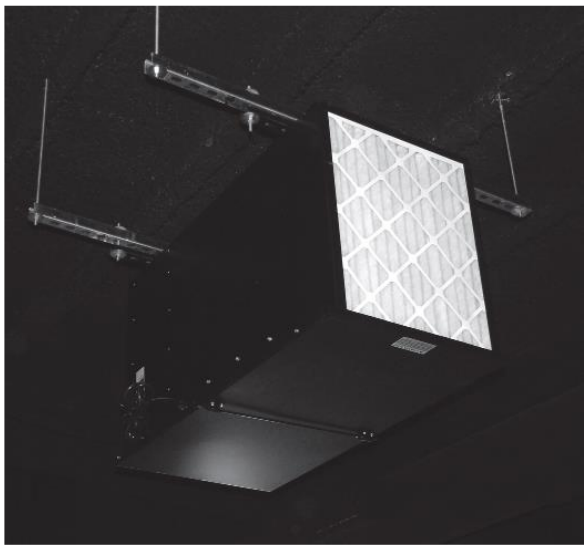


Figure 2: Standalone Ceiling Mounted

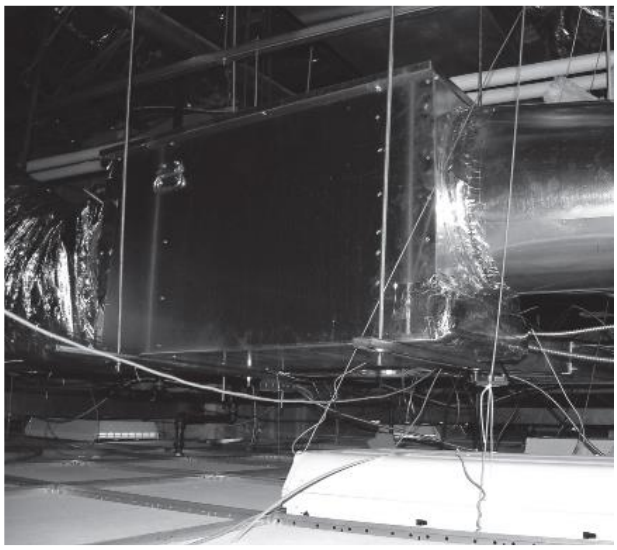


Figure 3: Ducted Above Ceiling Tiles

WARNING!

Sharp Edges Hazard

Equipment with sharp edges can cause injuries. Use protective gloves when grasping the edges of equipment.

WARNING!

Do not use silicone to seal B unit to ductwork. The presence of silicone in UV light will pollute the catalyst.

The B unit is designed to be utilized either as a portable or permanently installed unit. Installation must be completed by competent personnel. The manufacturer assumes no liability for damages or injuries sustained from installations done by persons other than qualified technicians who are employed by the manufacture.

Portable Installation

Make the following considerations when choosing an appropriate placement location.

- Choose a suitable location on the ground within a room or corridor that requires air purification.
- Ensure that the intake and outlet grills of the unit are not blocked by adjacent furniture or walls.
- Ensure that the placement of the unit does not interfere with the flow of foot traffic or block entrances or exits to rooms within the building.
- Placing air purifier too close to a window or door may cause unit to such in outdoor air rather than recirculate air in the room.

Caution: *Placing the B unit in a location on the floor that impede foot traffic may be considered a fire hazard. Consults local building and fire codes to find a suitable floor location.*

- Choose a location that has access to a 120V power outlet. An extension cord with ground pin may be used if the supplied power cable is too short for your application.

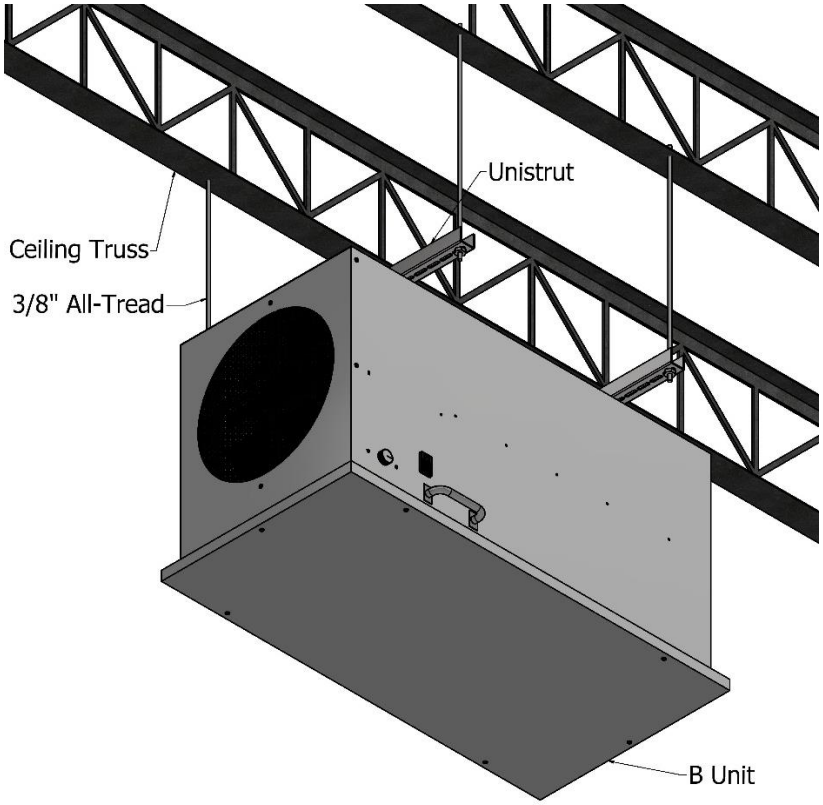


Figure 4: Non-Ducted Ceiling Mounting

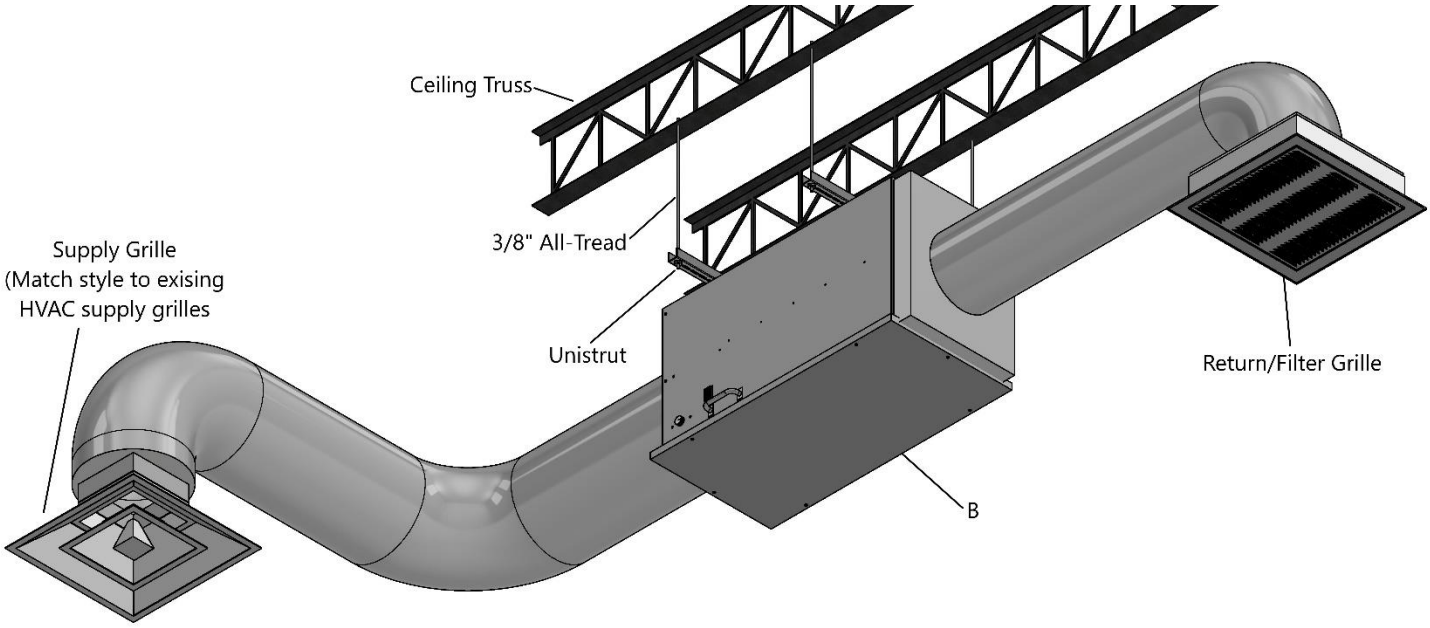


Figure 5: Ducted Ceiling Mounting

Permanent Ceiling Installation

Make the following considerations when choosing an appropriate placement location.

- The presents of structural components that will be needed to hold the B unit in place.
- Access to 120V AC power supply.
- Other fixtures in the vicinity of installation.
- Clearance from preexisting ductwork, beams, sprinklers, lights, or other above-ceiling fixtures.
- Return and supply grille locations.
- Ease of access for maintenance personnel.
- Install supply grill at least 10 feet away from return/filter grille.

1.) Determine a location for the B unit, above the ceiling for drop-tile or in free air for warehouse.

2.) Remove caster wheels from the base of the B unit.

3.) Attach Unistrut to the bottom of your B unit in place of the caster wheels. The Unistrut should extend 4” on either side of the B unit and be able to support 250 lb.

4.) Make an opening in the ceiling grid to allow the B to be lifted into place. (24” x 48” minimum)

5.) Use 3/8” All-tread to bolt the Unistrut to the roof trusses. If there is no place to bolt all-thread rods on the roof trusses, Unistrut can be attached to the roof trusses. The 3/8” All-tread rods can then be bolted to this Unistrut.

6.) Using a lift, move the B into position. The B unit should be installed so that the lid can be easily accessed for maintenance. installing the unit upside down is recommended for easier access.

7.) Run the 3/8” All-thread through the Unistrut and bolt down, ensuring the unit is level and not twisted.

Skip to step 11 if duct work will not be installed. See Figure 4.

