



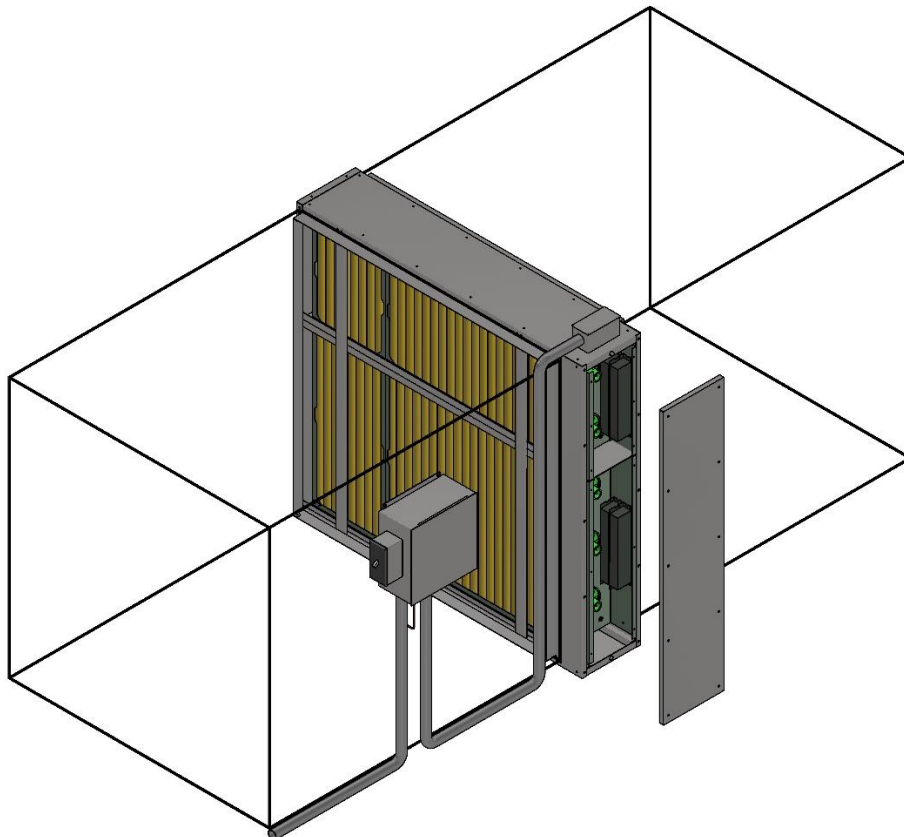
## **Indoor Air Purifiers**

### **CU-S and CU-R**

Ducted / Integrated

Commercial / Residential

CenterPoint™ Photocatalytic Oxidation Technology



## Product Description

The CU is a ducted-in catalysts panel housing designed to work in conjunction with the building HVAC system. The CU is used to reduce the levels of Volatile Organic Compounds (VOC's) and viable airborne biological contaminants. The CU uses a combination of one or more catalyst panels. For recommend configurations, consult the manufacturers engineering department. The CU-S works in conjunction with the existing particle filter section in the building HVAC system. The CU-R comes with its own particle filter section.

## Shipping and Packing List

Standard Equipment:

- (1) CU Housing
- (1) Array of catalyst panels
- (1) Access Cover Safety Switch

Optional Equipment:

- Control Box
- Dwyer Differential Pressure Switch
- UV Shielding
- 2" Pre-filter Housing
- 2" MERV 13 particle filters

Choice of housing material:

- Galvanized Steel (recommended)
- Stainless Steel
- Aluminum

## Copyright

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## Revision Summary

Original IOM manual create in November 2019.

Current manual last revised on November 1st, 2021.

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## 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 catalyst panel manufactured by First Light Technologies, Inc or UV Engineering Solutions LLC.
- **Warning:** *The electrical supply circuit connected to this UV appliance must be routed through an electrical interlock switch placed on the HVAC system duct access panels and doors to prevent accidental UV exposure when servicing the air ducts or equipment.*
- **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 Cod, 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.

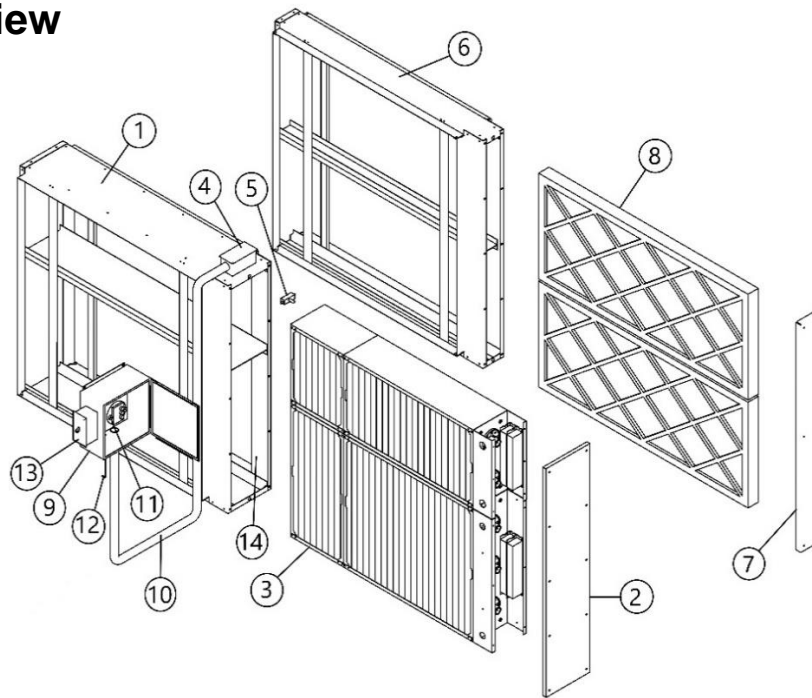
## **WARNING**

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 B, including cables specified by the manufacture. Otherwise, degradation of the performance of this equipment could result.

## Product Overview



**Figure 1: Components of CU**

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

- 1.) CU Housing** – Holds the catalyst panels in the air duct. 88 size variations.
- 2.) CU Access Cover** – Allows easy access to catalyst panel.
- 3.) PCP** – CenterPoint™ Technology catalyst panel. Contains ballast tray, UVC lamps, Catalyst mesh, and UVC shielding. This is not a particle filter.
- 4.) Junction Box** – 4" x 2" typical junction box with lid.
- 5.) Safety Switch** – Disconnects power when catalyst panel access cover is removed. 15-amp rating.
- 6.) Filter Housing** – Option only available with CU-R. Houses the 2" pre-filter. 88 size variations.
- 7.) Filter Housing Access Cover** – Allows easy access to pre-filters.
- 8.) Pre-filter** – Filter's air before going through catalyst panel. 2" filters rated MERV 13 is recommended.
- 9.) Control Box** – Optional. NEMA 4; Contains Pressure Switch.
- 10.) Conduit** – Supplies power from control box to CU.
- 11.) Pressure Switch** – Dwyer differential pressure switch, 15-amp rating
- 12.) 1/4" Copper Tube** – Used to measure air pressure in the ductwork.
- 13.) Service Disconnect Switch** – (Not provided) Disconnects power supplied to CU.
- 14.) UV Shielding** – Optional. Blocks UV light. Needed if CU is mounted within "eyesight" of Filter Housing.

## Specifications

**U.S. Patent Number:** 10946116

**Model Names:** CU-S or CU-R

**Maximum Air Speed (ft/min):** 500

*Caution: Air speeds above 600 ft/min will damage equipment beyond repair.*

<b>Total Pressure Drop (at 500 ft/min):</b>	CU-S:	0.05 in H <sub>2</sub> O
	CU-R (2" MERV 13):	0.30 in H <sub>2</sub> O

**Power Requirements:** 120 Volts, 60 Hertz

**UVGI Life Cycle:** 12,000 operational hours

**Catalyst Panel Life Cycle:** 5 years\*

**Particle Filter:** MERV 13 up to HEPA

**Installation Type:** Supply or Return Duct Mounted

**Temperature Rating:** -20°F to 122°F

*\* CenterPoint™ 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.** Performing 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

Ex:     2 0 3 2 C U - S

Nominal Duct Height (inches)     \*S – Supply Side

Nominal Duct Width (inches)     \*\*R – Return Side

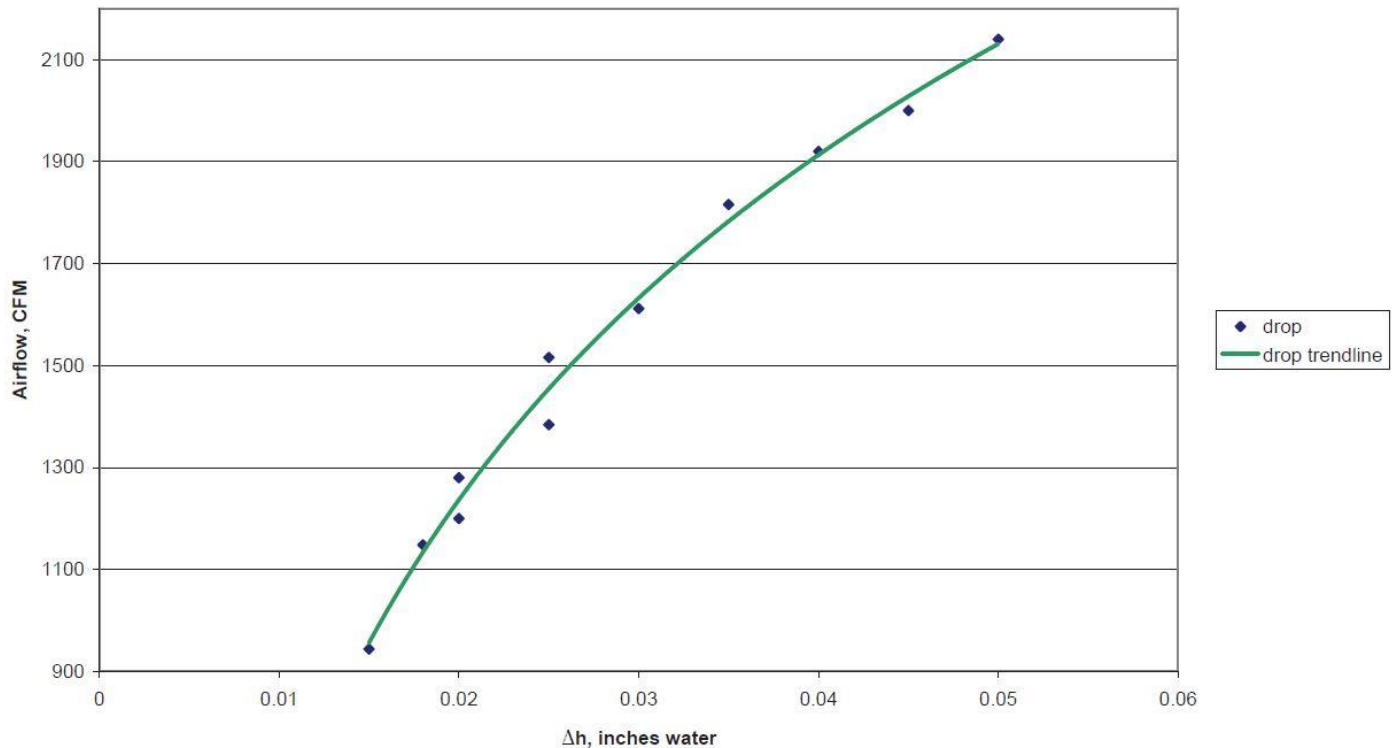
*\* Models labeled CU-S are designed to be mounted in the supply side of the air duct. This unit includes a 6" PCP section. This air needs to be filtered prior to entering the CU, as it does not include a particle filter section.*

