



UV-AIRE™ AIR PURIFYING SYSTEM

Model: UV-12C,18C,28C,28,12HP,18HP,28HP,12HPC,18HPC,28HPC



*Exclusive 5 position lamp mounting feature!

ITEMS INCLUDED IN KIT:

- 1-UV-Aire™ power unit
- 4-Sheet metal mounting screws
- 1-Angled mounting bracket
- 1-Flat mounting bracket
- 1-Duct board mounting bracket
- 1-Ultra Violet lamp
- 1-Instruction Sheet
- 1-Wing nut
- Caution Labels
- Gasket

UV-C light inhibits the growth and reproduction of germs and bacteria that circulate through a homes' heating and air conditioning system. The treatment is a safe, silent, and proven way to make your home a healthier place to live.

READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION

LEAVE THE INSTALLATION INSTRUCTIONS WITH THE OWNER/OPERATOR OF THE DEVICE

AFTER OPENING THE CARTON, UNPACK AND INSPECT THE UNIT AND LAMP FOR DAMAGE.
DO NOT INSTALL THIS UNIT IF ANY DAMAGE IS NOTICEABLE.

SAFETY CONSIDERATIONS



WARNING: *Never expose eyes or skin to UVC light from any source.*

- Looking directly at the UVC light may cause permanent eye damage or blindness.
- **Never operate the UV-Aire™ Air Purifying System out of the plenum.**
- Designed for a closed duct system. Do not mount near a supply or a return air opening
- All duct openings in direct line of site of the UV light must be sealed with aluminum tape or equivalent sealing methods.



WARNING: *UV light will break down plastic materials not rated for UV exposure:*

(Examples: wire insulation, flex duct, drain pans and humidifiers)

- The unit must be mounted at least 30" from the above stated type of materials.
- If it is necessary to mount the unit in direct line of site of these types of materials, they must be shielded with aluminum foil, aluminum foil tape, or sheet metal.



WARNING: *DO NOT mount this unit outdoors.*

- This product is designed for indoor installation only (i.e. attics, crawl spaces, basements, etc.).



FIELDCONTROLS
SOLUTIONS FOR THE GREAT INDOORS™

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Phone: 252-522-3031 • FAX: 252-522-0214
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I. INDICATION FOR USE

This product is not sold as a medical device and is not for the purpose of diagnosis of any disease or condition nor for use in the mitigation, treatment, or prevention of any disease or condition.

II. GENERAL INFORMATION

There are different size units available, depending on the square footage of your home. See chart below for determining your homes needs.

Model	Minimum Duct Width	Volts	Amps	Hz	Watts	Max Air Temp °F	Lamp Intensity at 1 meter	Recommended Max Sq. Feet
UV-12C	9	120	0.5	60	30	190°	37 $\mu\text{W}/\text{cm}^2$	1500
UV-18C	14	120	0.5	60	30	190°	73 $\mu\text{W}/\text{cm}^2$	2000
UV-28C	22	120	1.1	60	60	150°	105 $\mu\text{W}/\text{cm}^2$	3000
UV-28	22	120	1.1	60	60	150°	105 $\mu\text{W}/\text{cm}^2$	3000
UV-12HP	9	240	0.5	60	30	190°	37 $\mu\text{W}/\text{cm}^2$	1500
UV-18HP	14	240	0.5	60	30	190°	73 $\mu\text{W}/\text{cm}^2$	2000
UV-28HP	22	240	1.1	60	60	150°	105 $\mu\text{W}/\text{cm}^2$	3000
UV-12HPC	9	240	0.5	60	60	190°	37 $\mu\text{W}/\text{cm}^2$	1500
UV-18HPC	14	240	0.5	60	30	190°	73 $\mu\text{W}/\text{cm}^2$	2000
UV-28HPC	22	240	1.1	60	30	150°	105 $\mu\text{W}/\text{cm}^2$	3000

The UV-12C,18C,28C,12HPC,18HPC, and 28HPC units are equipped with a circuit board to monitor the operation of the UV lamp; it indicates the operation of the lamp through an LED indicator light mounted on the cover of the unit. The circuit board indicates good operation of the lamp by a continuous "GREEN" color on the LED light. After 8,320 hours of lamp operation, the circuit board indicates the elapsed time of lamp operation by a continuous "YELLOW" color on the LED light and the internal alarm will beep every 15 minutes. After 9,000 hours of lamp operation, the circuit board indicates the elapsed time of lamp operation by a continuous "RED" color on the LED light and the internal alarm will beep every 5 minutes. The board also checks if the UV lamp is burned out. If the lamp is burned out, the circuit board will indicate this by a continuous "RED" color on the LED and the internal alarm will beep every 5 minutes.



WARNING: Before installing or servicing a humidifier, air filter, heat system, or this unit, etc., always turn all power OFF and have unit unplugged. Electrical shock can cause personal injury or death. Never expose eyes or skin to direct UVC light from any source.



WARNING: To prevent water damage or electric shock, do not mount unit under a humidifier.



WARNING: Designed for a closed duct system. Do not mount near a supply or a return air opening.