8.) Locate a place to install the return grill near the B unit intake. Be sure to use good judgement by choosing a location with clearance from permanent duct work, beams, lights, sprinklers, or other above-ceiling fixtures.

9.) Lift the return/filter grill section up above the ceiling tiles. You may need to angle the grille so that it will fit thought the ceiling grid. Set the grill unit onto the grid carefully. You should see the 4” particulate filter from the ground. Use the same guidelines to add more returns and supply(s) as needed.

Note: *Supply and return grilles not included. For consistency, it is normally recommended to choose grilles that match the preexisting HVAC system grilles.*

10.) Attach ductwork as shown in Figure 5. Insulate the exterior of B units that are installed in locations that are not climate controlled. These locations include ducts in attics, on top of roofs, and on the side of buildings.

Caution: *B units that are exposed to fluctuating temperatures may allow water vapor to condense of the interior or exterior of the duct. Condensation can cause corrosion of duct components and electrical components.*

Caution: *Uninsulated ductwork can allow heat to be transferred between the duct and external air. This can result in an unnecessary strain on the buildings HVAC system.*

Caution: *Leaks in ductwork can result in attic air being pulled into B unit. This can result in an unnecessary strain on the buildings HVAC system.*

Note: *If ductwork is altered, installer must ensure that no leakage of UV light occurs because of ductwork modifications! The B Unit is not designed to be integrated into the existing building HVAC system!*

11.) Connect unit to power. Plug in power cord to a 120 VAC power supply. The B can also be hard wired. See Hard Wiring Instructions.

12.) Power on unit and check for leaks in duct work. All leaks should be sealed with Aluminum tape and insulated.

Hard Wiring Instructions

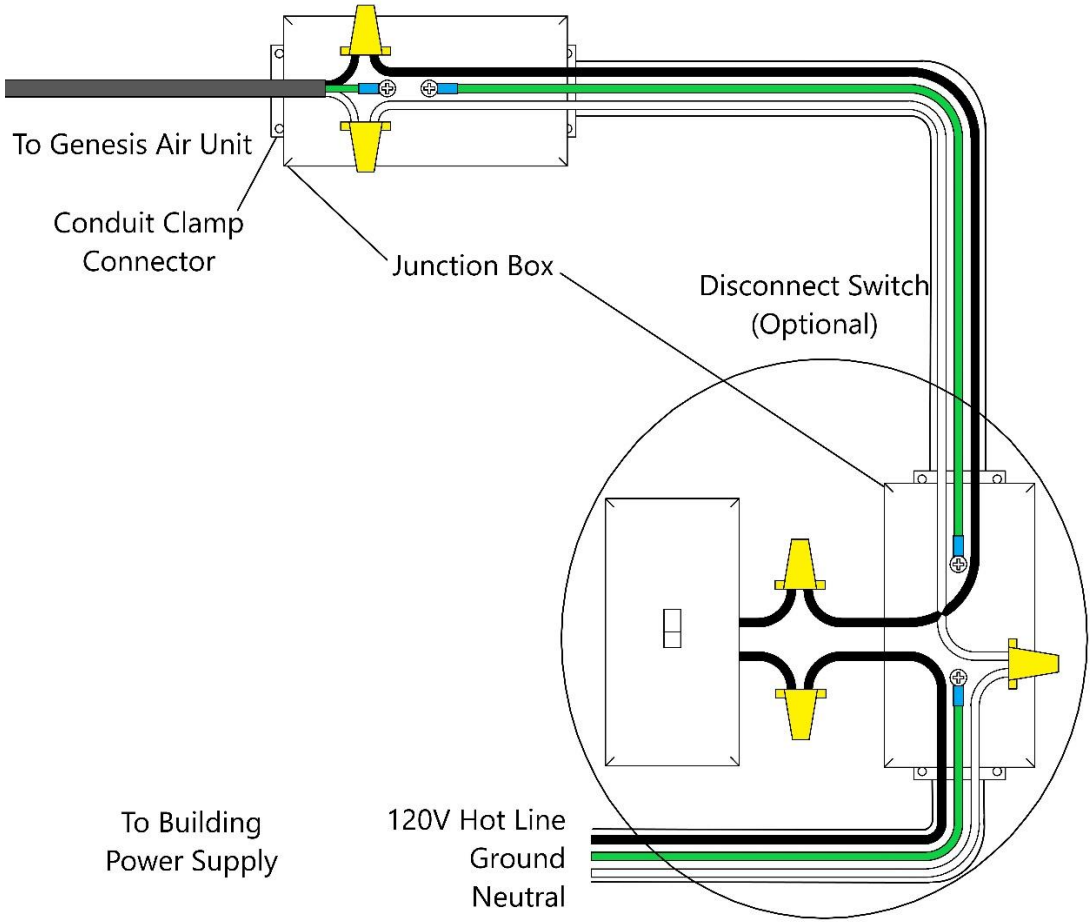


Figure 6: Hard Wiring Diagram

Caution: *To reduce the potential of electric shock or fire, the wiring required by this manual should be performed by a licensed electrician in accordance with applicable National Electric Cod, NFPA 70, and local codes.*

- Use a 16 AWG, type C13 power cord.
- Have an electrician run power to the location of the B unit and install a junction box. Use a minimum of 16 AWG cable. 14 AWG is preferable.
- Disconnect the power running to the junction box at the building fuse box before wiring.
- Use wire nuts to connect the ends of the power cord to the leads in the junction box. Line to line (Black), neutral to neutral (White), and ground to ground (Green).
- Reconnect power once all wires have been connected and exposed wire has been insulated.

Operation

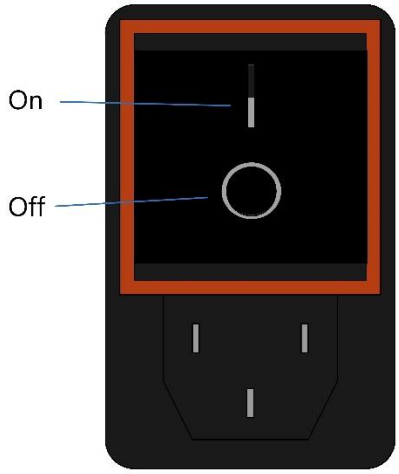


Figure 7: Power Entry Module

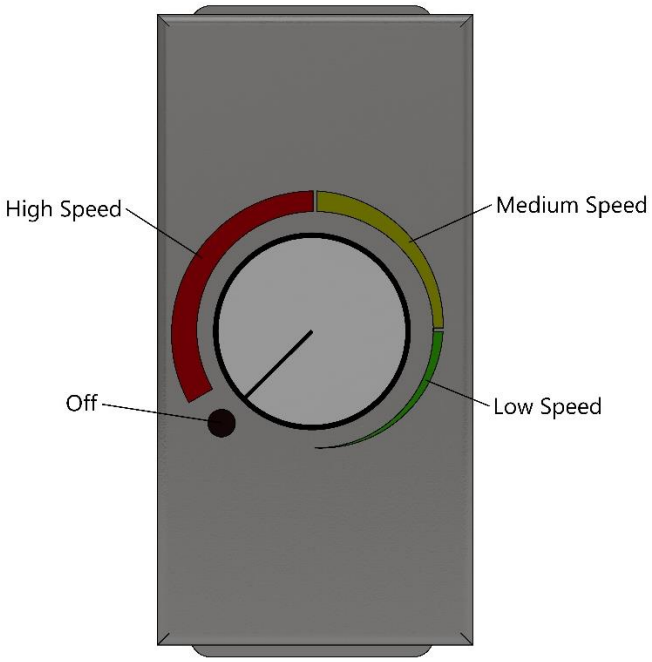


Figure 8: Motor Controller

- The Power Entry Module is the main power switch for the unit. Click to the “I” position to turn on and turn to the “O” position to turn off. See Fuse Replacement instructions for more information.

- Turn the knob on the Motor Controller to adjust the fan speed of the air purifier.
- Note that when turned from Off to On, the fan will start in the high-speed position.
- When turning off fan, be sure to feel knob “Click” to off position.

- See Air Changes Per Hour Chart to determine appropriate air flow rate and fan speed.
- For most applications, the manufacturer recommends 6 Total Air Changes Per Hour.
- Total Air Changes Per Hour = Air Changes provided by HVAC system + Air Changes provided by in room Air Purifier.

Note: *The air changes provided by HVAC system will vary throughout the year. Normally, 100% recirculating HVAC system will provide more air changes per hour during the summer and winter, and fewer air changes per hour in the spring and autumn. Systems that have mixed outdoor air and recirculating air will have more consistent air changes throughout the year.*

Air Changes Per Hour

Volumetric Flow Rate (CFM)									Low Speed
Room Square Footage			Air Changes Per Hour						Medium Speed
(8 ft ceiling)	(9 ft ceiling)	(10 ft ceiling)	1	2	3	4	5	6	High Speed
2,500	2,222	2,000	333	667	1000	1333	1667	2000	
3,000	2,667	2,400	400	800	1200	1600	2000	2400	
3,500	3,111	2,800	467	933	1400	1867	2333	2800	
4,000	3,556	3,200	533	1067	1600	2133	2667	3200	
4,500	4,000	3,600	600	1200	1800	2400	3000	X	
5,000	4,444	4,000	667	1333	2000	2667	3333	X	
6,000	5,333	4,800	800	1600	2400	3200	X	X	
7,000	6,222	5,600	933	1867	2800	X	X	X	
8,000	7,111	6,400	1067	2133	3200	X	X	X	
9,000	8,000	7,200	1200	2400	X	X	X	X	
10,000	8,889	8,000	1333	2667	X	X	X	X	
11,000	9,778	8,800	1467	2933	X	X	X	X	
12,000	10,667	9,600	1600	3200	X	X	X	X	
13,000	11,556	10,400	1733	X	X	X	X	X	
14,000	12,444	11,200	1867	X	X	X	X	X	
15,000	13,333	12,000	2000	X	X	X	X	X	
16,000	14,222	12,800	2133	X	X	X	X	X	
17,000	15,111	13,600	2267	X	X	X	X	X	
18,000	16,000	14,400	2400	X	X	X	X	X	

Table 1: Air changes per hour at different flow rates

Note: *Highlighted Cells indicate unit range. See ASHRAE standard 62.1 for required ventilation for acceptable indoor air quality. CenterPoint devices do not deactivate or oxidize 100% of all contaminants in the air. Lower air speeds increase the effectiveness of the air purifier.*

Note: *CFM range shown for standard equipment. Air flow rate through customized units may vary.*

Maintenance

Filter Replacement

The B unit includes a pre-filter to remove large particles from the air stream. This prevents the buildup of debris on the Catalyst Panel. The pre-filter should be replaced when it has become built up with dirt and other contaminants. The manufacturer recommends replacing filter with a 20” x 24” x 4” MERV 13 after 3 months of continuous use. you may also replace the pre-filter with a 20” x 24” x 2” MERV 13 and a 20” x 24” x 2” carbon filter. The manufacturer recommends replacing filter once every 12 months.