*\*\* Models labeled CU-R are designed to be mounted in the return side of the air duct. This unit includes a 6" PCP section, a 2" particle filter section, and a UV shield section. This air does not need to be filtered prior to entering the CU, as it includes a particle filter section.*



## Pressure Drop

2424 PCP Pressure Drop (24" x 24" x 6")



**Figure 2: Pressure Drop vs Volumetric Flow Rate**

Air Velocity (ft/min)	Volumetric Flow Rate (CFM)	Δh (in H <sub>2</sub> O)
236	944	0.015
287	1148	0.018
300	1200	0.020
346	1384	0.025
379	1516	0.025
403	1612	0.030
454	1816	0.035
480	1920	0.040
500	2000	0.045
535	2140	0.050

This test was performed by Genesis Air, Inc. on Thursday, June 05, 2008.

Air conditions:

Temperature: 74

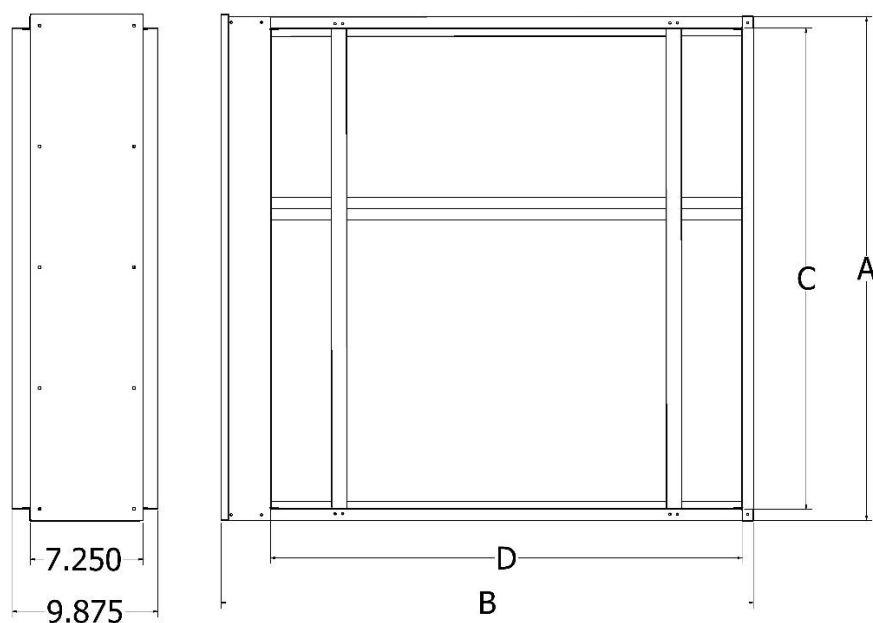
Relative Humidity: 38.4°F

Dew Point: 47.1°F

Pressure Meter: Dwyer Magnehelic 1" scale  
± 0.02"

**Table 1: Pressure Drop**

## CU Size Chart



**Figure 3: CU Size**

Model	A (inches)	B (inches)	C (inches)	D (inches)	CFM	Approximate AC Tonnage	Current (amps)	Weight (lbs.)	Lamp Length and Quantity
1212 CU	13.42	15.27	11.8	11.26	500	1	0.32	16.04	(2) 12"
1216 CU	13.42	19.27	11.8	15.26	667	1.5	0.42	17.51	(2) 16"
1220 CU	13.42	23.27	11.8	19.26	833	2	0.70	19.57	(2) 20"
1224 CU	13.42	27.27	11.8	23.26	1000	2.5	0.88	21.63	(2) 24"
1232 CU	13.42	35.27	11.8	31.26	1333	3	1.12	28.06	(2) 31"
1240 CU	13.42	43.27	11.8	39.23	1667	4	1.48	32.33	(2) 40"
1248 CU	13.42	51.27	11.8	47.26	2000	5	1.62	36.61	(2) 48"
1256 CU	13.42	59.27	11.8	55.26	2333	5.5	2.02	42.36	(2) 55"
1262 CU	13.42	65.27	11.8	61.26	2583	6.5	2.30	45.42	(2) 59"
1272 CU	13.42	76.56	11.8	72.54	3000	7.5	2.68	53.29	(4) 36"
1612 CU	17.41	15.27	15.8	11.26	667	1.5	0.48	19.49	(3) 12"
1616 CU	17.41	19.27	15.8	15.26	889	2	0.63	21.07	(3) 16"
1620 CU	17.41	23.27	15.8	19.26	1111	2.5	1.05	23.58	(3) 20"
1624 CU	17.41	27.27	15.8	23.26	1333	3	1.32	25.42	(3) 24"
1632 CU	17.41	35.27	15.8	31.26	1778	4.5	1.68	32.82	(3) 31"
1640 CU	17.41	43.27	15.8	39.23	2222	5.5	2.22	37.32	(3) 40"
1648 CU	17.41	51.27	15.8	47.26	2667	6.5	2.43	41.83	(3) 48"
1656 CU	17.41	59.27	15.8	55.26	3111	7.5	3.03	57.48	(3) 55"
1662 CU	17.41	65.27	15.8	61.26	3444	8.5	3.45	51.89	(3) 59"
1672 CU	17.41	76.56	15.8	72.54	4000	10	4.02	61.13	(6) 36"
2012 CU	21.41	15.27	19.8	11.26	833	2	21.79	21.79	(3) 12"
2016 CU	21.41	19.27	19.8	15.26	1111	2.5	0.63	23.49	(3) 16"

Model	A (inches)	B (inches)	C (inches)	D (inches)	CFM	Approximate AC Tonnage	Current (amps)	Weight (lbs.)	Lamp Length and Quantity
2020 CU	21.41	23.27	19.8	19.26	1389	3.5	1.05	25.77	(3) 20"
2024 CU	21.41	27.27	19.8	23.26	1667	4	1.32	36.47	(3) 24"
2032 CU	21.41	35.27	19.8	31.26	2222	5.5	1.68	36.17	(3) 31"
2040 CU	21.41	43.27	19.8	39.23	2778	7	2.22	40.90	(3) 40"
2048 CU	21.41	51.27	19.8	47.26	3333	8	2.43	45.62	(3) 48"
2056 CU	21.41	59.27	19.8	55.26	3889	9.5	3.03	52.91	(3) 55"
2062 CU	21.41	65.27	19.8	61.26	4306	10.5	3.45	56.48	(3) 59"
2072 CU	21.41	76.56	19.8	72.54	5000	12.5	4.02	66.42	(6) 36"
2412 CU	25.41	15.27	23.8	11.26	1000	2.5	0.64	24.51	(4) 12"
2416 CU	25.41	19.27	23.8	15.26	1333	3	0.84	26.91	(4) 16"
2420 CU	25.41	23.27	23.8	19.26	1667	4	1.40	29.32	(4) 20"
2424 CU	25.41	27.27	23.8	23.26	2000	5	1.76	31.72	(4) 24"
2432 CU	25.41	35.27	23.8	31.26	2667	6.5	2.24	40.66	(4) 31"
2440 CU	25.41	43.27	23.8	39.23	3333	8	2.96	45.62	(4) 40"
2448 CU	25.41	51.27	23.8	47.26	4000	10	3.24	50.57	(4) 48"
2456 CU	25.41	59.27	23.8	55.26	4667	11.5	4.04	58.61	(4) 55"
2462 CU	25.41	65.27	23.8	61.26	5167	13	4.60	62.36	(4) 59"
2472 CU	25.41	76.56	23.8	72.54	6000	15	4.64	75.08	(8) 36"
3220 CU	33.41	23.27	31.8	19.26	2222	5.5	1.75	45.87	(5) 20"
3224 CU	33.41	27.27	31.8	23.26	2667	6.5	2.20	49.90	(5) 24"
3232 CU	33.41	35.27	31.8	31.26	3556	8.5	2.80	61.62	(5) 31"
3240 CU	33.41	43.27	31.8	39.23	4444	11	3.70	71.12	(5) 40"
3248 CU	33.41	51.27	31.8	47.26	5333	13	4.05	78.71	(5) 48"
3256 CU	33.41	59.27	31.8	55.26	6222	15.5	5.05	90.38	(5) 55"
3262 CU	33.41	65.27	31.8	61.26	6889	17	5.75	98.02	(5) 59"
3272 CU	33.41	76.56	31.8	72.54	8000	20	6.70	120.16	(10) 36"
4020 CU	41.41	23.27	39.8	19.26	2778	7	2.10	53.32	(6) 20"
4024 CU	41.41	27.27	39.8	23.26	3333	8	2.64	57.34	(6) 24"
4032 CU	41.41	35.27	39.8	31.26	4444	11	3.36	70.58	(6) 31"
4040 CU	41.41	43.27	39.8	39.23	5556	14	4.44	80.95	(6) 40"
4048 CU	41.41	51.27	39.8	47.26	6667	16.5	4.86	88.99	(6) 48"
4056 CU	41.41	59.27	39.8	55.26	7778	19.5	6.06	102.19	(6) 55"
4062 CU	41.41	65.27	39.8	61.26	8611	21.5	6.90	110.58	(6) 59"
4072 CU	41.41	76.56	39.8	72.54	10000	25	8.04	136.28	(12) 36"
4820 CU	49.41	23.27	47.8	19.26	3333	8	2.80	61.40	(8) 20"
4824 CU	49.41	27.27	47.8	23.26	4000	10	3.52	65.65	(8) 24"
4832 CU	49.41	35.27	47.8	31.26	5333	13	4.48	80.42	(8) 31"
4840 CU	49.41	43.27	47.8	39.23	6667	16.5	5.92	91.65	(8) 40"
4848 CU	49.41	51.27	47.8	47.26	8000	20.	6.48	100.14	(8) 48"
4856 CU	49.41	59.27	47.8	55.26	9333	23.	8.08	114.87	(8) 55"
4862 CU	49.41	65.27	47.8	61.26	10333	25.5	9.20	124.02	(8) 59"
4872 CU	49.41	76.56	47.8	72.54	12000	30	10.72	153.78	(19) 36"