WARNING: This product is designed for indoor installation only (i.e. attics, crawl spaces, basements, etc.). For use on gas fired, oil fired, electric and split system heat pump forced air systems*. This product is NOT designed to be mounted outside on gas fired or heat pump packaged units**.

*Split system heat pumps are systems where the air handler and the air conditioning compressor are separate units.

**Packaged units are systems where the air handler and the air conditioning compressor are built together and are installed outside of the building



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III. INSTALLATION

1. Locate a suitable location for the unit downstream from the 'A' coil in the supply plenum or in the return plenum; preferably downstream from the air filter. For optimum "cleaning" effect on the 'A' coil, mount the unit in the supply plenum as close as possible to the 'A' coil. (See Figure 1)

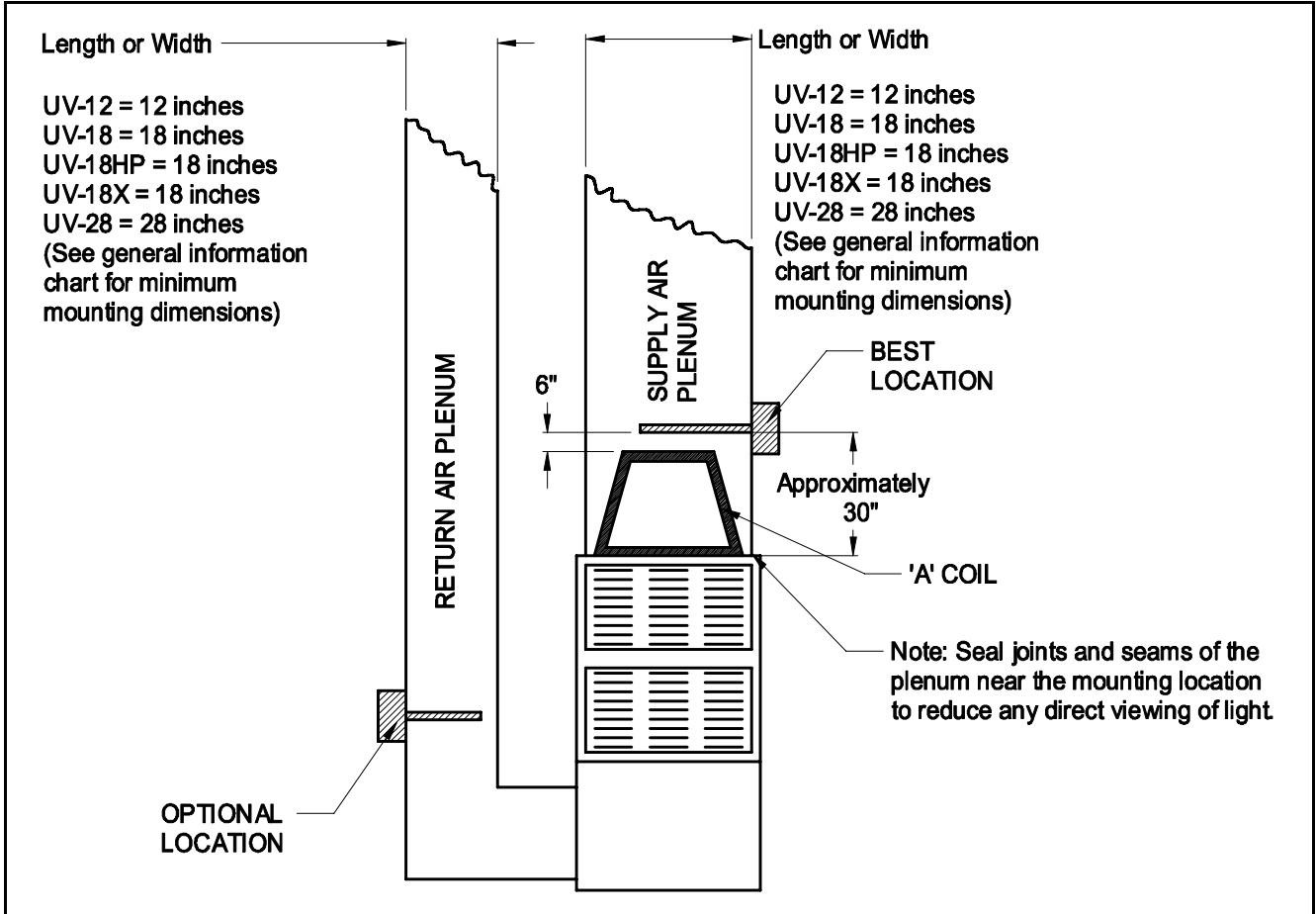


Figure 1



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2. Determine the type of duct you have.
(For flex duct applications, refer to Figure 26 on page 11)

IF YOU HAVE METAL DUCT:

- Apply supplied wet and stick mounting template to air duct in either a vertical or horizontal position as shown in Figure 2.
- Drill 1/8" diameter mounting holes at positions indicated on template.
- Cut out the marked openings on the template. (Refer to template as shown in Figure 2)
- Remove the paper template from the duct.