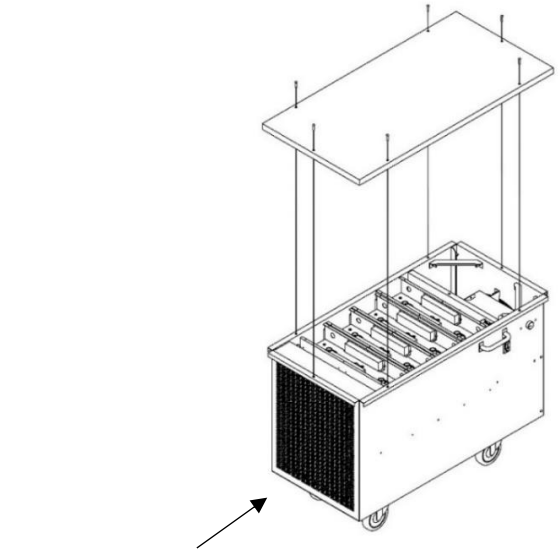


Figure 9

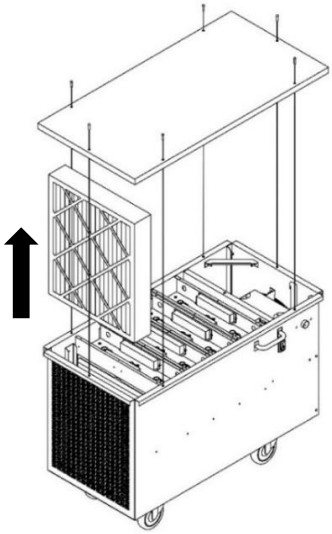


Figure 10

<u>Filter Replacement Procedure</u>

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *<u>Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.</u>*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove. See Figure 9.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

3.) Remove old air filter. See Figure 10.

4.) Inspect new filter to ensure that it is the same size as the original filter.

5.) Insert new air filter. Ensure that arrows on filter match the direction of air flow.

6.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench.

7.) Plug-in unit and power on to ensure that the unit works properly.

HEPA Filter Replacement

The B may also include a 20” x 24” x 6” HEPA filter. A HEPA filter can be selected as an option for the B1, B2, or B3.

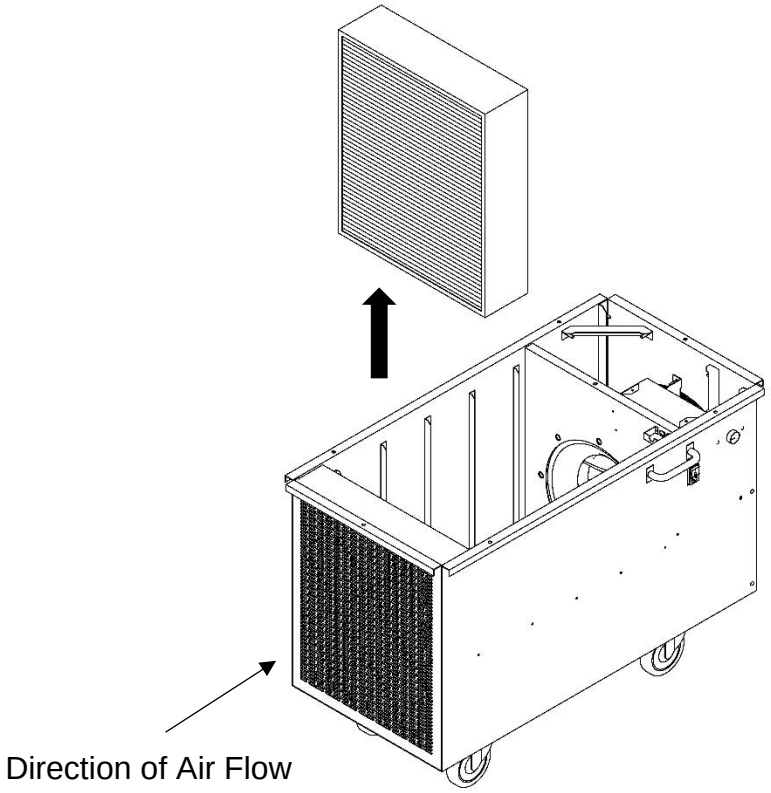


Figure 11

<u>HEPA Filter Replacement Procedure</u>

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *<u>Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.</u>*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove. See Figure 9.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

3.) Remove old HEPA filter. See Figure 11.

4.) Inspect new HEPA filter to ensure that it is the same size as the original filter (20” x 24” x 6”).

5.) Insert new HEPA filter. Ensure that arrows on filter match the direction of air flow.

6.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench.

7.) Plug-in unit and power on to ensure that the unit works properly.

Lamp Replacement

The B unit includes 20” UVC lamps. These lamps are used to energize the catalyst. Each 2021 PCP contains (3) 20” lamps manufactured by First Light Technologies, Inc or UV Engineering Solutions LLC. Lamps must be replaced after 12,000 hours of continuous use. The manufacturer recommends replacing lamps every 16 months or once a year.

Lamp Replacement Procedure

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove. See Figure 9.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

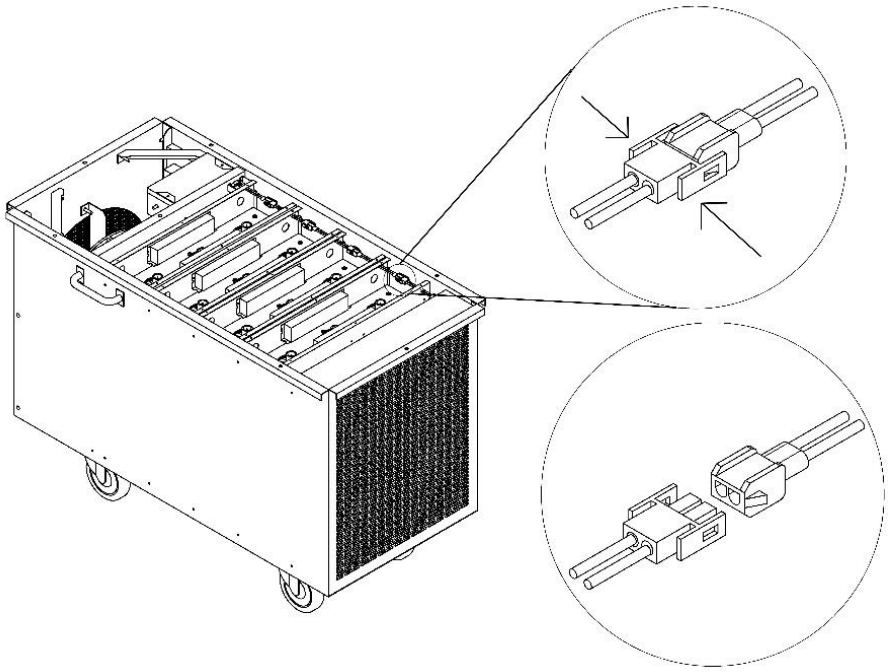


Figure 12

3.) Disconnect 2 pin MOLEX connector providing power to Catalyst Panel. See Figure 12.

4.) Remove catalyst panel(s) from B unit. If B has been installed upside down, remove the 10-16 Self-Drilling screws holding the catalyst panel(s) in place. Remove using a 5/16” socket. Be sure to hold panels while the screws are being removed to ensure that the panel does not fall out of housing.

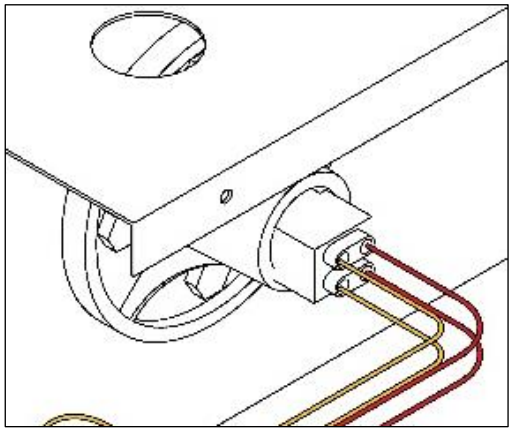


Figure 13

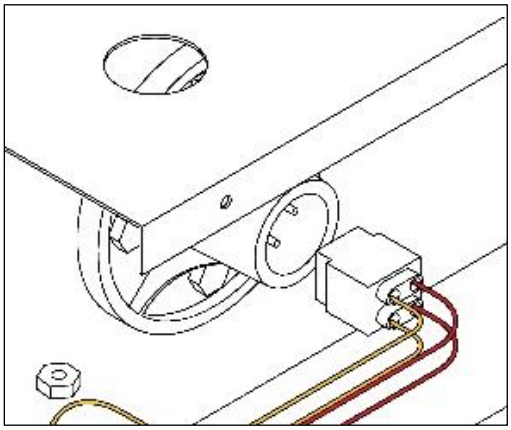


Figure 14

5.) Disconnect lamp plugs from lamps that will be replaced. See Figures 13 and 14.