Model	A (inches)	B (inches)	C (inches)	D (inches)	CFM	Approximate AC Tonnage	Current (amps)	Weight (lbs.)	Lamp Length and Quantity
5620 CU	57.41	23.27	55.8	19.26	3889	9.5	3.15	74.86	(9) 20"
5624 CU	57.41	27.27	55.8	23.26	4667	11.5	3.96	51.69	(9) 24"
5632 CU	57.41	35.27	55.8	31.26	6222	15.5	3.96	99.00	(9) 32"
5640 CU	57.41	43.27	55.8	39.23	7778	19.5	6.66	110.26	(9) 40"
5648 CU	57.41	51.27	55.8	47.26	9333	23	7.29	118.22	(9) 48"
5656 CU	57.41	59.27	55.8	55.26	10889	27	9.09	144.70	(9) 55"
5662 CU	57.41	65.27	55.8	61.26	12056	30	10.35	154.84	(9) 59"
5672 CU	57.41	76.56	55.8	72.54	14000	35	12.06	191.00	(18) 36"
6020 CU	61.41	23.27	59.8	19.26	4167	10.5	3.15	77.90	(9) 20"
6024 CU	61.41	27.27	59.8	23.26	5000	12.5	3.96	83.57	(9) 24"
6032 CU	61.41	35.27	59.8	31.26	6667	16.5	5.04	102.78	(9) 32"
6040 CU	61.41	43.27	59.8	39.23	8333	20.5	6.66	114.27	(9) 40"
6048 CU	61.41	51.27	59.8	47.26	10000	25	7.29	129.04	(9) 48"
6056 CU	61.41	59.27	59.8	55.26	11667	29	9.09	148.16	(9) 55"
6062 CU	61.41	65.27	59.8	61.26	12917	32	10.35	160.28	(9) 59"
6072 CU	61.41	76.56	59.8	72.54	15000	37.5	12.06	197.70	(18) 36"
7220 CU	73.41	23.27	71.8	19.26	5000	12.5	4.20	90.02	(12) 20"
7224 CU	73.41	27.27	71.8	23.26	6000	15	5.28	96.03	(12) 24"
7232 CU	73.41	35.27	71.8	31.26	8000	20	6.72	117.53	(12) 32"
7240 CU	73.41	43.27	71.8	39.23	10000	25	8.88	133.74	(12) 40"
7248 CU	73.41	51.27	71.8	47.26	12000	30	9.72	145.78	(12) 48"
7256 CU	73.41	59.27	71.8	55.26	14000	35	12.12	167.18	(12) 55"
7262 CU	73.41	65.27	71.8	61.26	15500	38.5	13.80	180.44	(12) 59"
7272 CU	73.41	76.56	71.8	72.54	18000	45	16.08	224.46	(24) 36"

**Table 2: CU Size Chart**

## 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 always attended by knowledgeable personnel.

The UVC lamps in CenterPoint™ products do not produce ozone! The lamps provide a minimum intensity of 775 microwatts/cm<sup>2</sup> 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 (12,000 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, the unit 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

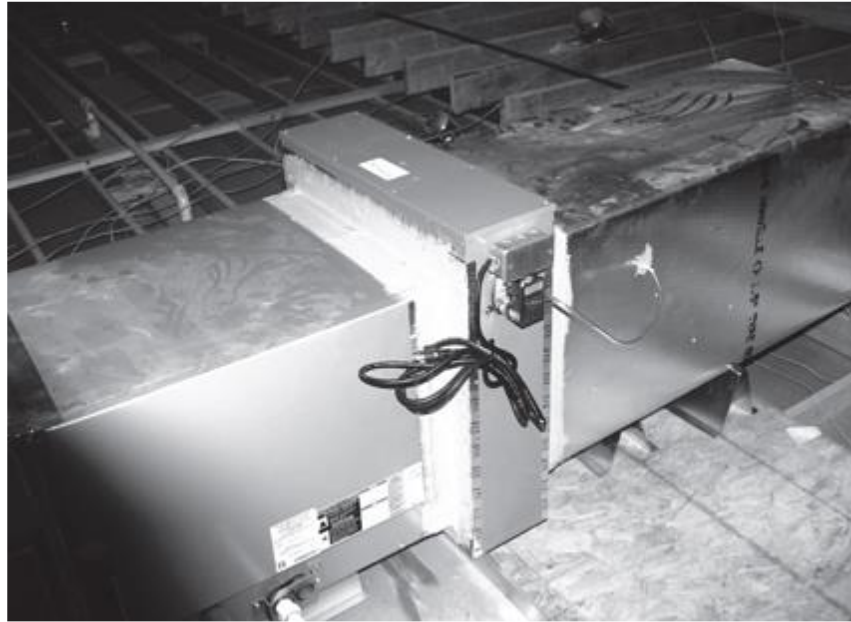


Figure 4: CU-S Example Installation

### **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 catalyst racks to floor or ceiling. The presence of silicone in UV light will pollute the catalyst.

### **WARNING!**

#### **Unpacking Required**

Remove all protective packing material from the box before removal of catalyst panel. All packing material should be discarded properly.

### **WARNING!**

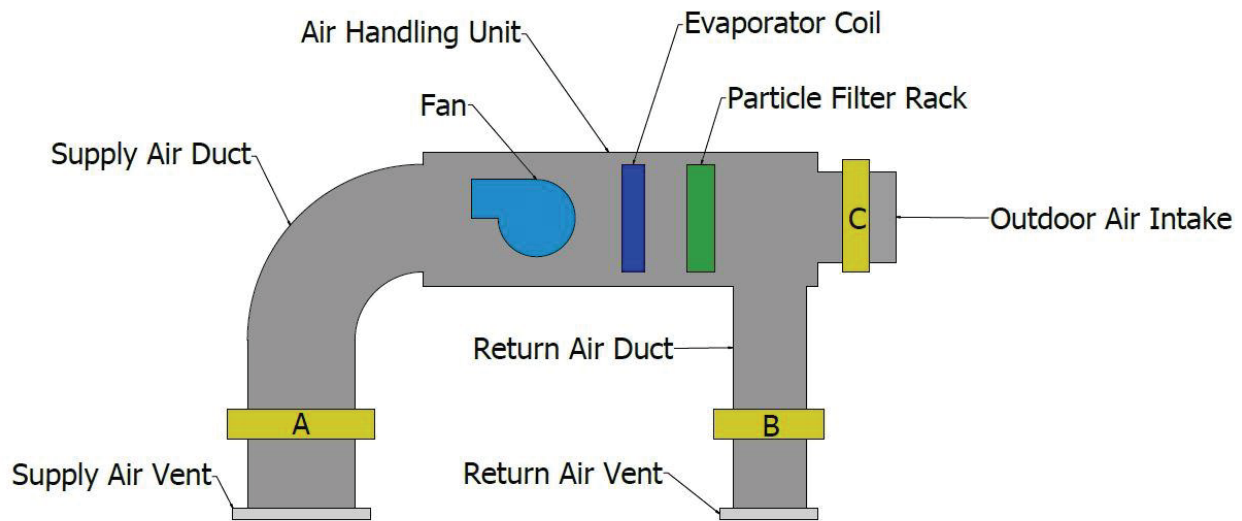
#### **Lamps Contain Mercury**

Ingestion or contact with mercury of mercury vapor is hazardous to your health. Take care when handling lamps. If broken, avoid contact with mercury.

The CU housing is designed to be installed permanently in the existing ductwork of a building. Installation must be completed by competent personnel. It is recommended that CU installation be performed by an HVAC contractor. The manufacturer assumes no liability for damages or injuries sustained from installations done by persons other than qualified technicians who are employed by the manufacturer.

## Suitable Locations

There are 3 main locations within an HVAC system that a CU can be installed in. The diagram below can be used as guidance on which configuration best suits a given building.