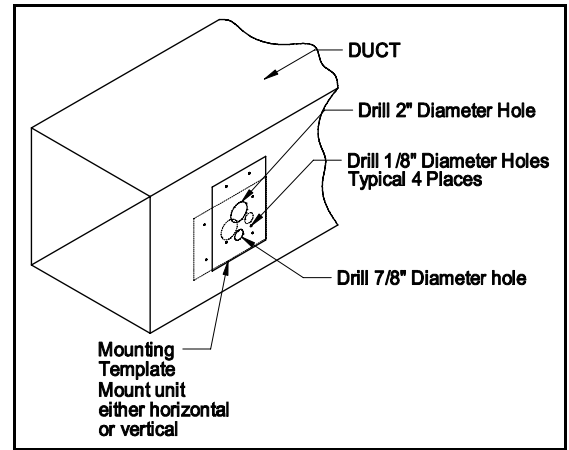


Figure 2

IF YOU HAVE DUCT BOARD:

- Mount the supplied metal mounting plate onto the duct with duct tape in either a vertical or horizontal position (See Figure 2 & 3)
- Bend tabs outward as shown in figure 4.
- Using a knife or blade, cut out a rectangle opening in the duct using the mounting plate as a template. (See Figure 5)
- Remove the cut piece of duct. (See Figure 6)
- Bend both tabs down and through duct at first bend point. (See Figures 7 & 8)
- Bend both tabs at the second bend point up or down to pinch the duct material and grip the duct material. (See Figures 9 & 10)
- Using a screwdriver or pointed object, locate mounting holes by poking holes through the duct tape. (See Figure 11)



Figure 3



Figure 4



Figure 5

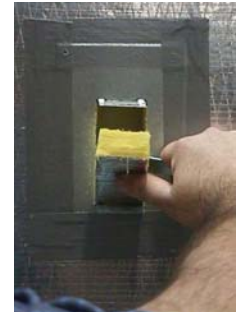


Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



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3. Remove base unit and cover from box.
4. Apply supplied "Duct Seal Kit" according to instructions included in kit. (See Figure 12)



Figure 12

5. Determine whether to use flat or angled bracket. (Refer to "Bulb Mounting Bracket Selection" in Section VI for aid in this decision)

a. Flat Bracket Installation

- i. Remove the two hex nuts and flat bracket from included bagged hardware.
- ii. Install the flat bracket and secure to the unit base with the hex nuts provided. (See Figure 13)

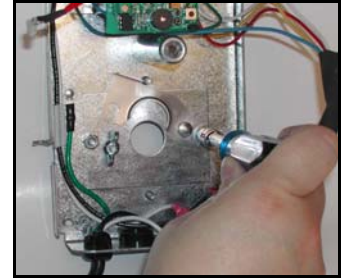


Figure 13

b. Angled Bracket Installation

NOTE: For angled bracket mounting, refer to specifications outlined by Charts A & B for mounting distances in the "Angled Lamp Mounting Bracket Specifications" in section VI.

- i. Remove the two hex nuts and angled bracket from included bagged hardware.
- ii. Install the angled bracket and secure to the unit base with the hex nuts provided. (See Figure 14)

NOTE: Be sure to note location of lamp hole in bracket relative to unit base.



Figure 14

6. Mount the unit base to the duct using the four mounting screws provided. (See Figure 15)
7. Remove tag and alcohol wipe from lamp. Wipe off lamp being sure not to touch lamp with bare hands. The oils in your hands cause a reduction in lamp output.

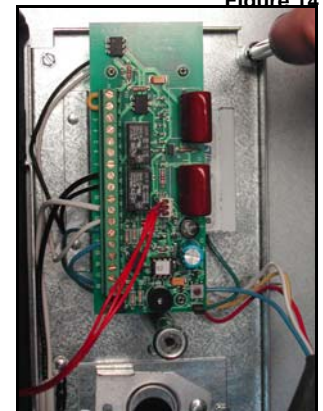


Figure 15

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8. Insert lamp through the hole until lamp cannot be inserted any further. (See Figure 16)

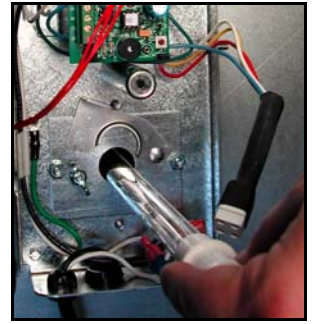


Figure 16

9. Swing the swivel bracket over the end of lamp. Hand-tighten the wing nut on the stud. Be careful no to over tighten the wing nut. The porcelain at the lamp base may crack when over tightened. (See Figure 17)