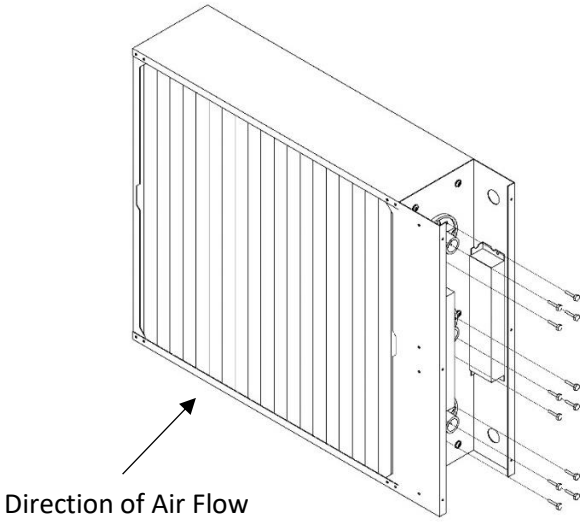


Figure 15

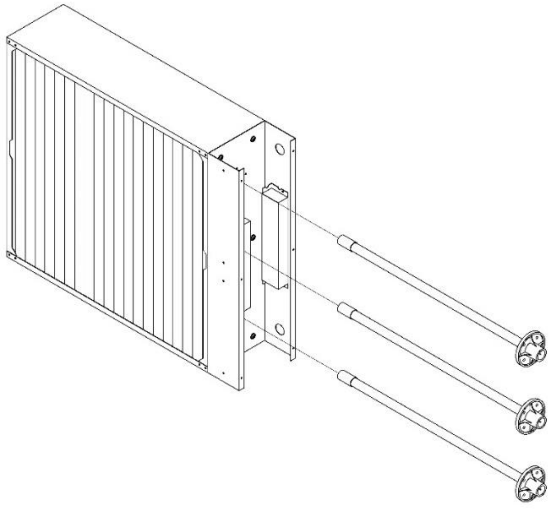


Figure 16

6.) Lamps are attached to Catalyst Panel with (4) 10-16 Self-Drilling screws per lamp. Remove the screws using a 5/16” socket. See Figure 15.

7.) Remove lamps by alternating a quarter turn clockwise and a quarter turn counterclockwise as it is pulled out. This will prevent the lamp from becoming bound up in the catalyst media. See Figure 16.

Caution: *Lamps may be hot if recently in operation. Allow lamps to cool before removing or wear heat insulating gloves to protect hands.*

8.) Inspect new lamp to ensure that it matches the length of the original lamp.

9.) Replace lamps by alternating a quarter turn clockwise and a quarter turn counterclockwise as it is pushed in. This will prevent the lamp from becoming bound up in the catalyst media. See Figure 16.

10.) Reinsert (4) screws per lamp using a 5/16” socket. See Figure 15.

11.) Reconnect lamp plugs. See Figures 13 and 14.

12.) Place catalyst panel(s) back into B unit. Be sure that arrows on panel point in the direction of air flow. If B is installed upside down, reinsert the 10-16 self-drilling screws into their original holes, holding the catalyst panel(s) in place.

Note: *Air flows in through the filter grille and out through the fan grille.*

13.) Reconnect 2 pin MOLEX connectors providing power to catalyst panel. See Figure 12.

14.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench. See Figure 9.

15.) Plug-in unit and power on to ensure that the unit works properly.

Lamp Disposal

Products containing Mercury are considered hazardous waste. Since January 1, 2000, the United States Environmental Protection Agency (EPA) has allowed for spent lamps to be managed as Universal Wastes. The Universal Waste Rules (UWR) are designed in part to simplify the management of mercury containing wastes, including spend fluorescent lamps. The Rules are also intended to encourage recycling, thereby reducing mercury emissions to the environment.

As an alternative to managing lamps as universal wastes, a facility may elect to manage its spent lamps as hazardous wastes. Hazardous waste rules, like the universal waste rules, are promulgated under the federal Resource Conservation Recovery Act (RCRA) and state laws equivalent to RCRA. RCRA regulates hazardous wastes from the cradle to the grave. RCRA Subtitle C requires a waste generator to properly identify, treat, store, transport, and delegate to the States the responsibility for the day-to-day management of the program.

List of Lamp Recycling Facilities in the US

- AERC Recycling Solutions – Hayward, CA ; West Melbourne, FL ; Allentown, PA
- Universal Recycling Technologies – Dover, NH ; Clackamas, OR ; Fort Worth, TX ; Janesville, WI
- Veolia ES – Phoenix, AZ ; Tallahassee, FL ; Stoughton, MA ; Port Washington, WI

Go online to find you nearest lamp recycling facility.

Ballast Tray Troubleshooting Procedure

Troubleshooting All Fluorescent Fixtures

Safety First: Voltage and current measurements present the possibility of exposure to hazardous voltages and should be performed only by qualified personnel. Many troubleshooting techniques require measurements with input voltages applied requiring extra precautions to avoid electrical shock. Use proper safety equipment such as eye protection and gloves when performing electrical measurements.

Inoperative Fixture:

Often, a fixture becomes inoperative dure to causes not attributable to the ballast. It is therefore important to examine all fixture components before removing the ballast for replacement. We recommend the following general procedure for both magnetic and electric ballasts:

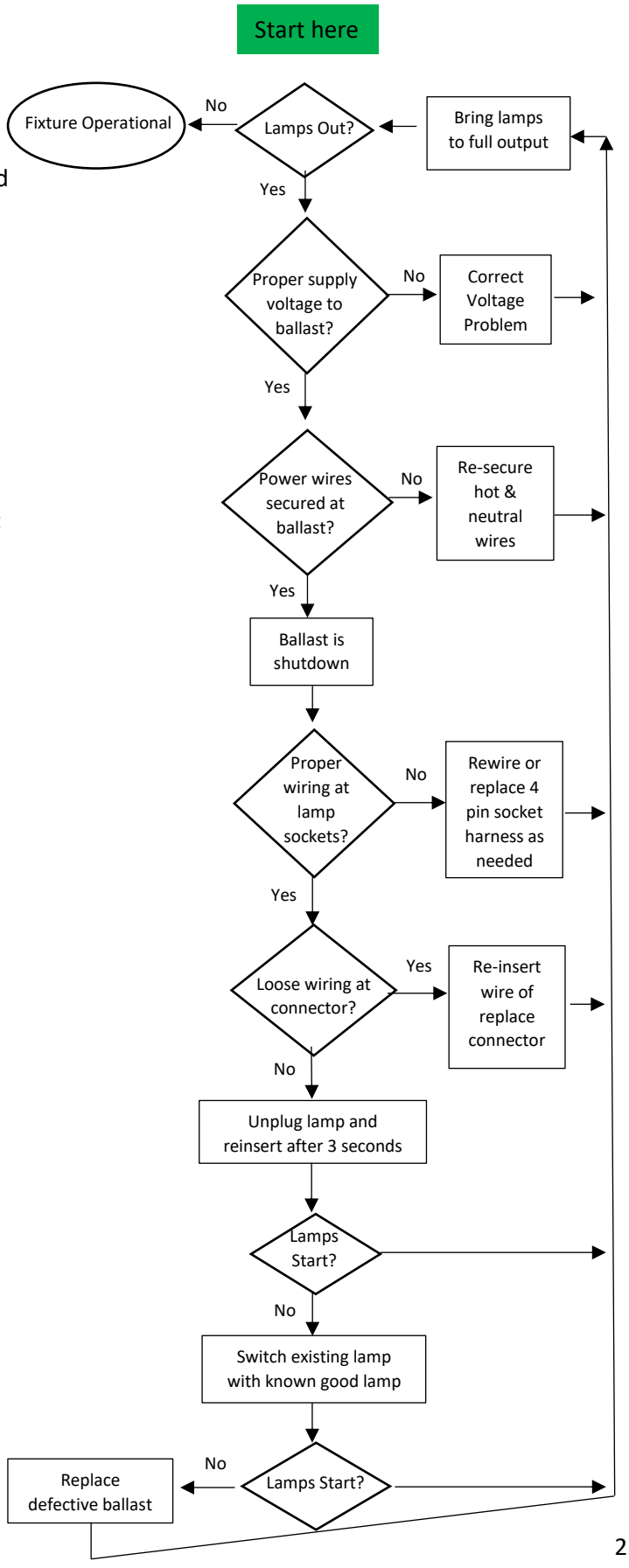
1.) Replace or check all lamps to ensure satisfactory operation.

2.) As lamps are removed, examine all sockets to ensure they are not damaged or broken and are making proper and positive contact with the lamps.

3.) examine all electrical connection within the fixture, including at the lamp socket, to ensure conformance with the wiring diagram (see Wiring Diagram).

To left is a systematic approach for troubleshooting most problems than arise regarding fixture suing ballasts with startup protection. For those situations when this document does not assist in correcting the problem, the manufacture should be contacted.

Note: Programmed Start Ballasts include lamp end-of-life circuitry. This circuit is included to maximize lamp life when one lamp frails in the circuit. The feature enables the ballast to detect when lamps fail and safely removes prow for the lamp by going into a shutdown mode. The ballast also goes into a shutdown mode when it detects lamps not properly placed in the sockets. When troubleshooting the circuit, make sure lamps are placed properly in the sockets. Programmed Start ballasts also include a re-strike feature that will restart the lamps after the failed lamp has been replaced. Open circuit voltage cannot be measured dure to lamp end-of-life circuitry.



Ballast Replacement.

There is not a set lifetime for ballasts. Ballasts are intended to last the life of the unit. However, ballasts can fail prematurely and will need to be replaced. Always replace with ballasts sold through your CenterPoint air purifier supplier. See Ballast Troubleshooting for diagnosing ballast faults.

Ballast Replacement Procedure

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove. See Figure 9.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

3.) Disconnect 2 pin MOLEX connector providing power to catalyst panel. See Figure 12.

4.) Remove catalyst panel(s) from B unit. If B has been installed upside down, remove the 10-16 Self-Drilling screws holding the catalyst panel(s) in place. Remove using a 5/16” socket. Be sure to hold panels while the screws are being removed to ensure that the panel does not fall out of housing.