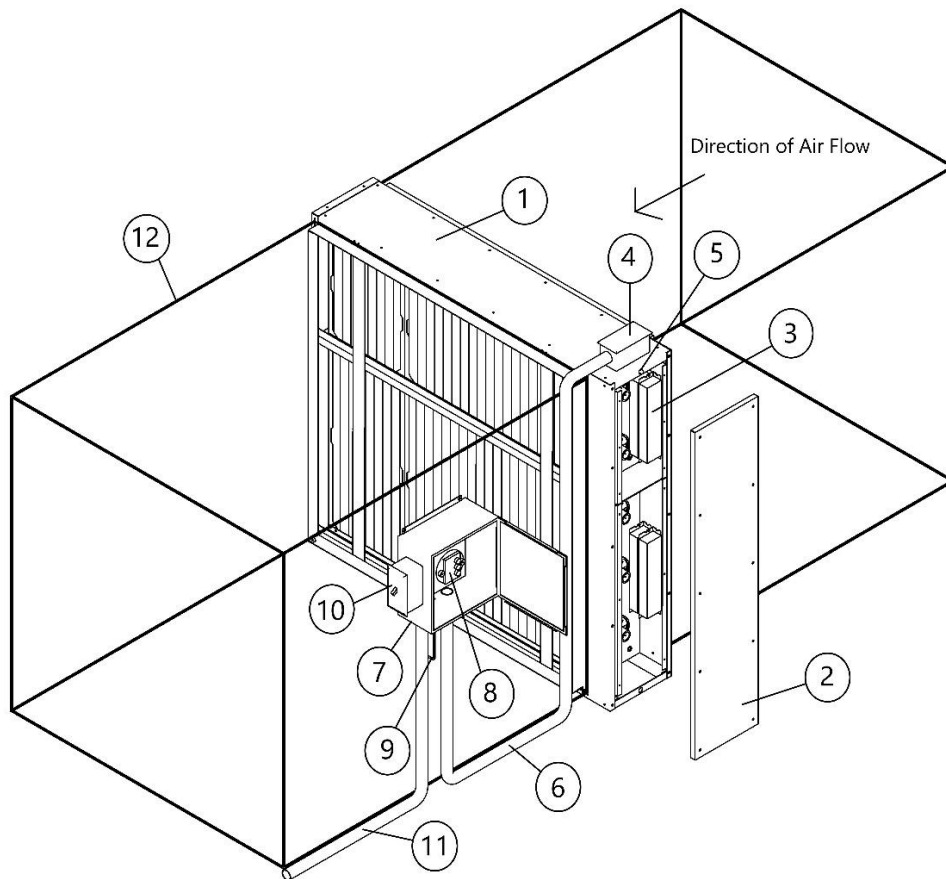


**Figure 5: CU location with respect to AHU**

Recommendation	Objective / Constraints
Install a CU-S in location A. <ul style="list-style-type: none"> <li>Most efficient solution for most buildings.</li> </ul>	<ul style="list-style-type: none"> <li>Reduce contaminants entering the building from the outdoor air intake and/or return vent.</li> </ul>
Install a CU-R in location B.	<ul style="list-style-type: none"> <li>Reduce contaminants entering the air handler and supply duct.</li> <li>Prevent contaminants leaving specific zones from mixing into air stream.</li> <li>Ideal for funeral home body prep, coroner's office, etc.</li> <li>Not enough room in location A.</li> </ul>
Install a CU-R in location C.	<ul style="list-style-type: none"> <li>Reduce contaminants taken in though outdoor intake.</li> <li>Ideal for buildings with roof top heliport, kitchen exhaust, etc.</li> <li>Not enough room in location A.</li> </ul>
Install a CU-R in location B and C.	<ul style="list-style-type: none"> <li>Reduce contaminants entering the room from the outdoor air intake and return vent.</li> <li>Not enough room in location A.</li> </ul>

**Table 4: CU Installation Considerations**

## CU-S Installation



- 1.) CU Housing
- 2.) CU Access Cover
- 3.) PCP(s)
- 4.) Junction Box
- 5.) Safety Switch: 15-amp rating
- 6.) Conduit: between Control Box and CU
- 7.) Control Box: NEMA 4
- 8.) Pressure Differential Switch
- 9.) 1/4" Copper Tube: for Pressure Switch
- 10.) Service Disconnect Switch: (not included)
- 11.) 120 Volt AC Power
- 12.) Air Duct

**Figure 6: CU-S Installation**

1.) Find a suitable location along the length of the duct where room is available for installation and servicing. Make the following considerations.

- The presents of structural components that may be needed to hold the CU 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.
- Best CU orientation to allow removal of catalyst panels and pre-filters for maintenance.
- Ease of access for maintenance personnel.

2.) Cut a section out of the existing duct work to install CU housing.

3.) Attach CU to ductwork using a combination of self-tapping screws, aluminum tape, and additional duct supports if necessary. Installation should be performed by a trained HVAC technician.

**Caution:** Do not use silicone to seal ductwork in the vicinity of the CU. The presence of silicone in UV light will pollute the catalyst.

4.) Insert catalyst panel(s) and UV Shielding (if applicable) into CU housing.

**Note:** UV Shielding will be need if the CU housing is mounted within "eyesight" of filter section.



4.) Run electrical wires from catalyst panel(s) to Junction Box. Run electrical wires from Safety Switch to Junction Box. Connect catalyst panel(s) to Safety Switch in series. See Figure 16.

4.) Find a suitable location outside of the duct to mount the Control Box.

5.) Have an electrician run 120V AC power to Control Box from building fuse box. See Table 2 for current draw. See submittal provided by for recommended circuit configuration. Use current draw to determine an appropriate gauge of electrical cable.

6.) Wire system. See Table 2 for current draw. See submittal provided by the manufacturer for recommended circuit configuration. Use current draw to determine an appropriate gauge of electrical cable.

See Figures 10 and 11 for wiring diagram.

7.) Use a ¼" copper tube to plumb the Pressure Switch into the ductwork. Tube must be metallic to prevent deterioration due to UV light.

If CU is mounted on the return duct, attach High side of Pressure Switch to atmosphere and Low side to the ductwork.

If CU is mounted on the supply duct, attach High side of Pressure Switch to the ductwork and Low side to the atmosphere.

See Figure 9 for Pressure Switch plumbing.

8.) Once the CU is installed be sure to test the unit immediately upon completion. Remove the CU access cover and power on the CU at the Service Disconnect Switch (if applicable).

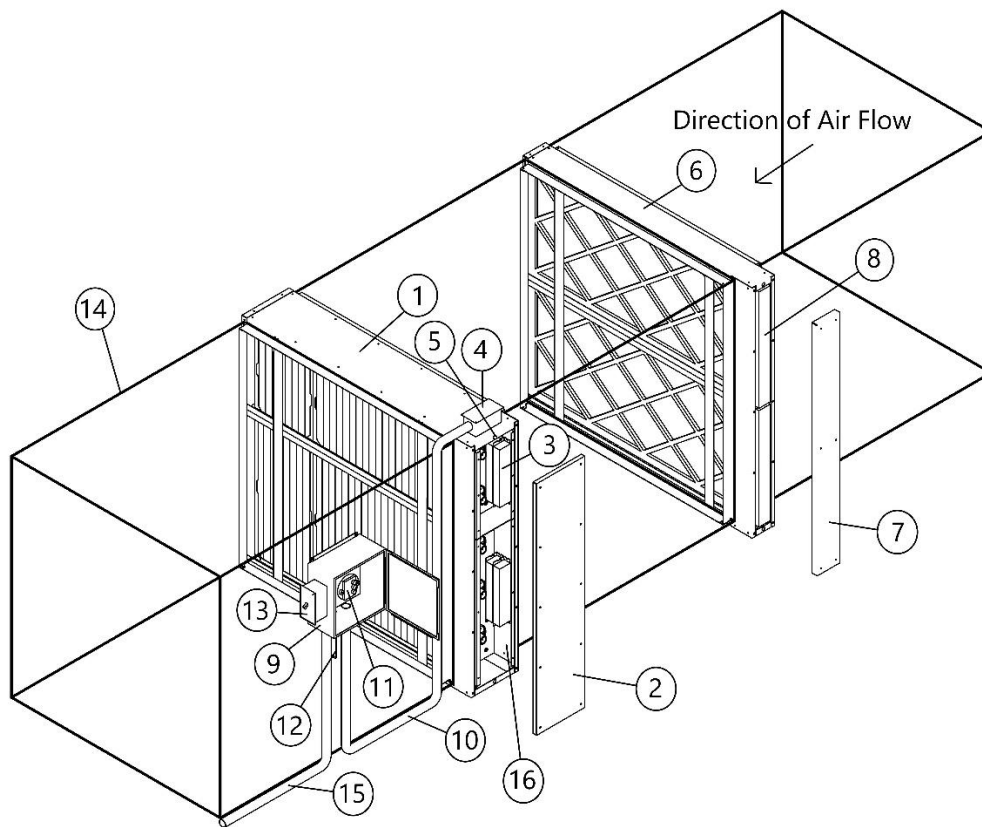
9.) Briefly press in the Safety Switch. Look at the Green Lamp Sleeves attached to each lamp. If these sleeves glow, the lamps are working. If the sleeves do not glow, the lamps are not working.

**Caution:** *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.*

10.) Check the electrical connections to any inoperable lamps. If all connections appear correct, proceed to Ballast Troubleshooting section for diagnosing ballast faults.

**Note:** *If a unit is installed and UV lights are not illuminated, the manufacture warranty will be voided if future damage occurs to the catalyst panel while in the air stream.*

## CU-R Installation (Double Housing)



- 1.) CU Housing
- 2.) CU Access Cover
- 3.) PCP(s)
- 4.) Junction Box
- 5.) Safety Switch: 15-amp rating
- 6.) Filter Housing
- 7.) Filter Access Cover
- 8.) Pre-Filter(s)
- 9.) Control Box: NEMA 4
- 10.) Conduit: between Control Box and CU
- 11.) Pressure Switch
- 12.) 1/4" Copper Tube: for Pressure Switch
- 13.) Service Disconnect Switch: (not included)
- 14.) Air Duct
- 15.) 120 Volt AC Power
- 16.) UV Shielding

**Figure 7: CU-R Installation Example**

1.) Find a suitable location along the length of the duct where room is available for installation and servicing. Make the following considerations.

- The presents of structural components that may be needed to hold the CU 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.
- Best CU orientation to allow removal of catalyst panels and pre-filters for maintenance.
- Ease of access for maintenance personnel.
- Location of Filter Housing upstream of the CU.

2.) Cut a section out of the existing duct work to install CU.

3.) Attach CU to ductwork using a combination of self-tapping screws, aluminum tape, and additional duct supports if necessary. Installation should be performed by a trained HVAC technician.

**Caution:** *Do not use silicone to seal ductwork in the vicinity of the CU. The presence of silicone in UV light will pollute the catalyst.*

4.) Insert catalyst panel(s) and UV Shielding (If applicable).

**Note:** *UV Shielding will be need if the CU housing is mounted within “eyesight” of filter section.*

5.) Cut out a section of the existing duct work to install Filter Housing.

6.) Attach Filter Housing to ductwork using a combination of self-tapping screws, aluminum tape, and additional duct supports if necessary. Installation should be performed by a trained HVAC technician.

7.) Insert pre-filter. 2” MERV 13 filters are recommended (sizes will vary).

9.) Find a suitable location outside of the duct to mount the Control Box.

10.) Have an electrician run 120V AC power to Control Box from building fuse box. See Table 2 for current draw. See submittal provided by for recommended circuit configuration. Use current draw to determine an appropriate gauge of electrical cable.

See Figures 10 and 11 for wiring diagram.

11.) Wire system. See Table 2 for current draw. See submittal provided by the manufacturer for recommended circuit configuration. Use current draw to determine an appropriate gauge of electrical cable.

12.) Use a ¼” copper tube to plumb the Pressure Switch into the ductwork. Tube must be metallic to prevent deterioration due to UV light.

If CU is mounted on the return duct, attach High side of Pressure Switch to atmosphere and Low side to the ductwork.