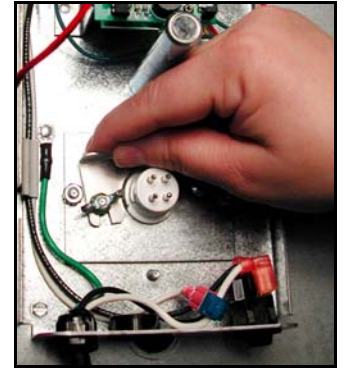


Figure 17

10. Plug ballast plug into end of lamp. (See Figure 18)

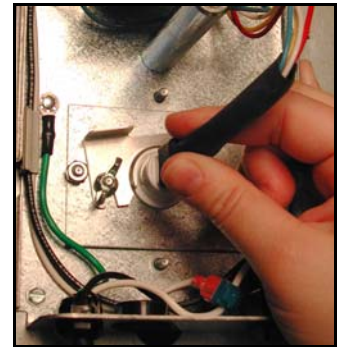


Figure 18

11. Snap cover onto the unit base. (See Figure 19)

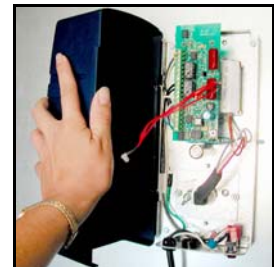


Figure 19

12. Plug the LED wire from the cover onto the board. (See Figure 20)

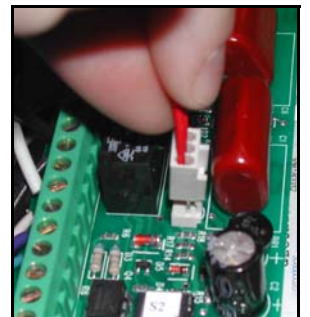


Figure 20



WARNING: Never expose eyes or skin to UVC light from any source. Looking directly at the UVC light may cause permanent eye damage or blindness. Never operate the UV-Aire™ Air Purifying System out of the plenum. Avoid touching the glass portion of the lamp with your hands.

13. Close the cover and tighten cover screw. (See Figure 21)

14. Plug the power cord into a standard electrical outlet.

NOTE: Seal the joints and seams of the plenum near the mounting location to reduce any direct viewing of light. (See Figure 1)

15. Press the power switch to the "ON" position. (Light on switch should be on indicating power.)

16. Look through view port in the box cover to be sure the lamp is working. You should see a blue glow. (The view port is covered with a plastic lens that blocks the UVC rays.) If equipped, the LED light will show a continuous "GREEN" color indicating proper unit operation.

17. If the lamp is not glowing, follow steps 8-14 again. If lamp still does not glow, contact technical support at 1-252-522-3031 for further assistance.



Figure 21

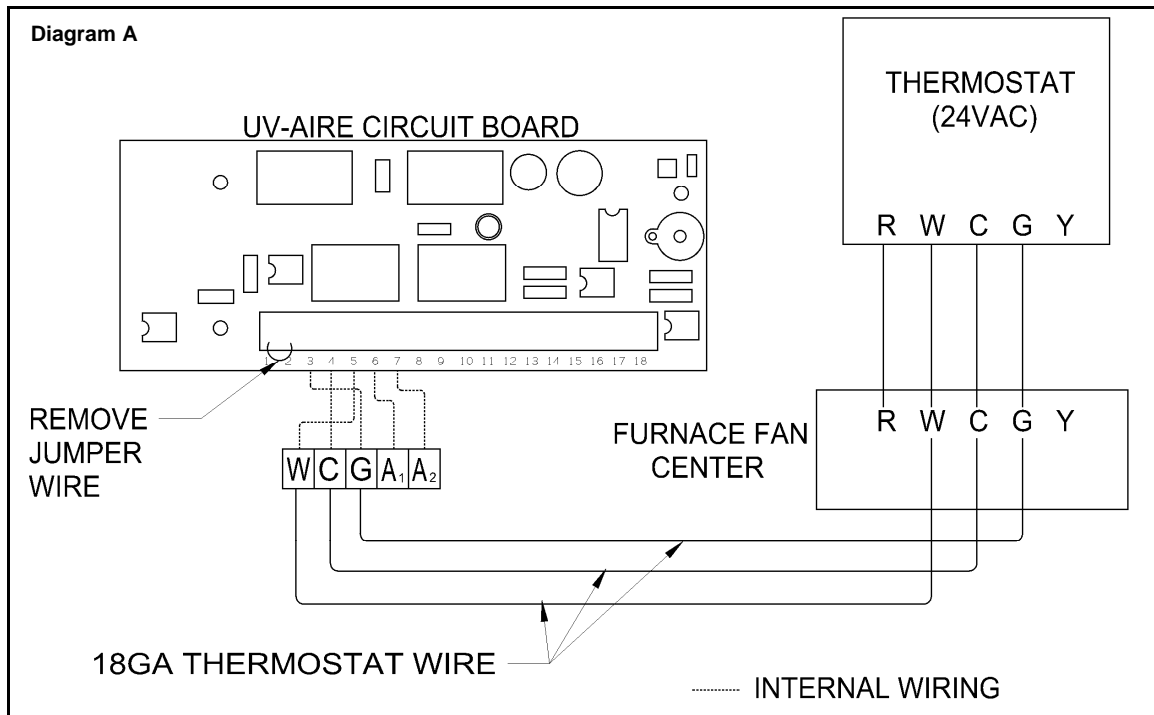
IV. **INCORPORATING A THERMOSTAT** (Be sure to follow any applicable state or local codes)

The UV Aire units supplied with a circuit board allows for the automatic operation of the UV lamp when there is a call for heating or cooling by the thermostat. After the call for heat has been satisfied, the UV Aire unit will operate for 45 minutes then shut off.