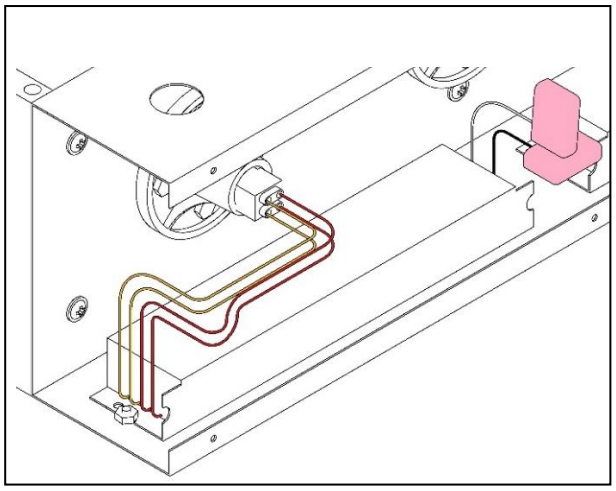


Figure 17

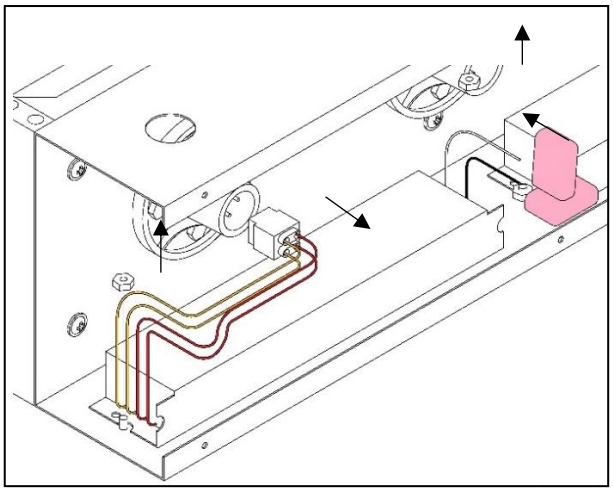


Figure 18

5.) Disconnect lamp plug and power attached to defective ballast. Take note of which terminals power the defective ballast so the new one can be wired correctly. See Figures 17 and 18.

6.) Use an 11/32” socket wrench to remove the (2) nuts holding the ballast into place.

7.) Inspect the new ballast and ensure that it matches the original one being replaced.

8.) Reinsert and tighten the (2) nuts that hold the ballast in place with an 11/32” socket wrench. See Figures 17 and 18.

9.) Reconnect the lamp plugs and reconnect ballast wires into push-in connectors.

10.) Place catalyst panel(s) back into B unit. Be sure that arrows on panel point in the direction of air flow. If B is installed upside down, reinsert the 10-16 self-drilling screws into their original holes, holding the catalyst panel(s) in place.

Note: *Air flows in through the filter grille and out through the fan grille.*

11.) Reconnect 2 pin MOLEX connector providing power to catalyst panel. See Figure 12.

12.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench. See Figure 9.

13.) Plug-in unit and power on to ensure that the unit works properly.

Fan Motor Replacement

Fan motors are intended to last the life of the unit. However, fan motors can fail prematurely and will need to be replaced. Always replace with fan motors sold through your CenterPoint air purifier supplier.

Fan Motor Replacement Procedure

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove. See Figure 9.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

3.) Disconnect fan motor from wiring harness.

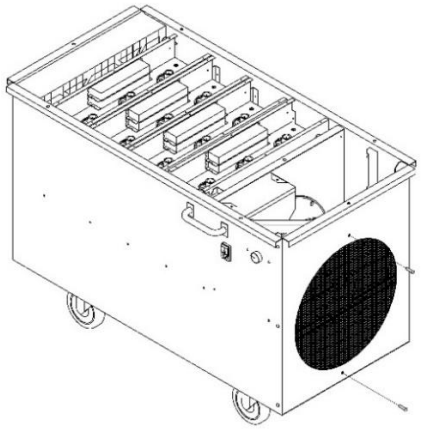


Figure 19

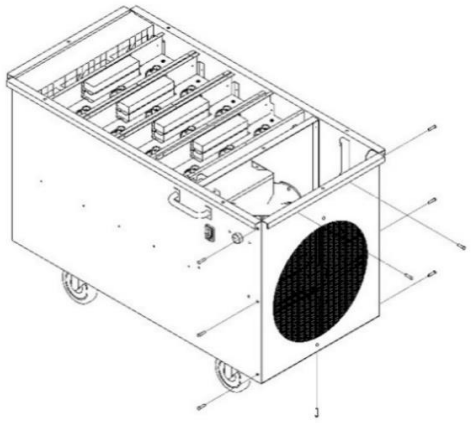


Figure 20

4.) Use an Allen wrench to remove (2) screws holding motor bracket to outlet grill. See Figure 19.

5.) Use an Allen wrench to remove (9) screws holding outlet grille in place. See Figure 20.

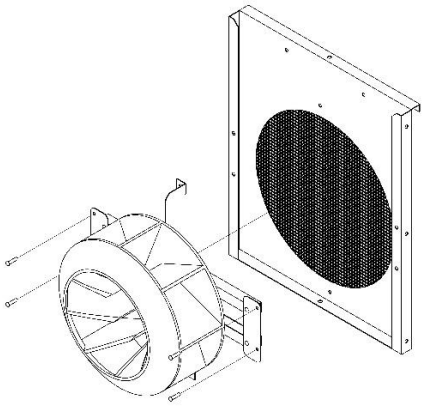


Figure 21

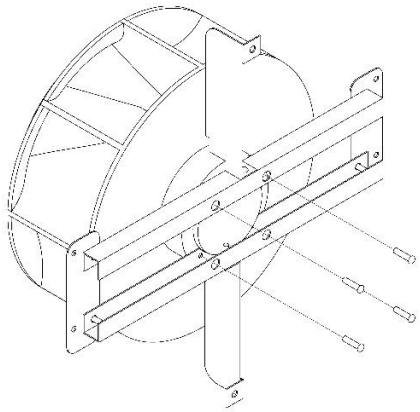


Figure 22

6.) Place outlet grille face down on a work surface and remove (4) screws holding motor bracket in place using an Allen wrench. See Figure 21.

7.) Place fan motor with the back side face up on work surface. Remove (4) screws holding fan motor to motor bracket using an Allen wrench. See Figure 22.

8.) Inspect new fan motor and ensure that it matches the original.

9.) Place new fan motor with the back side face up on work surface. Insert (4) screws holding fan motor to motor bracket. Tighten screws using an Allen wrench. See Figure 22.

10.) Set outlet grille on a work surface face down. Attach motor bracket assembly to outlet grille with (4) screws. Use an Allen wrench to tighten screws. See Figure 21.

11.) Attach outlet grille to unit frame with (9) screws as shown in Figure 20. Use an Allen wrench to tighten screws.

12.) Insert (2) screws holding motor bracket to outlet grille. Use an Allen wrench to tighten screws. See Figure 19.

13.) Attach fan motor wiring clip to unit wiring harness.

14.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench. See Figure 9.

15.) Plug-in unit and power on to ensure that the unit works properly.

Note: *If motor is installed incorrectly, fan blade may rub on inlet ring. If this is the case, motor bracket may need to be repositioned.*

Catalyst Cleaning

As debris and contaminants accumulate on the catalyst, the effectiveness of the unit decreases. The catalyst must be inspected periodically for buildup. It is recommended that this inspection be performed during pre-filter replacement.

Catalyst Inspection Procedure

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove. See Figure 9.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

4.) Disconnect 2 pin MOLEX connector providing power to catalyst panel closes to pre-filter. This will be the dirtiest panel. See Figure 12.

5.) Remove first catalyst panel from B unit. If B has been installed upside down, remove the 10-16 Self-Drilling screws holding the catalyst panel in place. Remove using a 5/16” socket. Be sure to hold panels while the screws are being removed to ensure that the panel does not fall out of housing.

6.) Using a flashlight, visually inspect catalyst. Look for clumps of dirt and debris.

7.) If catalyst appears clean and free of particulate, the catalyst will not need to be cleaned. Proceed to next step to reassemble. If catalyst has accumulated dirt and debris, the catalyst panel should be cleaned. Proceed to Catalyst Cleaning Procedure.

8.) Place catalyst panel(s) back into B unit. Be sure that arrows on panel point in the direction of air flow. If B is installed upside down, reinsert the 10-16 self-drilling screws into their original holes, holding the catalyst panel(s) in place.

Note: *Air flows in through the filter grille and out through the fan grille.*

9.) Reconnect 2 pin MOLEX connector providing power to catalyst panel. See Figure 12.

10.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench. See Figure 9.

11.) Plug-in unit and power on to ensure that the unit works properly.

Catalyst Cleaning Procedure

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

3.) Disconnect 2 pin MOLEX connector providing power to catalyst panel closes to pre-filter. This will be the dirtiest panel. See Figure 12.

4.) Remove first catalyst panel from B unit. If B has been installed upside down, remove the 10-16 Self-Drilling screws holding the catalyst panel in place. Remove using a 5/16” socket. Be sure to hold panels while the screws are being removed to ensure that the panel does not fall out of housing.

5.) If the catalyst has only light to moderated dust build up, use a pump-up spray bottle with water only to rinse the catalyst. Avoid heavy concentration of spray on ballast tray.

If catalyst is soiled with resin (E.T.S.) or grease, spray catalyst liberally with Nu-Calgon CalClean, Special HD, or another suitable coil cleaner. Do not spray ballast tray. Allow to sit for 15 minutes before rinsing with pump-up water spray bottle.

If catalyst has been discolored, a mixture of powered Oxiclean and water can be sprayed on the catalyst with a pump-up spray bottle. Allow to sit for 15 minutes before rinsing with pump up water spray bottle.

Caution: *Do not spray high-pressure water to clean catalyst. Excessive use of high-pressure water will remove catalyst coating. This type of damage will void the product warranty.*

6.) Allow catalyst to dry before reinserting into unit.

7.) Place catalyst panel(s) back into B unit. Be sure that arrows on panel point in the direction of air flow. If B is installed upside down, reinsert the 10-16 self-drilling screws into their original holes, holding the catalyst panel(s) in place.