If CU is mounted on the supply duct, attach High side of Pressure Switch to the ductwork and Low side to the atmosphere.

See Figure 9 for Pressure Switch plumbing.

13.) Once the CU is installed be sure to test the unit immediately upon completion. Open the Service panel and power on the CU at the Service Disconnect Switch (if applicable).

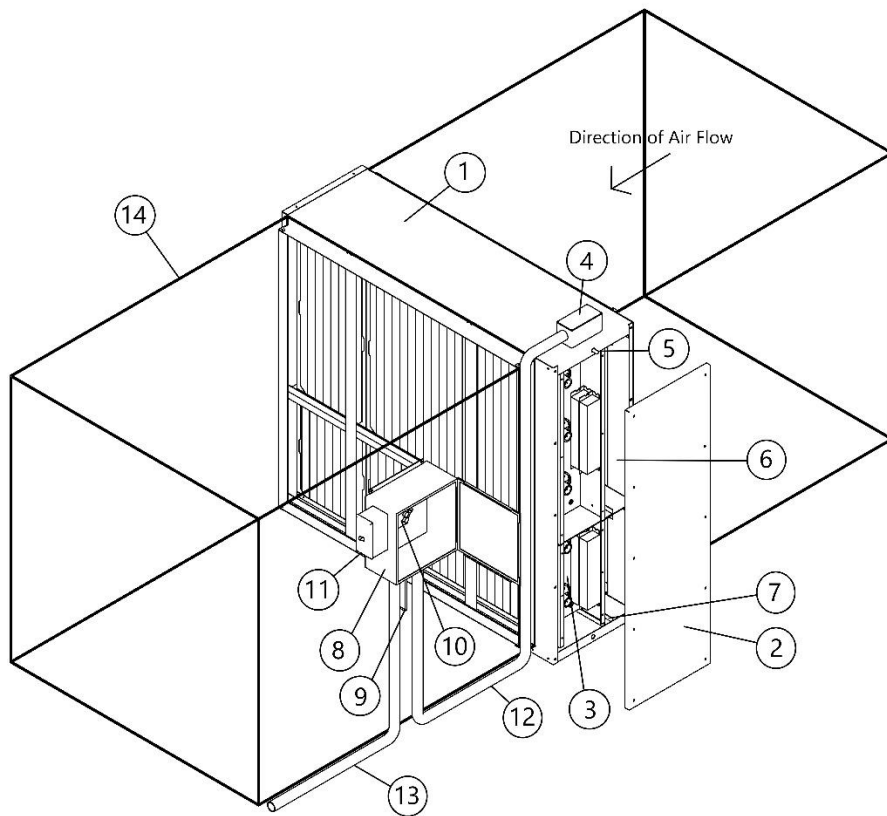
14.) Briefly press in the Safety Switch. Look at the Green Lamp Sleeves attached to each lamp. If these sleeves glow, the lamps are working. If the sleeves do not glow, the lamps are not working.

**Caution:** *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.*

15.) Check the electrical connections to any inoperable lamps. If all connections appear correct, proceed to Ballast Troubleshooting section for diagnosing ballast faults.

**Note:** *If a unit is installed and UV lights are not illuminated, the manufacture warranty will be voided if damage occurs to the unit while in the air stream.*

## CU-R Installation (Single Housing)



- 1.) CU Housing
- 2.) CU Access Cover
- 3.) PCP(s)
- 4.) Junction Box
- 5.) Safety Switch: 15-amp rating
- 6.) Particle Filter Slot: designed for 2" pre-filters
- 7.) UV Shielding Slot
- 8.) Control Box: NEMA 4
- 9.) 1/4" Copper Tube: for Pressure Switch
- 10.) Pressure Switch
- 11.) Service Disconnect Switch: (not included)
- 12.) Conduit: between Control Box and CU
- 13.) 120 Volt AC Power
- 14.) Air Duct

**Figure 8: CU-R Single Housing Installation Example**

1.) Find a suitable location along the length of the duct where room is available for installation and servicing. Make the following considerations.

- The presents of structural components that may be needed to hold the CU 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.
- Best CU orientation to allow removal of catalyst panels and pre-filters for maintenance.
- Ease of access for maintenance personnel.

2.) Cut a section out of the existing duct work to install CU housing.

3.) Attach CU to ductwork using a combination of self-tapping screws, aluminum tape, and additional duct supports if necessary. Installation should be performed by a trained HVAC technician.

**Caution:** Do not use silicone to seal ductwork in the vicinity of the CU. The presence of silicone in UV light will pollute the catalyst.

4.) Insert catalyst panel(s), pre-filter(s), and UV Shielding (if applicable) into CU housing.

**Note:** *UV Shielding will be needed if the CU housing is mounted within “eyesight” of filter section.*

4.) Run electrical wires from catalyst panel(s) to Junction Box. Run electrical wires from Safety Switch to Junction Box. Connect catalyst panel(s) to Safety Switch in series. See Figure 16.

4.) Find a suitable location outside of the duct to mount the Control Box.

5.) Have an electrician run 120V AC power to Control Box from building fuse box. See Table 2 for current draw. See submittal provided by for recommended circuit configuration. Use current draw to determine an appropriate gauge of electrical cable.

6.) Wire system. See Table 2 for current draw. See submittal provided by the manufacturer for recommended circuit configuration. Use current draw to determine an appropriate gauge of electrical cable.

See Figures 10 and 11 for wiring diagram.

7.) Use a ¼” copper tube to plumb the Pressure Switch into the ductwork. Tube must be metallic to prevent deterioration due to UV light.

If CU is mounted on the return duct, attach High side of Pressure Switch to atmosphere and Low side to the ductwork.

If CU is mounted on the supply duct, attach High side of Pressure Switch to the ductwork and Low side to the atmosphere.

See Figure 9 for Pressure Switch plumbing.

8.) Once the CU is installed be sure to test the unit immediately upon completion. Remove the CU access cover and power on the CU at the Service Disconnect Switch (if applicable).

9.) Briefly press in the Safety Switch. Look at the Green Lamp Sleeves attached to each lamp. If these sleeves glow, the lamps are working. If the sleeves do not glow, the lamps are not working.

**Caution:** *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.*

10.) Check the electrical connections to any inoperable lamps. If all connections appear correct, proceed to Ballast Troubleshooting section for diagnosing ballast faults.

**Note:** *If a unit is installed and UV lights are not illuminated, the manufacture warranty will be voided if future damage occurs to the catalyst panel while in the air stream.*

## Additional Installation Tips

Make the following considerations when choosing an appropriate placement location.

- Structural components that may be needed to hold the CU in place.
- Access to 120V AC power supply.
- Ease of access for maintenance personnel.
- Other fixtures in the vicinity of installation.
- Length of duct needed for transitions (if applicable).
- Relocation of particle filters (if CU-R).
- Insulate the exterior of CUs that are installed in locations that are not climate controlled. These include ducts in attics, on top of roofs, and on the side of buildings.

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

- Uninsulated CUs can allow heat to be transferred between the duct and external air. This can result in an unnecessary strain on the buildings HVAC system.
- EAC connections are not recommended for residential furnaces that utilize a variable speed drive.

## Pressure Switch

### Fan Proof Accessory



**Figure 9**

### Dwyer Fan Proof Specifications

**Service:** Air and non combustible gases.

**Wetted Materials:** Consult Dwyer

**Temperature Limits:** -30 to 180F (34 to 82C) (32F for non dry air)

**Pressure Limits:** 45" w.c. continuous 10 psig surge

**Switch Type:** Single-pole double-throw (SPDT)

**Repeatability:** +/- 3%

**Electrical Rating:** 15A@ 120-480 VAC, 60Hz. Resistive 1/8 HP @ 125VAC, 1/4 HP @250 VAC,60 Hz. Derate to 10 A for operation at high cycle rates.