1. Turn off power switch on the UV Aire unit and unplug the unit before doing any wiring.
2. Loosen the cover screw and open the unit cover.
3. Locate terminals 1-2 on the circuit board and remove the jumper wire.
4. Wire to terminals W, C and G into the fan center on the furnace. Refer to Diagram A for proper wiring.
5. Close the cover and secure with the cover screw. Then plug the UV Aire back into the power receptacle and switch the power switch to the "ON" position

SYSTEM CHECK OUT PROCEDURE:

1. With the thermostat set to the heating mode, adjust the thermostat for a call for heat. The furnace and the UV Aire should start operating. Turn down the thermostat to stop the call for heat. After 45 minutes, the UV Aire lamp will turn off.
2. With the thermostat set to the cooling mode, adjust the thermostat for a call for cooling. The furnace and the UV Aire should start operating. Turn up the thermostat to stop the call for cooling. After 45 minutes, the UV Aire lamp will turn off.



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V. ALARM CIRCUIT WIRING

The UV Aire units supplied with a circuit board allows for the wiring of the UV Aire unit into an alarm or security system to monitor the operation of the UV lamp. This circuit is a set of normal open contacts that close if the operational time exceeds 9000 hrs or if the lamp burns out.

1. Turn off power switch on the UV Aire unit and unplug the unit before doing any wiring.
2. Loosen the cover screw and open the unit cover.
3. Locate terminals 1-2 on the circuit board and remove the jumper wire.
4. Wire to terminals A1-A2 and wire in accordance with Diagram B.

SYSTEM CHECK OUT PROCEDURE

1. Plug the UV Aire back into the power receptacle and leave the power switch in the "OFF" position.
2. Unplug the Ballast connector from the lamp and switch the power switch to the ON position. The unit will start and operate for approximately 10 seconds. Then the LED will switch to a RED color and the alarm contact will close.
3. Switch the power switch to the OFF position and reconnect the ballast connection to the lamp. Close the cover, secure with the cover screw, and switch the power switch to the ON position.