Note: *Air flows in through the filter grille and out through the fan grille.*

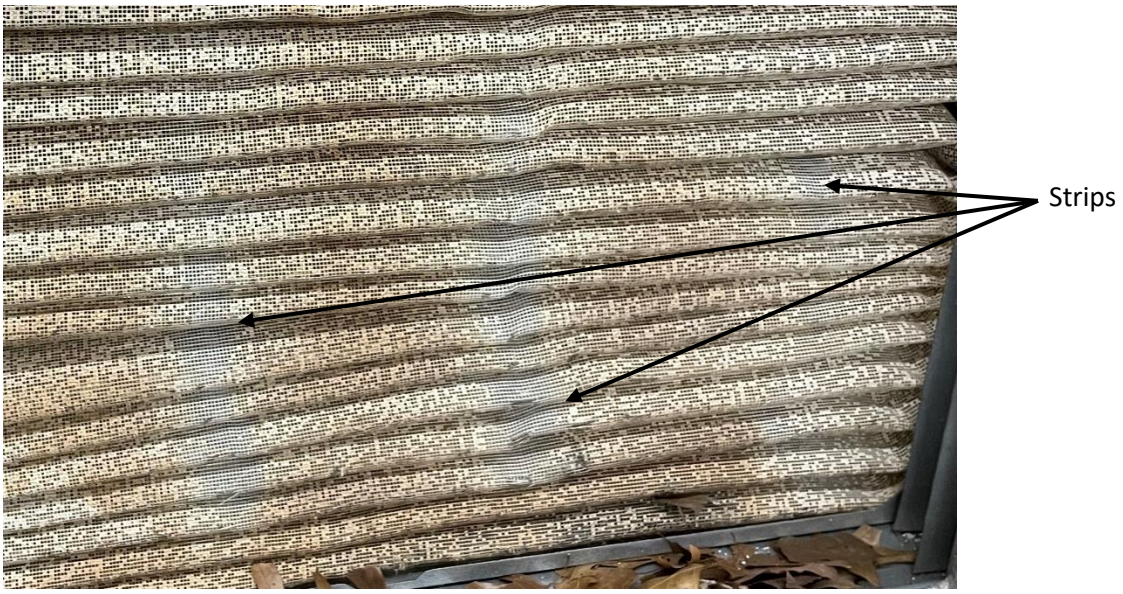
8.) Reconnect 2 pin MOLEX connector providing power to catalyst panel. See Figure 12.

9.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench. See Figure 9.

10.) Plug-in unit and power on to ensure that the unit works properly.

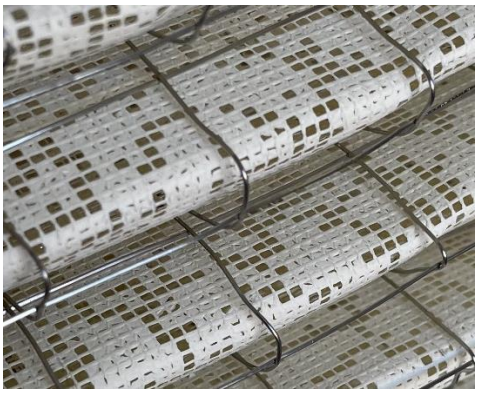
Catalyst Replacement

After 15 years of continuous use, the catalyst panel inside the unit will need to be replaced. Over time the UV lights will degrade the TiO2 coating, exposing the fiberglass core. In Figure 23, notice the stripes in the mesh created by the lamps. It is time to replace the catalyst when these stripes appear. Figures 24 and 25 show the removal of catalyst windowing over time. When the windowing is removed, the catalyst is not effective at creating hydroxyl radicals.



Striped Catalyst: Figure 23

Used Catalyst Windowing: Figure 24



New Catalyst Windowing: Figure 25

Note: *Upon initial startup, some window coating may be blown out of the panel due to excessive coating. At a minimum, 40% of windowing is required for the catalyst panels to meet factory specifications. If windowing drops below 40%, the catalyst panel should be replaced.*

<u>Catalysis Replacement Procedure</u>

1.) Disconnect unit from power supply.

Note: *If the unit is powered on during lid removal, a safety switch will disconnect power.*

Caution: *Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.*

2.) Remove top lid by unscrewing (6) screws with a 3.5 mm Allen wrench. B units fitted with a hinge will have fewer screws to remove. See Figure 9.

Caution: *If B unit has been installed upside down, internal component may fall out when lid is removed.*

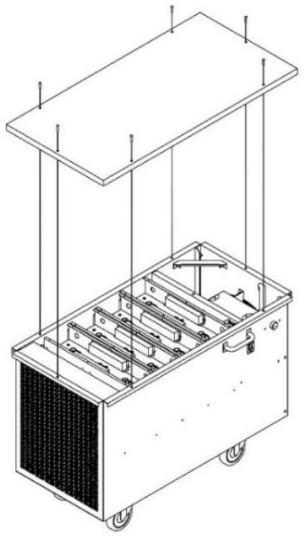


Figure 26

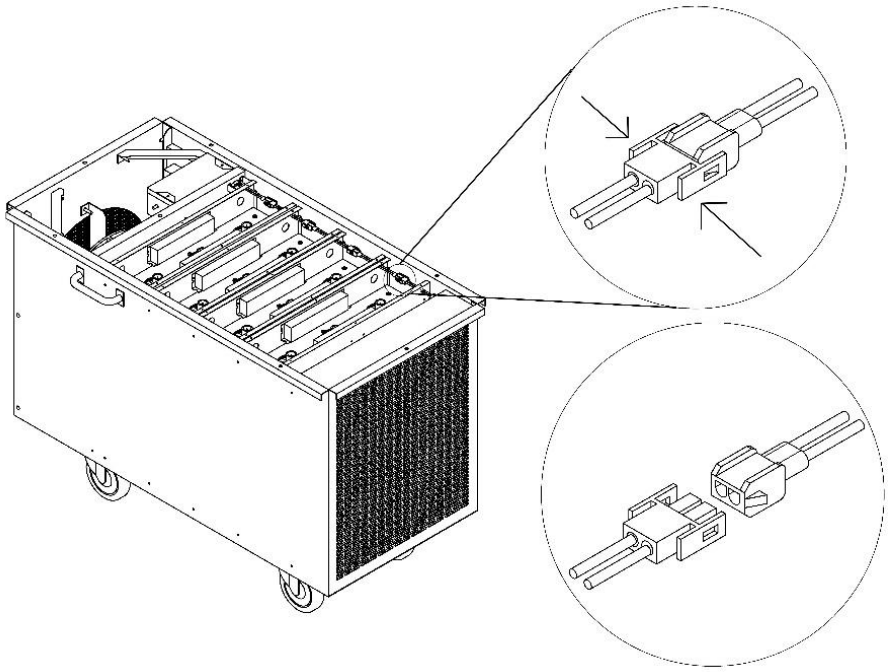


Figure 27

3.) Disconnect 2 pin MOLEX connector providing power to Catalyst Panel. See Figure 26.

4.) Remove catalyst panel(s) from B unit. If B has been installed upside down, remove the 10-16 Self-Drilling screws holding the catalyst panel(s) in place. Remove using a 5/16” socket. Be sure to hold panels while the screws are being removed to ensure that the panel does not fall out of housing.

5.) Replace catalyst panel(s) with part number 2021 PCP.

6.) Place new catalyst panel(s) into B unit. Be sure that the wire mesh is on the airflow outlet side of the panel. If B is installed upside down, reinsert the 10-16 self-drilling screws into their original holes, holding the catalyst panel(s) in place.

Note: *Air flows in through the filter grille and out through the fan grille.*

7.) Reconnect 2 pin MOLEX connectors providing power to catalyst panel. See Figure 27.

8.) Reattach the lid and re-insert (6) screws and tightening with an Allen wrench. See Figure 26.

9.) Plug-in unit and power on to ensure that the unit works properly.

Fuse Replacement

This unit utilizes two fuses to prevent high current flow if an electrical short were to occur. If the unit will not operate when power is turned ON, there is a possibility that there is a blown fuse. Each Power Entry Module (PEM) is equipped with one spare fuse. Replacement fuses should be 5 mm in diameter and 20 mm in length glass fuses with a current rating of 8 to 12 amps.

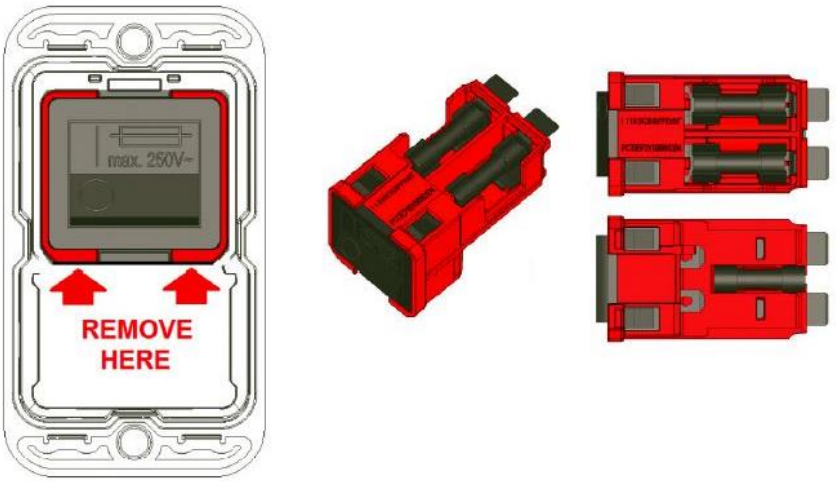


Figure 28

Fuse Replacement Procedure

1.) Disconnect power cord from unit.

Note: *The fuse holder cannot be removed unless the power cord is first removed.*

Caution: *Electrical plug must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.*

2.) Place the end of a 1/8” flat head screwdriver into one of the holes in bottom of the fuse holder. Pry the fuse holder out of the power entry module. See Figure 28.

2.) Check the Power and Neutral wire fuses. If a fuse has blown, replace it with the spare fuse.

3.) Carefully place the fuse holder back into the power entry module.

4.) Plug-in unit and power on to ensure that the unit works properly.