**Electrical Connection:** 3 screw type, common, normally open and normally closed.

**Process Connections:** 1/8" NPT

**Mounting Orientation:** Diaphragm in vertical position. Consult Dwyer for other position orientations

**Agency Approvals:** CE, UL, CSA,FM.

## Electrical Wiring Diagram

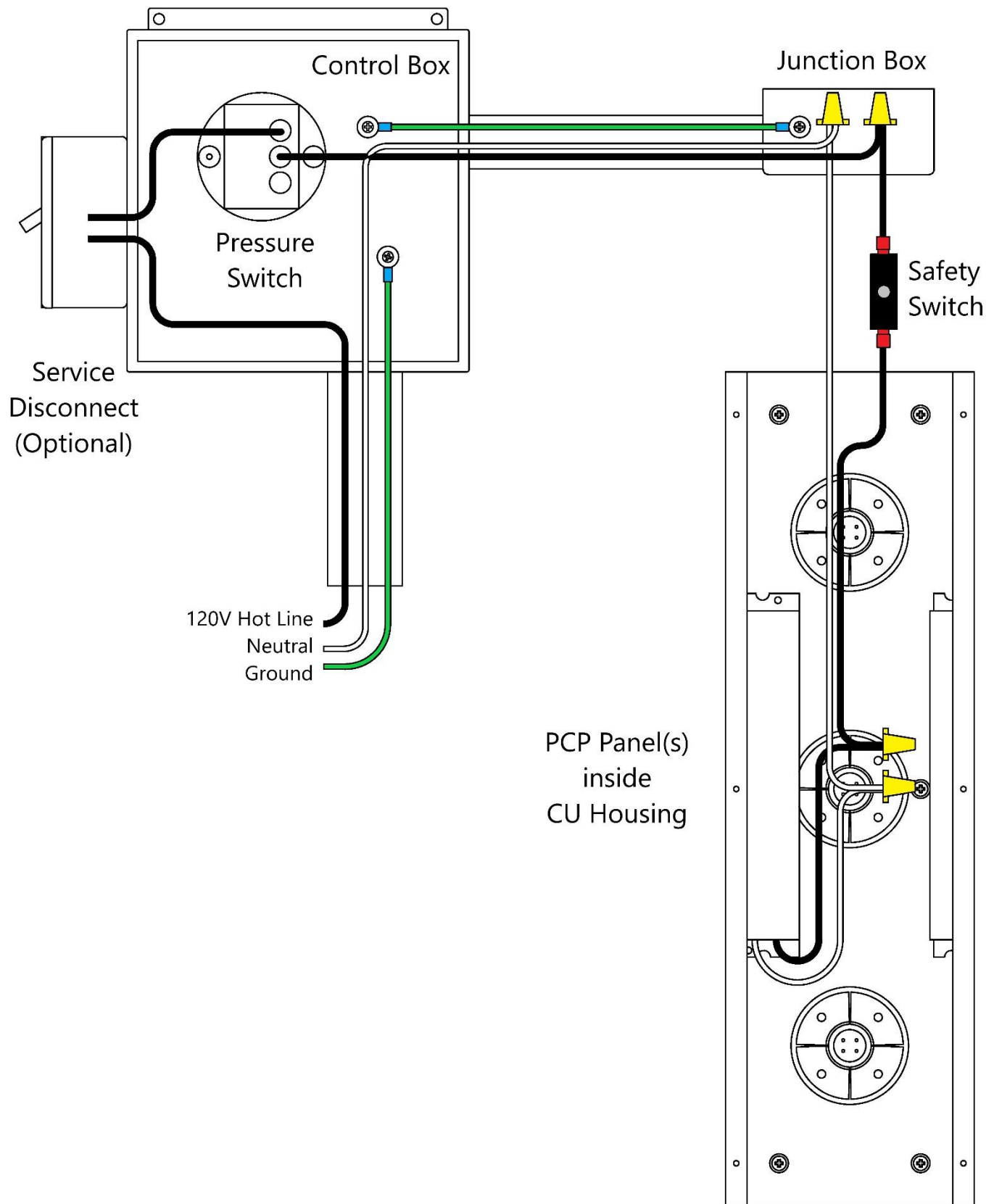
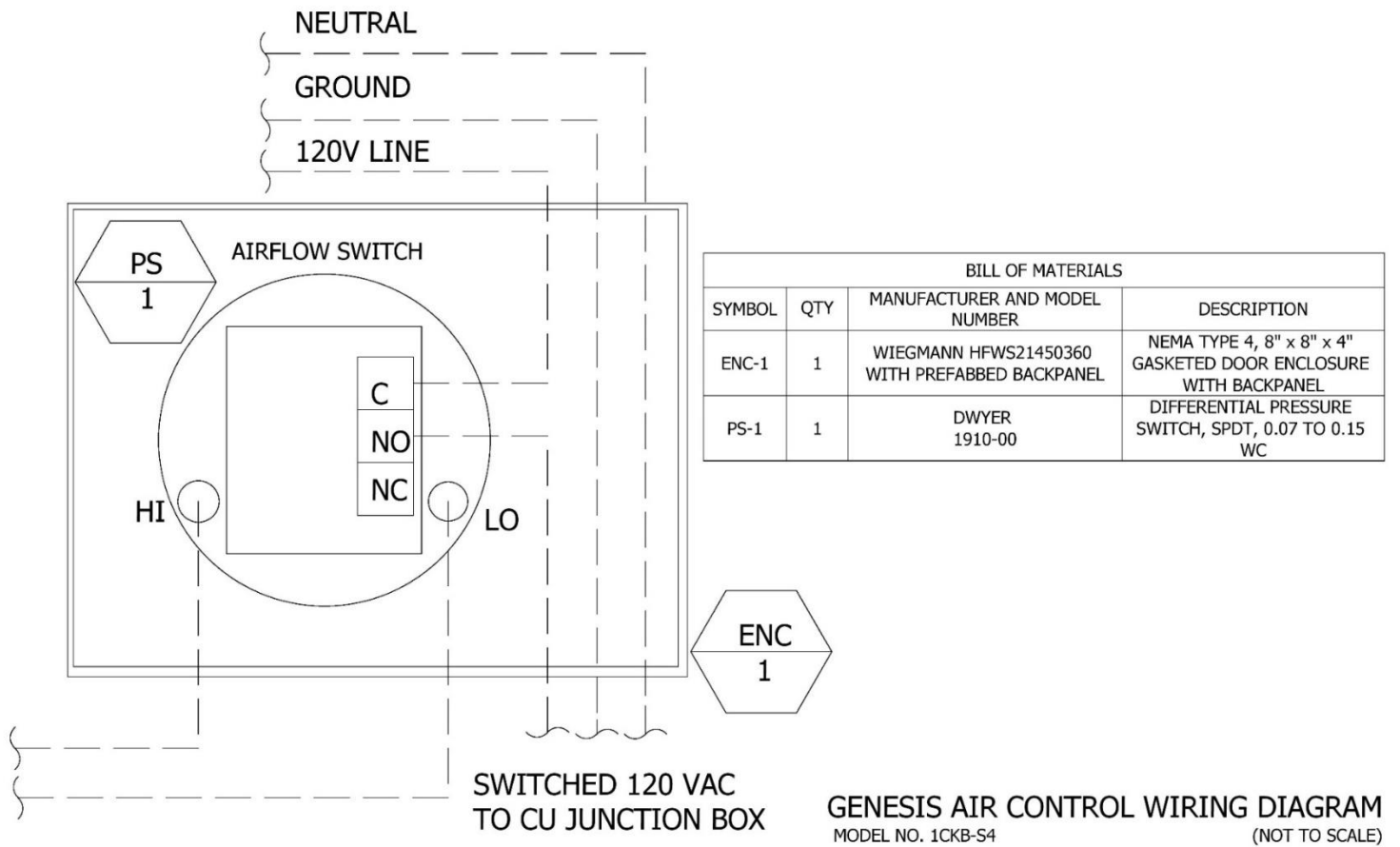


Figure 10: CU Wiring Diagram



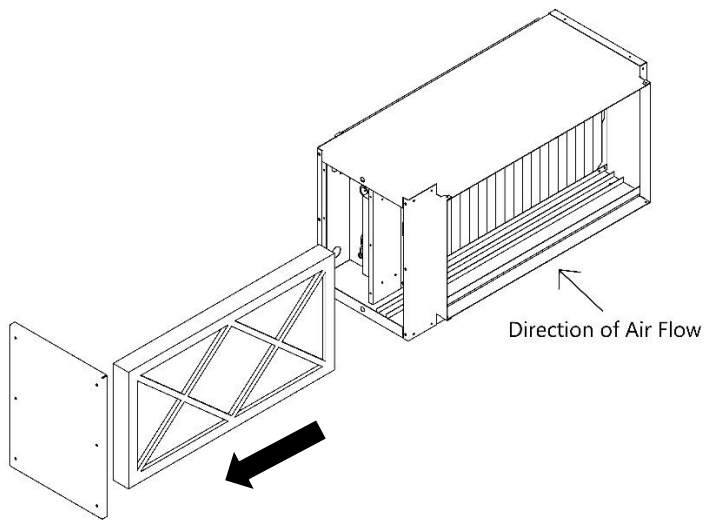
**Figure 11: Pressure Switch Wiring**



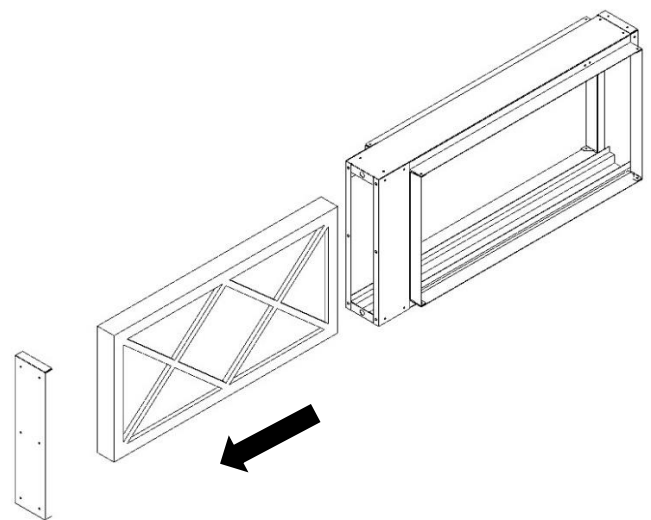
# Maintenance

## Filter Replacement

The CU-R housing includes a pre-filter section to remove large particle 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 dust and other contaminants. The manufacturer recommends replacing filters every 3 months with a MERV 13 rated filter. CU-S housings do not have a built-in pre-filter section but rely on the filter section provided by the AHU to remove debris from the air stream. Regardless of configuration, filters must be replaced on a regular basis to maintain factory warranty.



**Figure 12: Single Housing CU-R**



**Figure 13: Double Housing CU-R**

### Filter Replacement Procedure

1.) If CU-R looks like the one in Figure 12, switch unit OFF at service disconnect switch or disconnect power at building fuse box.

**Note:** *If the Single Housing CU-R is powered on during cover removal, a safety switch will break power.*

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

2.) Remove access cover by loosening screws with a Phillips-Head screwdriver.

**Caution:** *If CU has been installed with access cover facing the ground, internal component may fall out when cover is removed.*

3.) Remove old air filter. Take note of the direction of air flow marked on the filter.

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 CU access cover and reinsert screws and tightening with a Phillips-Head screwdriver.
- 7.) If applicable, switch unit ON at service disconnect switch or building fuse box.

## Lamp Replacement

The CU contains catalyst panels that require UV lamps of various lengths. UV lamps are used to energize the catalyst. These lamps are either 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 per year.

### Lamp Replacement Procedure

- 1.) Switch unit OFF at service disconnect switch or disconnect power at building fuse box.
- 2.) Remove access cover by loosening screws with a Phillips-Head screwdriver.