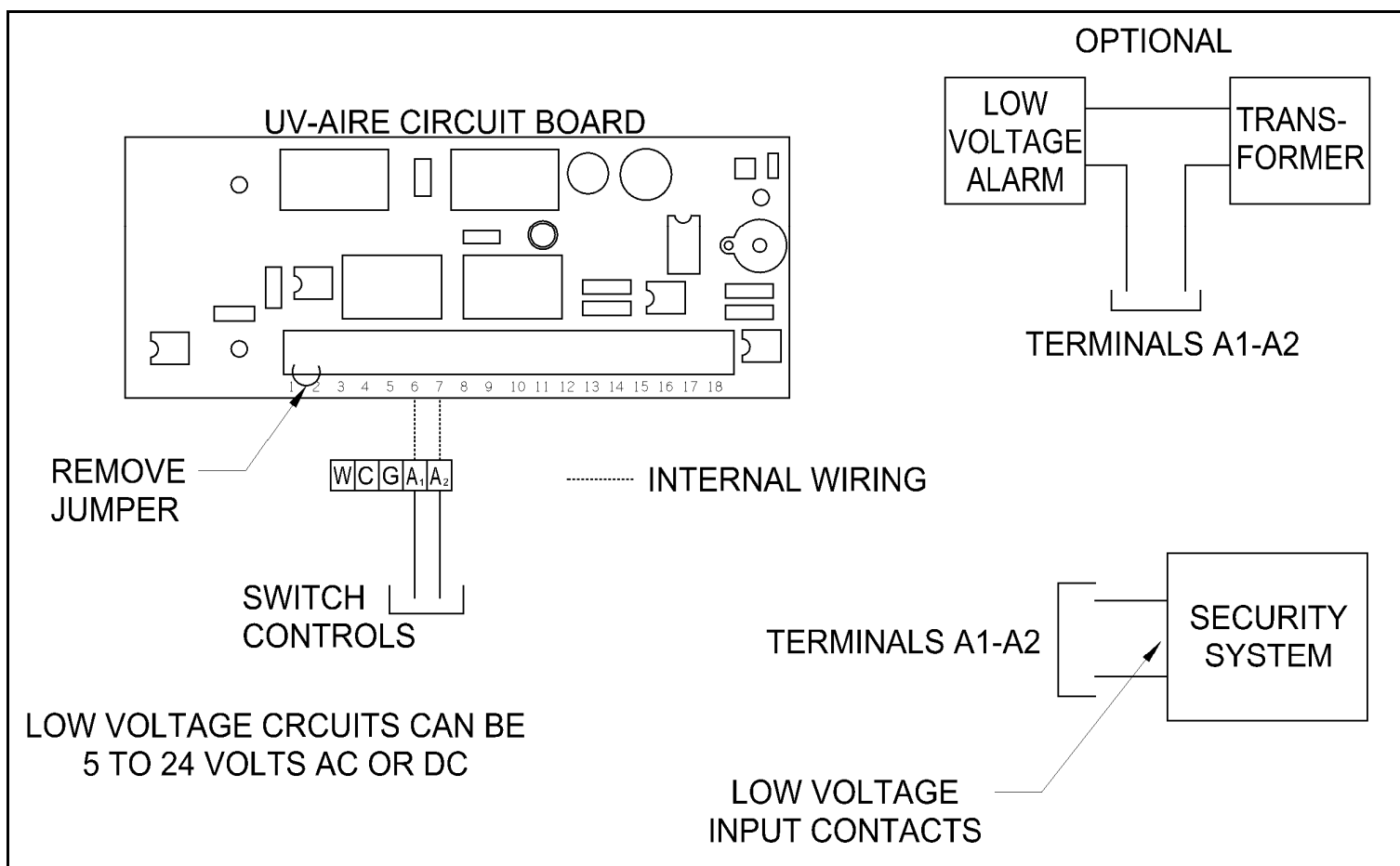


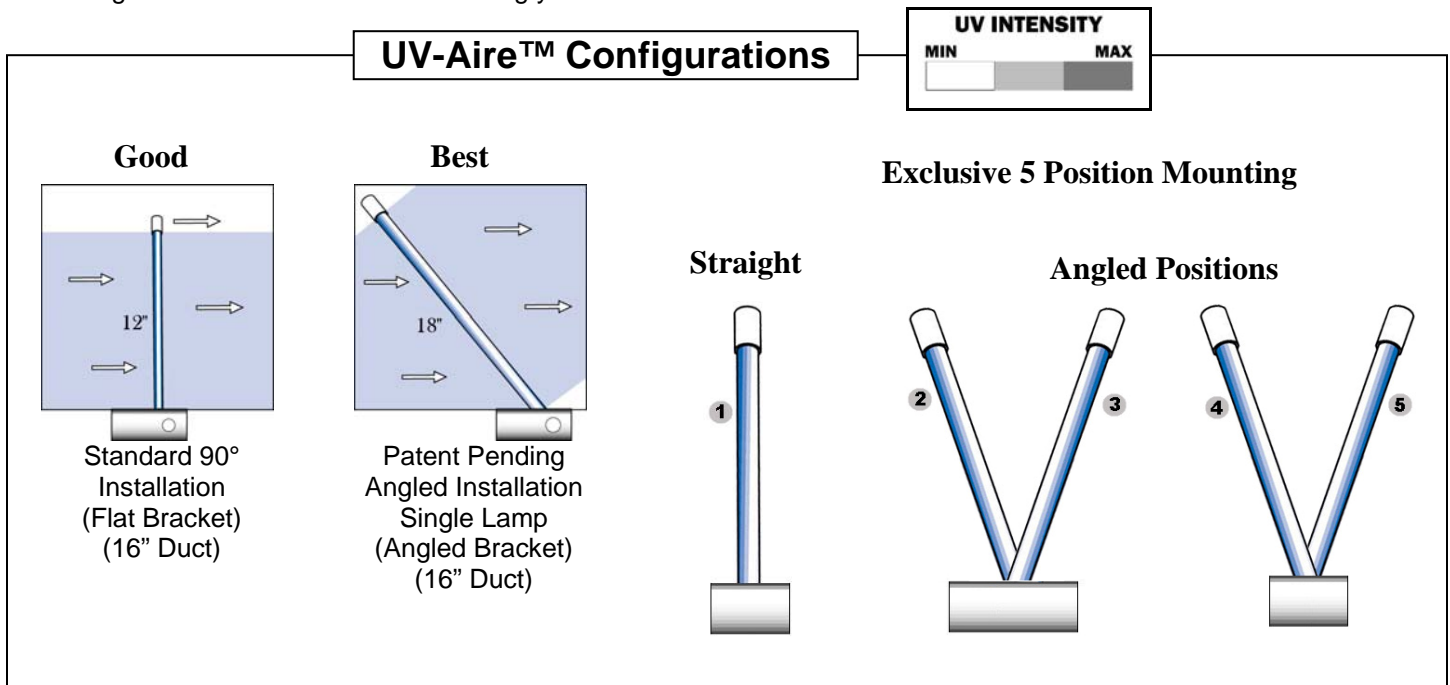
Diagram B



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VI. BULB MOUNTING BRACKET SELECTION

The UV-AIRE™ units come with an angled mounting bracket and flat mounting bracket to position the bulb either straight or at an angle. Choose one or the other bracket method best suited for your needs. Refer to the configurations chart below when making your selection.



ANGLED LAMP MOUNTING BRACKET SPECIFICATIONS

Use the specifications below to determine allowable clearances for proper mounting of the UV-Aire™ unit on the duct.