Replacement Parts

Part	Description	Name / Model Number
Ballast	120 VAC, 60 Hz	Fulham WH-5
Catalyst	19.5” x 24” x 5.8”	2021 PCP
Standard Pre-filter	20” x 24” x 4”	20” x 24” x 4” MERV 13 Filter
Alternative Pre-filter	20” x 24” x 2”	20” x 24” x 2” MERV 13 Filter
Carbon Filter	20” x 24” x 2”	20” x 24” x 2” Carbon Filter
HEPA Filter	20” x 24” x 6”	20” x 24” x 6” HEPA Filter
Motor Assembly	Large AC Fan, CFM	TMK335-4-11
UVGI Lamps	20” UV-C Lamp	First Light 2813, UV Engineering GEN9093
UVGI Shielding	20” x 24”	B Unit UV Shield
Capacitor	40 µF	Ducati Energia Spa 40 µF Capacitor
Power Cord	16 AWG, Type C13	Qualtek Electronics Corp. 233058-01
Motor Controller	Steady State Speed Controller	KBWC-115k
Lamp Screws	Hex Screw	10-16 Self-Drilling Screw
Catalyst Cover Screws	Phillips Head Screw	PPH ½” Self-Drilling Screw
Lid Screws	B Lid Screws	M6-1.0 x 16 SHCS
Lid Hinge	B Unit Lid Hinge	B Unit Lid Hinge
Caster Wheels	B Unit Wheels	Caster; Swivel; 5 x 1-1/4; Polypropylene; PREC; PLT; 35

Table 2: Replacement Parts

**Only use genuine replacement parts. Parts highlighted in gray may be substituted with other manufactures.*

To place an order for replacement parts, please contact the manufacture at

Phone: (806) 745-7000

Website: www.genesisair.com

Wiring Diagram

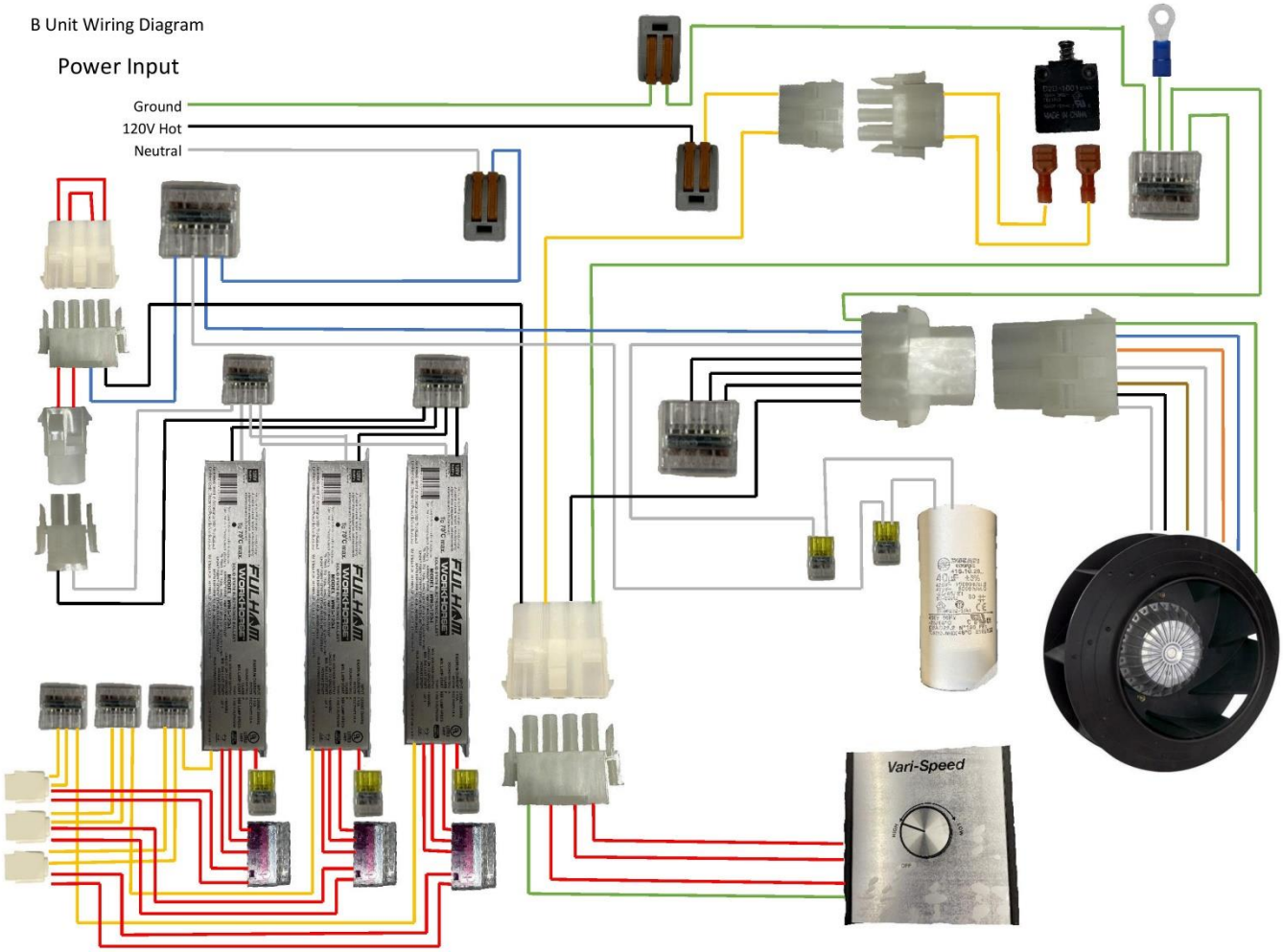


Figure 29: 2008 B Wiring Diagram

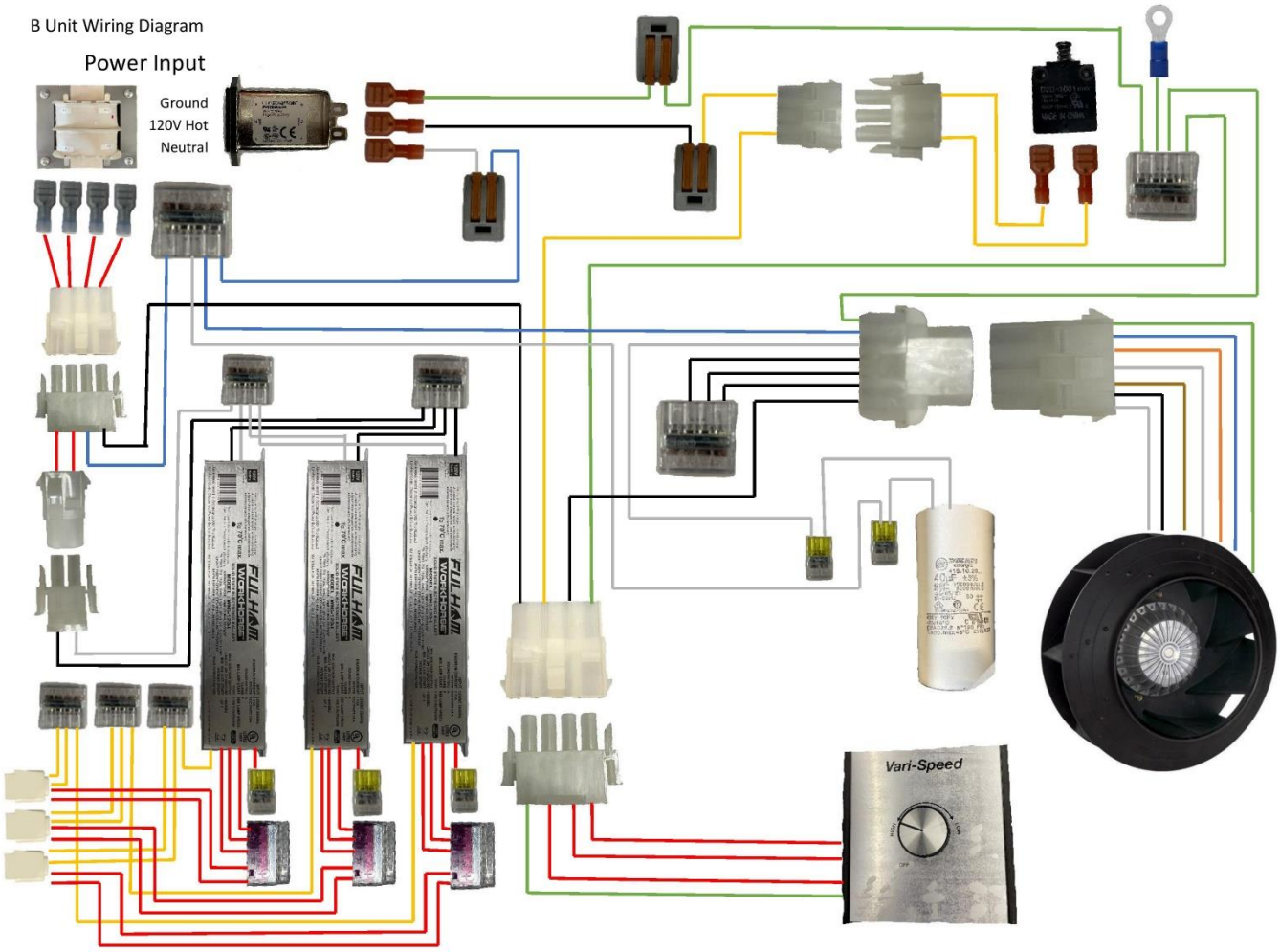
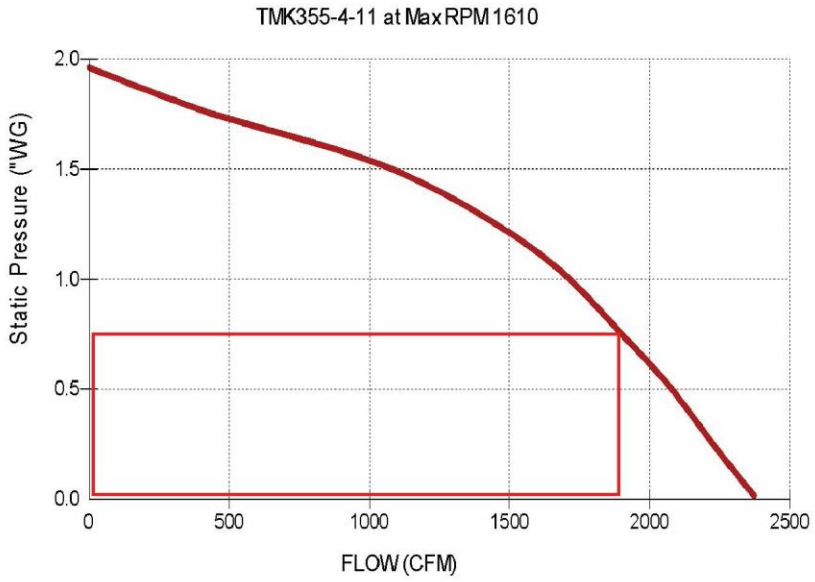
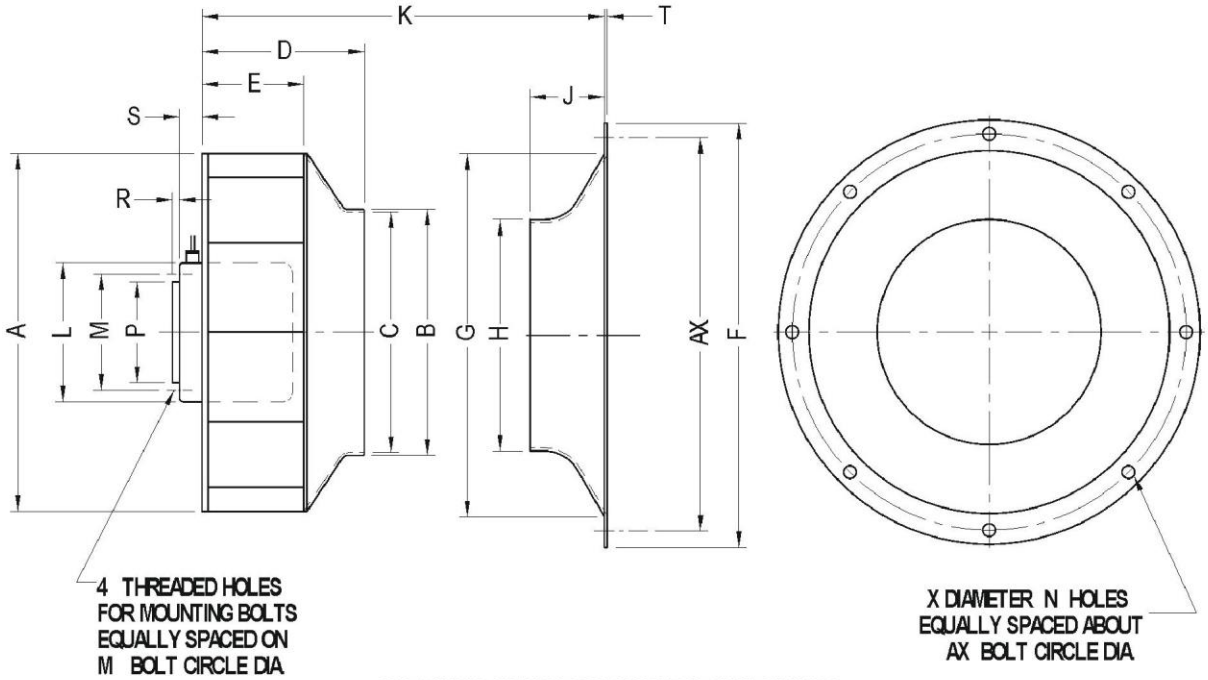