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

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

**Caution:** *If CU has been installed with access cover facing the ground, internal component may fall out when cover is removed.*

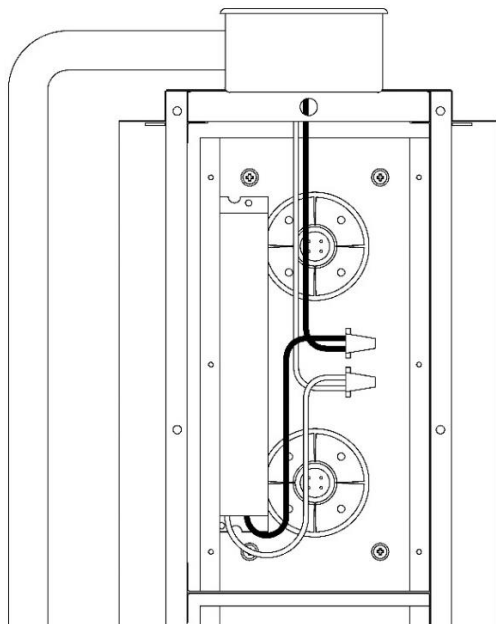


Figure 14

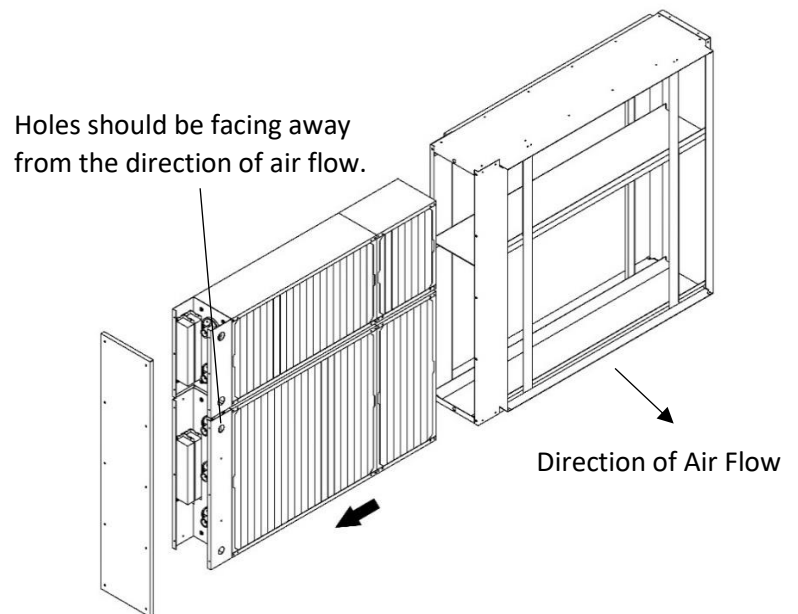
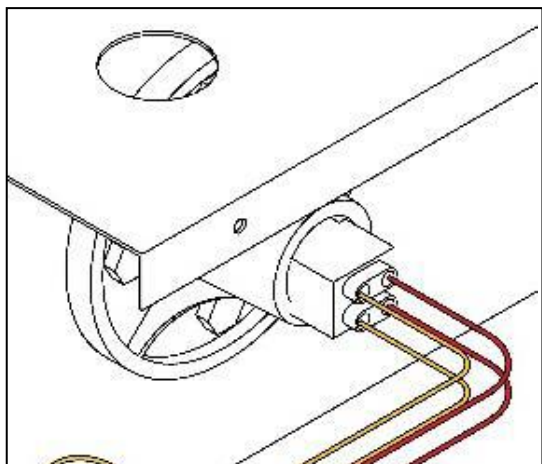


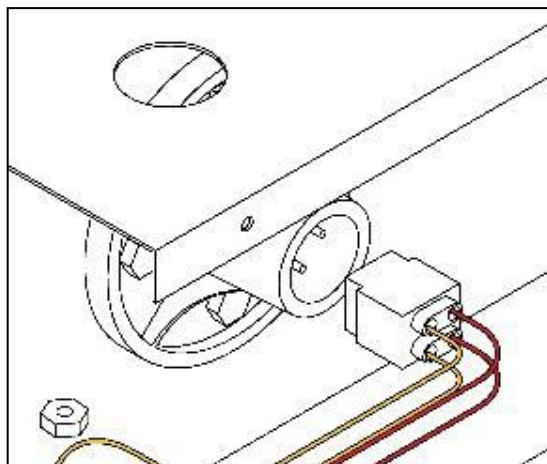
Figure 15

3.) Disconnect wire nuts powering catalyst panels. See Figure 14. Take note of where each wire is connected. They will need to be rewired in the same way once panel is put back into place.

4.) Remove panel(s). Take note of the location of each catalyst panel for when they will be reinserted back into their original places. See Figure 15.

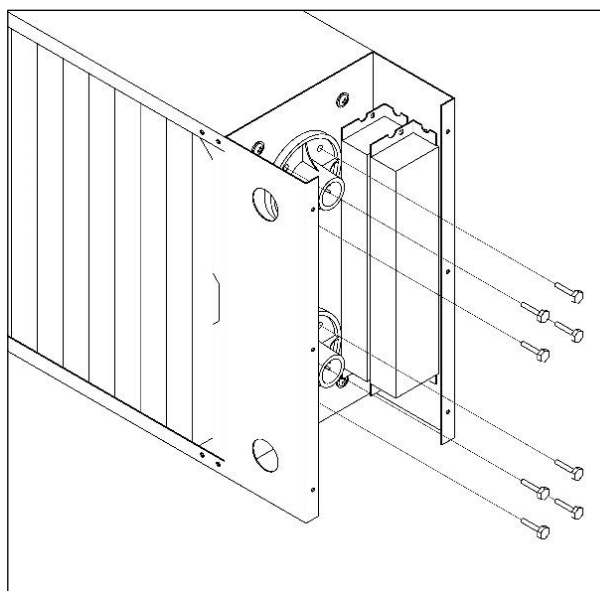


**Figure 16**

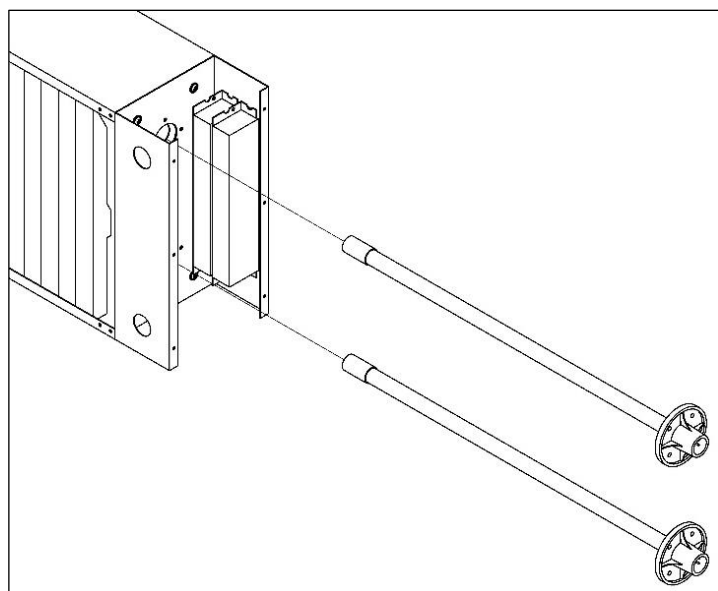


**Figure 17**

5.) Disconnect lamp plugs from lamps that will be replaced. See Figures 16 and 17.



**Figure 18**



**Figure 19**

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 18.

7.) Remove lamp 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 19.

**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 lamp 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 19.

10.) Reinsert (4) screws per lamp using a 5/16" socket. See Figure 18.

11.) Reconnect lamp plugs. See Figures 16 and 17.

12.) Reinsert catalyst panel(s) into CU housing in the same location they were removed from. Ensure that arrows on catalyst panels match the direction of air flow. See Figure 15.

13.) Using wire nuts, wire catalyst panels in the same way they were originally wired. See Figure 14.

14.) Reattach the CU access cover and reinsert screws and tightening with a Phillips-Head screwdriver.

15.) Switch unit ON at service disconnect switch or building fuse box.

### 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 spent 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 your 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.

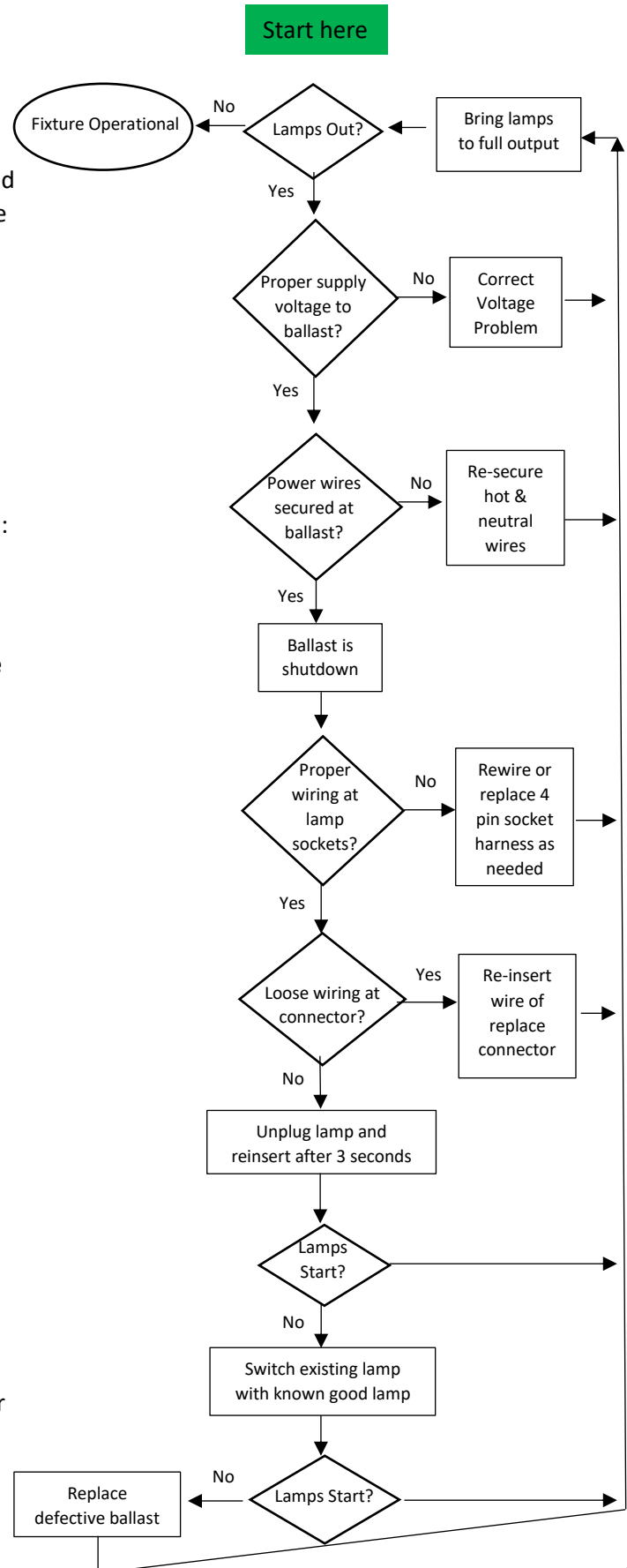
### Inoperative Fixture:

Often, a fixture becomes inoperative due 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 using 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 power 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 due 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 through your CenterPoint™ air purifier supplier. See Ballast Troubleshooting Chart for diagnosing ballast faults.