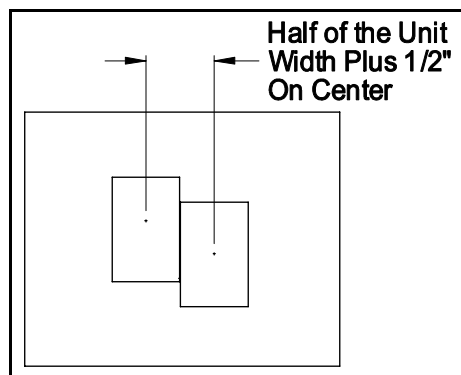


Chart A

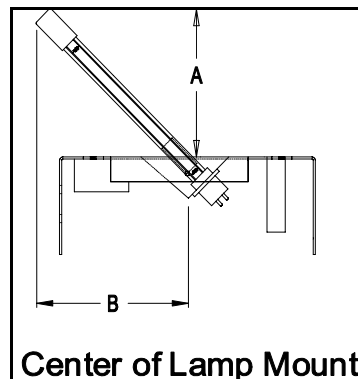


Chart B

LAMP OFFSET DIMENSIONS			
Unit	Min Duct Size (inches)	A	B
UV-12C	9x12	8-1/2	6-1/2
UV-18C	14x18	13-1/2	10-5/16
UV-28C	22X24	21-3/8	16-1/4
UV-28	22X24	21-3/8	16-1/4
UV-12HP	9x12	8-1/2	6-1/2
UV-18HP	14x18	13-1/2	10-5/16
UV-28HP	22X24	21-3/8	16-1/4
UV-12HPC	9x12	8-1/2	6-1/2
UV-18HPC	14x18	13-1/2	10-5/16
UV-28HPC	22X24	21-3/8	16-1/4

WARNING: Never expose eyes or skin to UVC light from any source. Looking directly at the UVC light may cause permanent eye damage or blindness. Never operate the UV-Aire™ Air Purifying System out of the plenum. Avoid touching the glass portion of the lamp with your hands.

VII. MAINTENANCE

1. Inspect and clean lamp at least every 6 months.
2. Replace your UV-Aire™ Air Purifying System lamp once a year to maintain the lamps maximum output intensity. The lamp should operate continuously for maximum lamp life and light effectiveness.

VIII. REPLACEMENT PROCEDURE



VERY IMPORTANT: Turn switch on unit to “OFF” position and unplug unit from outlet.

1. Loosen the cover screw on the side of the unit and open cover.
2. Unplug ballast plug from end of lamp.
3. Loosen the wing nut on swivel bracket and rotate the swivel bracket clockwise.

NOTE: When replacing the lamp, always wipe off lamp before installing.

4. Slide lamp out carefully and dispose of properly.

NOTE: UV lamps contain a small amount of mercury, like a typical fluorescent lamp. Check with your local waste management authority for local disposal or recycling requirements. According to the EPA's Universal Waste Rule, these types of lamps may be disposed of into household waste

5. Insert the lamp through the mounting hole and secure the lamp by rotating the swivel bracket counter-clockwise into position and secure by tightening wing nut. Be careful not to over tighten the wing nut.
6. Attach ballast plug onto the end of the lamp, close cover and tighten cover screw.
7. Plug in the power cord and press the power switch to the “ON” position.
8. After replacing lamp, make sure a new *Lamp Replacement Label* (supplied with lamp replacement) is applied to the housing and dated with the date of installation.

FOR MODELS WITH CIRCUIT BOARD:

1. Loosen the cover screw on the side of the unit and open cover.
2. Unplug ballast plug from end of lamp.
3. Loosen the wing nut on swivel bracket and rotate the swivel bracket clockwise.

NOTE: When replacing the lamp, always wipe off lamp before installing.

4. Slide lamp out carefully and dispose of properly.

NOTE: UV lamps contain a small amount of mercury, like a typical fluorescent lamp. Check with your local waste management authority for local disposal or recycling requirements. According to the EPA's Universal Waste Rule, these types of lamps may be disposed of into household waste

5. Insert the lamp through the mounting hole and secure the lamp by rotating the swivel bracket counter-clockwise into position and secure by tightening wing nut. Be careful not to over tighten the wing nut.
6. Attach ballast plug onto the end of the lamp.
7. Plug in the power cord and press the power switch to the “ON” position.
8. Press the timer reset button on the circuit board using the eraser end of a pencil or the blunt end of a plastic ink pen. Hold for three seconds. (See Figure 23)
9. Release the timer reset button. The LED on the cover will flash twice, indicating the timer circuit has been reset.
10. Close cover and tighten cover screw.
11. After replacing lamp, make sure a new *Lamp Replacement Label* (supplied with lamp replacement) is applied to the housing and dated with the date of installation.

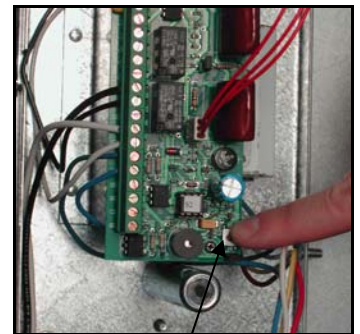


Figure 23

Timer Reset Button

IX. TROUBLESHOOTING GUIDE

1. If the LED is illuminating a "YELLOW" color and the circuit board alarm beeps every 15 minutes, the lamp should be replaced soon.
2. If the LED is illuminating a "RED" color and the circuit board alarm beeps every 5 minutes, the lamp should be replaced immediately.
3. If the lamp does not light up, replace lamp.
4. If the lamp still does not light up after replacing the lamp, replace ballast.