Figure 30: B (Medical) Wiring Diagram

TMK Motorized Impellers: TMK355-4-11

Model No.	**TMK355-4-11 (115V)**
Max. Airflow	2390 CFM @ 0" SP
Motor	600 watts
Max. Speed	1610 RPM
Voltage	115 volt
Phase	1
Cycle	50/60 HZ
Amperage	5.40 amps
Max. Temp.	50 C
Capacitor	40 x 400V
Weight	19 lbs.





DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE.
DRAWING NOT TO BE USED FOR CONSTRUCTION.

A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	X	AX
14.00	9.62	9.25	6.38	4.25	16.60	14.20	9.05	2.91	8.58	5.43	4.53	8.00	3.95	0.26	1.40	0.13	0.50	15.60

Air Purification Testing

The manufacturer has conducted numerous tests to authenticate that CenterPoint™ technology is an effective means of reducing airborne indoor air contaminants. The manufacture of this device will make copies of test results available to those who request it.

Testing Protocol

There are two main types of tests that can be performed with air purifying equipment: single pass tests and chamber tests. A single pass test measures the contaminant level at the inlet of the equipment and compares that value to the level of contaminants at the outlet. A chamber test measures the change in contaminant level within an enclosed space over a given amount of time. Tests can measure volatile organic compound (VOCs) reduction, reduction of viable biological contaminants (bacteria, viruses, fungi), and particulate reduction.

CenterPoint equipment is intended to reduce VOCs and deactivate viable biological contaminants. **CenterPoint equipment is not intended to significantly reduce non-viable biological contaminants. CenterPoint equipment is not intended to significantly reduce particle contaminants.**

Many testing groups do not make a distinction between viable and non-viable biological contaminants. When testing CenterPoint equipment, a distinction must be made between viable and non-viable biological contaminant in the air. **Tests must only measure viable biological contaminants that appear in the air.** The bodies of inactivated biological contaminants will remain in the air. **Inactive bodies are incapable of reproducing or infecting persons occupying the space.**

For more information, please contact the manufacturer at

Email: information@genesisair.com

LIMITED WARRANTY

FAILURE TO MAINTAIN YOUR EQUIPMENT WILL VOID THIS WARRANTY

Your CenterPoint purification system is expressly warranted from the date of installation to be free from manufacturing defects for the coverage period stated below. Defective parts must be returned by you to the installing contractor together with the CenterPoint purification system's model number, serial number, and documented installation date no later than thirty (30) days after the failure.

ONE (1) YEAR COVERAGE -- RESIDENTIAL AND COMMERCIAL APPLICATIONS

The covered equipment and covered components are warranted by Genesis Air for a period of ONE (1) year from the date of the original unit installation, when installed in a residential or commercial application. If during this period, a covered component fails because of a manufacturing defect, Genesis Air will provide a free replacement part. You must pay shipping charges and all other costs of warranty service. Genesis Air will not pay labor involved in diagnostic calls or in removing, repairing, servicing, or replacing parts. Such costs may be covered by a separate warranty provided by the installer. NOTE - If the date of original installation cannot be verified, the warranty period will be deemed to begin six (6) months after the date of manufacture.

EXCLUDED COMPONENTS

The following components are not covered by this warranty: the UVCGI lamps or the pleated photocatalytic material. These are replacement items, which must be replaced as stated in the Maintenance section of the installation instructions to ensure effective operation.

REPAIRS

All repairs of covered components must be made with authorized service parts by a qualified service dealer or contractor. Labor charges are not covered by this warranty.

WARRANTY LIMITATIONS

This warranty will be voided if the covered equipment is removed from the original installation site. This warranty does not cover damage or defect resulting from:

1 - Flood, wind, fire, or lightning damage. Storage, installation, or operation in a corrosive atmosphere (chlorine, fluorine, salt, recycled wastewater, urine, fertilizers, or other damaging chemicals).
2 - Accident, or neglect or unreasonable use or operation of the equipment, including operation of electrical equipment at voltages other than the range specified on the unit nameplate (Includes damages caused by brownouts).
3 - Modification, change or alteration of the equipment, except as directed by manufacturer.
4 - Operation with system components (indoor unit and control devices), which do not match, or meet the specifications recommended by the manufacturer.
5 - Operation with system components (indoor unit and control devices), which exceed operational temperature range of; -20 F to 122F.
6 – Cleaning equipment with high pressure water spray so that the PCP catalyst coating is damaged.
7 – Damage caused by allowing non-functioning equipment to be in an air steam for a prolonged period. Air speeds above 600 ft/min will damage equipment beyond repair.

THIS WARRANTY SHALL NOT OBLIGATE THE MANUFACTURER FOR ANY LABOR COSTS AND SHALL NOT APPLY TO DEFECTS IN WORKMANSHIP OR MATERIALS FURNISHED BY THE INSTALLING CONTRACTOR AS CONTRASTED TO DEFECTS IN THE CENTERPOINT PURIFICATION SYSTEM ITSELF. IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE AFORESAID COVERAGE PERIOD. THE MANUFACTURER'S LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OTHER THAN DAMAGES FOR PERSONAL INJURIES, RESULTING FROM ANY BREACH OF THE AFORESAID IMPLIED WARRANTIES OR THE ABOVE LIMITED WARRANTY IS EXPRESSLY EXCLUDED. THIS LIMITED WARRANTY IS VOID IF DEFECT(S) RESULT FROM FAILURE TO HAVE THIS UNIT INSTALLED BY A QUALIFIED HEATING AND AIR CONDITIONING CONTRACTOR. IF THE LIMITED WARRANTY IS VOID DUE TO FAILURE TO USE A QUALIFIED CONTRACTOR, ALL DISCLAIMERS OF IMPLIED WARRANTIES SHALL BE EFFECTIVE UPON INSTALLATION.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitations may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Last Revision: 10/21/2021

To register your new CenterPoint™ Purification System, PLEASE CUT ON DOTTED LINE AND RETURN THE REGISTRATION FORM TO THE ADDRESS NOTED BELOW.

Customer Registration Form

Customer Name: _____Address: _____

City: _____State/Province: _____ Zip/Postal Code: _____

Home Phone: _____ E-mail: _____

Installing Contractor: _____ Phone: _____

Date of installation: _____Model Number: _____Serial Number: _____

Please send this completed form to the manufacturer.

Genesis Air, Inc.

5202 CR 7350, SUITE D LUBBOCK, TX 79424