### Ballast Replacement Procedure

1.) Switch unit OFF at service disconnect switch or disconnect power at building fuse box.

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

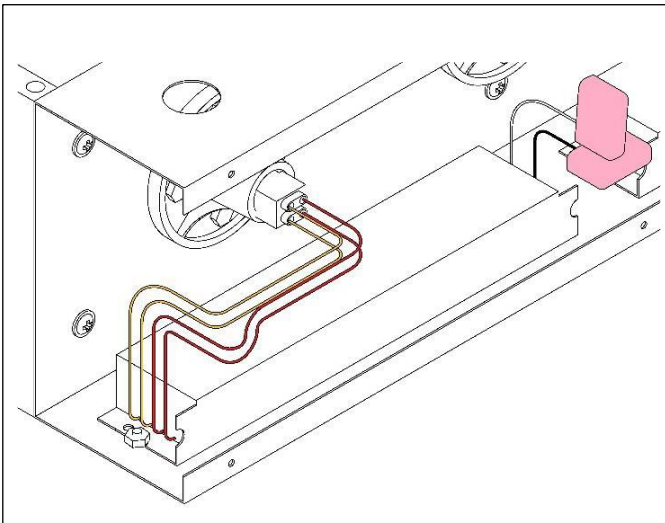
**Caution:** Power must be disconnected before servicing. A break in power caused by the safety switch is not considered disconnecting power.

2.) Remove access cover by loosening screws with a Phillips-Head screwdriver.

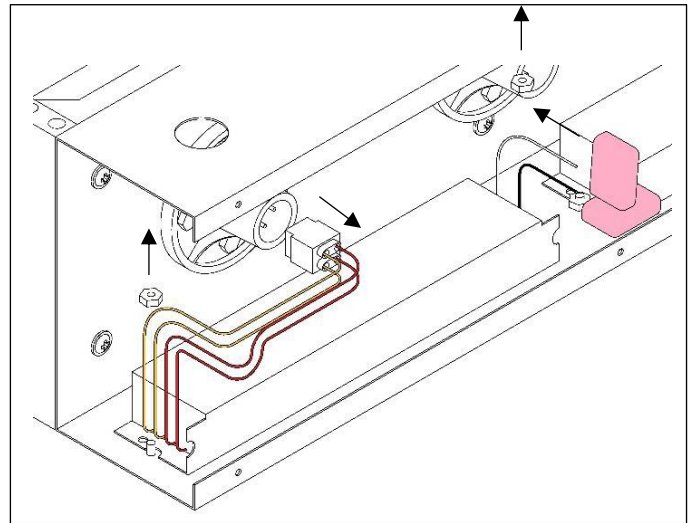
**Caution:** *If CU has been installed with access cover facing the ground, internal component may fall out when cover is removed.*

3.) Disconnect wire nuts powering catalyst panels. See Figure 6. Take note of where each wire is connected. They will need to be rewired in the same way once panel is put back into place.

4.) Remove panels. Take note of the location of each catalyst panel for when they will be reinserted back into their original places. See Figure 15.



**Figure 20**



**Figure 21**

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 wire correctly. See Figures 20 and 21.

6.) Use an 11/32" socket wrench to remove the (2) nuts holding the ballast into place. See Figures 20 and 21.

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

- 8.) Reinstall the (2) nuts that hold the ballast in place. See Figures 20 and 21.
- 9.) Reconnect the lamp plug. Reconnect the wires powering the ballast. See Figures 20 and 21
- 10.) Reinsert catalyst panels into CU housing in the same location they were removed from. Ensure that arrows on catalyst panels match the direction of air flow. See Figure 15.
- 11.) Using wire nuts, wire catalyst panels in the same way they were originally wired. See Figure 14.
- 12.) Reattach the CU access cover and reinsert screws and tightening with a Phillips-Head screwdriver.
- 13.) Switch unit ON at service disconnect switch or building fuse box.

## 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.) Switch unit OFF at service disconnect switch or disconnect power at building fuse box.

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

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

- 2.) Remove access cover by loosening screws with a Phillips-Head screwdriver.

**Caution:** *If CU has been installed with access cover facing the ground, internal component may fall out when cover is removed.*

- 3.) Disconnect wire nuts powering catalyst panels. See Figure 14. Take note of where each wire is connected. They will need to be rewired in the same way once panel is put back into place.
- 4.) Remove panels. Take note of the location of each catalyst panel for when they will be reinserted back into their original places. See Figure 15.
- 5.) Using a flashlight, visually inspect catalyst. Look for clumps of dirt and debris.
- 6.) 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.
- 7.) Reinsert catalyst panels into CU housing in the same location they were removed from. Ensure that arrows on catalyst panels match the direction of air flow. See Figure 15.
- 8.) Using wire nuts, wire catalyst panels in the same way they were originally wired. See Figure 14.

9.) Reattach the CU access cover and reinsert screws and tightening with a Phillips-Head screwdriver.

10.) Switch unit ON at service disconnect switch or building fuse box.

### Catalyst Cleaning Procedure

1.) Switch unit OFF at service disconnect switch or disconnect power at building fuse box.

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

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

2.) Remove access cover by loosening screws with a Phillips-Head screwdriver.

**Caution:** *If CU has been installed with access cover facing the ground, internal component may fall out when cover is removed.*

3.) Disconnect wire nuts powering catalyst panels. See Figure 14. Take note of where each wire is connected. They will need to be rewired in the same way once panel is put back into place.

4.) Remove panels. Take note of the location of each catalyst panel. Take note of the location of each catalyst panel for when they will be reinserted back into their original places. See Figure 15.

5.) If the catalyst has only light to moderated dust build up, use a hand sprayer 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.

**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.) Reinsert catalyst panels into CU housing in the same location they were removed from. Ensure that arrows on catalyst panels match the direction of air flow. See Figure 15.

8.) Using wire nuts, wire catalyst panels in the same way they were originally wired. See Figure 14.

9.) Reattach the CU access cover and reinsert screws and tightening with a Phillips-Head screwdriver.

10.) Switch unit ON at service disconnect switch or building fuse box.



## Replacement Parts

Part	Description	Name / Model Number
Ballast	120 VAC, 60 Hz	Fulham WH-5
Catalyst	(Sizes will vary)	PCP
Particle Filter	(Sizes will vary)	MERV 13
UVGI Lamps	UV-C Lamp (Sizes will vary. See Table 1 for specific lamp size and quantity)	First Light Technologies, Inc. or UV Engineering Solutions, LLC
UVGI Shielding	(Sizes will vary)	UV Shield
Lamp Screws	Hex Screw	10-16 Self-Drilling Screw
Catalyst Cover Screws	Philips Head Screw	PPH ½" Self-Drilling Screw

**Table 3: 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 manufacturer at

Phone: 806-745-7000

Website: [www.genesisair.com](http://www.genesisair.com)

Physical Address: 5202 CR 7350 Suite D Lubbock, TX 79424

## General Air Spec Sheet

**Document Revision Date: September 07, 2021**

The following is a guide specification for the CenterPoint™ PCP (Populated Catalyst Panel). This specification is not intended to be used without editing, as there are numerous choices throughout the document (enclosed in brackets “[ ]” & highlighted in blue) that require decisions to be made by the specifying design professional. **THE MANUFACTURER IS NOT RESPONSIBLE FOR THE USE OF SUPERCEDED OR INACCURATE SPECIFICATIONS BY OTHERS.** *Designers are encouraged to check with their local Manufacturer’s Representative, or with the manufacturer,* to ensure that the guidance documents being used are the latest revision.

### **1.0 PHOTOCATALYTIC OXIDATION (PCO) UNIT**

**PCO unit shall be factory-fabricated and tested two-part integral assembly for treatment of air by: (1) Ultraviolet Germicidal Irradiation (UVGI) using UVC lamps; and (2) Photocatalytic Oxidation using TiO2 media. Assembly shall be housed in casing. The combination of UVC lamps and TiO2 media is intended to create hydroxyl radicals at the surface of the media (Passive) and not to broadcast radicals into the occupied spaces (Active).**

#### **1.1 Unit Casing**

**Casing shall be of single-wall construction, fabricated of [5052 aluminum] [24 gauge 304 stainless steel] [22 gauge galvanized steel]. All portions of the casing shall be free from sharp edges and burrs. Casing shall be 5 13/16” deep.**

#### **1.2 Unit Capacity**

**Unit shall be rated for a maximum velocity across the unit face of 500 feet per minute.**

#### **1.3 UL Certification**

The entire PCP assembly shall bear the UL Classification Mark and be investigated in accordance with ANSI/UL 1598, “Luminaires,” and ANSI/UL 1995, “Heating and Cooling Equipment,” under the Air Duct Mounted Accessories category (ABQK). Compliance is to be verified by the UL Online Certifications Directory.

#### **1.4 PCO Media**

Media shall consist of six-inch (nominal) non-metallic media with face area to match casing opening, pleated at one pleat per inch (nominal), with a 40-200 nanometer TiO2 coating. PCO media shall be placed perpendicular to the air stream in the unit casing. Media shall have an internal mechanism to eliminate the silica produced by the oxidation of ethanol.

## 1.5 UVGI Lamps & Ballasts

Lamps and ballasts shall be designed specifically to provide type-C ultraviolet light with a wavelength at or near 2537 Angstroms. Lamps shall be non-ozone-producing. Lamps shall be Teflon-coated to reduce breakage. Sufficient lamps shall be provided and positioned center point through the media equidistant from edges to achieve a minimum coverage of 9.5 milliwatts per square inch of UVC light, upstream and downstream, across all exposed surfaces of the PCO media. Lamp UVC output shall not drop below 9.5 milliwatts per square inch over their usable 12000 hr. life.

## 1.6 Electrical

Unit shall be configured to operate with 120V/1 $\phi$ /60Hz electrical power. Unit shall be provided with junction box for point of connection.

## 1.7 Racking System

The racking system shall be constructed as either a front-loading or side-loading design. Either system must show proof of conformance to ICB 2012, CBC 2010 and ICC AC-156 (2010). The catalyst and the racking system shall bear the OSP certification number.

## 1.8 Unit exemplified by:

Manufacturer: Genesis Air, Inc.

Model No.: [XXXX] [E] PCP Compound

Manufacturer's Website: [www.genesisair.com](http://www.genesisair.com)

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## 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@genesisaair.com](mailto:information@genesisaair.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 the 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 in an air stream 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.**

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**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