X. REPLACEMENT PARTS LIST

MODEL	LAMP (Field Controls Part Number)	CIRCUIT BOARD (Field Controls Part Number)	BALLAST (Field Controls Part Number)
UV-12C	46365401	46436300	46365511
UV-18C	46365402	46436300	46365512
UV-28C	46365403	46436300	46365510
UV-28	46365403	N/A	46365503
UV-12HP	46365401	N/A	46365511
UV-18HP	46365402	N/A	46365512
UV-28HP	46365403	N/A	46365510
UV-12HPC	46365401	46436300	46365511
UV-18HPC	46365402	46436300	46365512
UV-28HPC	46365403	46436300	46365510

For replacement parts, contact your local heating service company. Any questions, please contact Field Controls at:
 ☎ Phone: 252-522-3031 📠 Fax: 252-522-0214 ✉ Email: sales@fieldcontrols.com

XI. FLEX DUCT INSTALLATION

For installations on duct systems with a metallic main duct and flex duct branches, follow the instructions in figure 26 below.

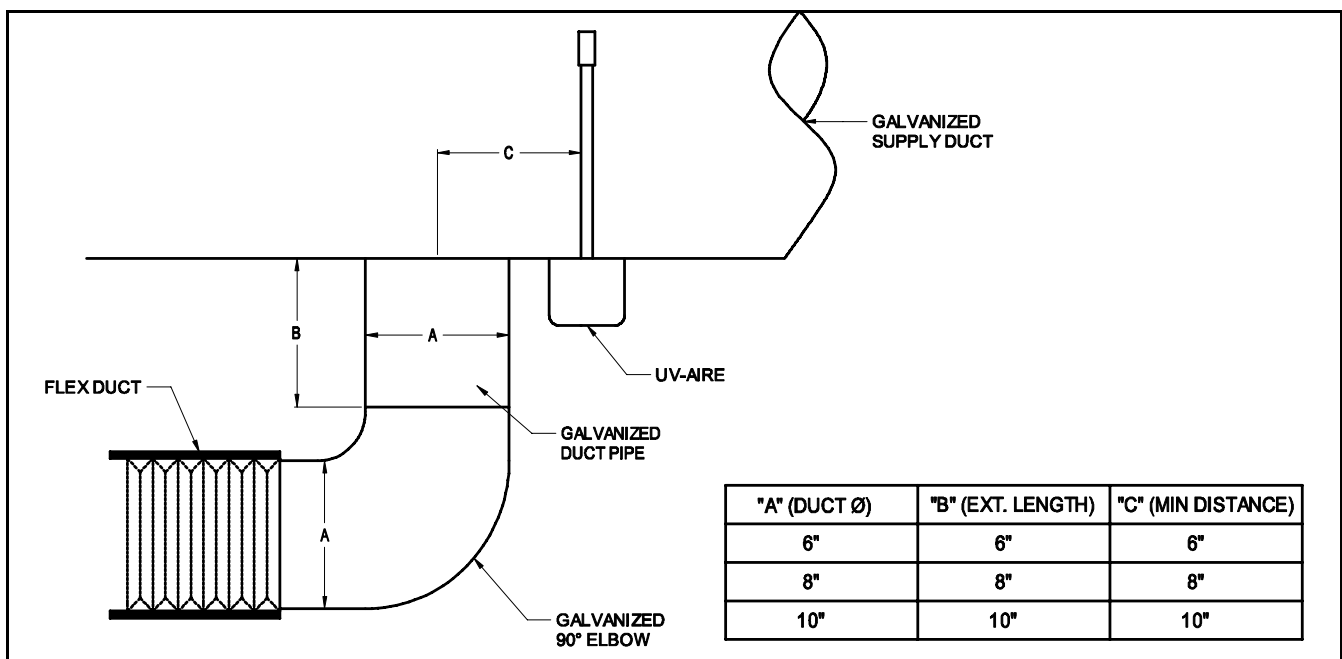


Figure 26

WARRANTY INFORMATION

Limited Warranty

Field Controls, L.L.C. warrants that the following Field Controls, L.L.C. products sold hereunder, shall be free from defects in material and workmanship under normal use for eighteen (18) months from date of manufacturing by the consumer excepting the provisions numbered below.

UV-LAMPS/BULBS

Field Controls, L.L.C. warrants that the following Field Controls, L.L.C. products sold hereunder, shall be free from defects in material and workmanship under normal use for ninety (90) days from date of installation by the consumer excepting the provisions numbered below.

Provisions:

1. Field Controls shall have no obligation in the event the customer is unable to provide receipt showing the date the customer purchased the product(s) or accurate date code information.
2. The product must be properly installed, maintained and operated under normal conditions.
3. Field Controls shall not be liable for any consequential and incidental damages, resulting from failure of a Field Controls, L.L.C. product, failure to deliver, delay in delivery, delivery in nonconforming condition, or for any breach of contract or duty between Field Controls, L.L.C. and the customer.
4. Field Controls, L.L.C. products are often intended for use in specific applications. Field Controls, L.L.C. makes no warranty if a Field Controls, L.L.C. product is used in applications other than intended.
5. Field Controls, L.L.C. makes no warranty of any kind in regard to any other manufacturer's products distributed by Field Controls, L.L.C. Field Controls, L.L.C. will pass on all warranties made by the manufacturer and where possible, will expedite the claim on behalf of the customer, but ultimately, responsibility for disposition of the warranty claim lies with the manufacturer.

The health aspects associated with the use of these products and their ability to aid in disinfecting of environmental air have not been investigated by UL.



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