

VIDASHIELD UV24™ Air Purification System for Ultima® Health Zone™, School Zone® Fine Fissured Ceilings, and LED Light

Assembly and Installation Instructions

Manufactured by Medical Illumination EPA Est. No 94728-CA-1, EPA Est. No 96770-IL-1

SYSTEM OVERVIEW

The Armstrong VIDASHIELD UV24™ System pairs a UV-C Air Purifier with ULTIMA® Health Zone™, SCHOOL ZONE® Fine Fissured ceiling panels, or an LED Light option, plus shielded ultraviolet light and filtration which deactivate pathogens and reduce the risk of indoor air transmission of viruses.

1. GENERAL

1.1 Included Items:

- 1 VidaShield Unit
- 1 UVC lamp
- 4 MERV 6 filters
- 2 mounting brackets
- 6 rivets – 3/16" Diameter

1.2 Features

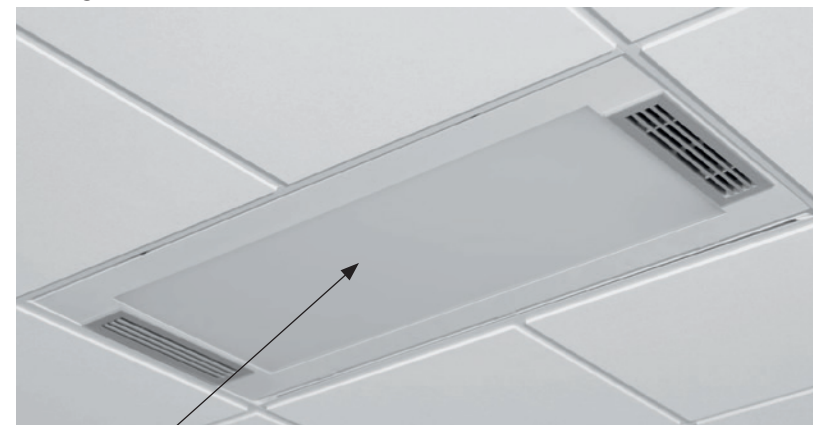
- Red indicator light – to indicate if the UV lamp or ballast are not functioning properly

1.3 Safety Precautions/Warnings

- To avoid the risk of electric shock, disconnect AC power before installation or maintenance.
- Do not expose to water or excessive moisture.
- Installation should be performed by qualified personnel only.
- Consult your local building code for approved wiring & installation.
- Do not use outdoors.
- Do not use equipment for other than intended purpose.
- The use of accessory equipment is not recommended by the manufacturer & may cause an unsafe condition.



Ceiling Panel



LED Light

Armstrong[®]
CEILING & WALL SOLUTIONS

- Light from UV lamp may cause eye or skin injury including burns that are not immediately detectable. Do not operate UV lamp when lamp chamber is not sealed light-tight. If UV light exposure is possible, long sleeves, gloves, and UV filtering eye protection are recommended.

NOTE: This device should not be used in buildings that are under construction. Heavy volumes of large particulates like construction dust and debris will clog up the filter and impact the effectiveness of the VidaShield. In the event that construction needs to be conducted in an area where the VidaShield System is already installed, it is recommended that the system be powered off for the duration of the construction project and new filters be inserted when ready to start again.

2. ARMSTRONG® CEILING PANEL OR LED LIGHT INSTALLATION INSTRUCTIONS

2.1 Tools Required

- Rivet Gun
- Screw Gun
- 3/16" Drill Bit
- Phillips Head Bit
- Wire Strippers
- Ladder
- Work gloves and safety glasses

2.2 Building Power and Hanging Ceiling Requirements

- Universal voltage required; 110-277
 - Ceiling Panel Unit: required power per unit – 65W
 - LED Light Unit: required power per unit – 125W
- Requires 1 constant hot circuit for UVC power and 1 switch circuit for downlight power
- Domestic models are designed to be installed in a standard dimension U.S. drop ceiling.
- The unit should be tethered to a secure anchor point that is capable of supporting the fixture's weight in the ceiling.
- Comply with all local, state and federal laws.

Step 1

Remove the Armstrong VidaShield UV24™ Air Purifier from the packaging (*Figs 1 & 2*).

Step 2

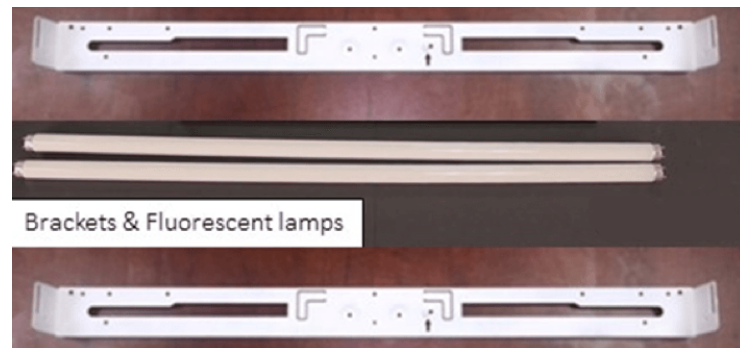
Locate the two mounting brackets located within the packaging (*Fig 3*).



(Fig 1)



(Fig 2)



(Fig 3)

Step 3

Prep the ceiling and remove any existing fixture. A contractor will be needed to run power to the appropriate locations.

- Ceiling Panel Unit will require one constant hot circuit for operation of the UV-C lamp.
- LED Light Unit will require two circuits.
 1. Switch circuit will operate the downlight
 2. Hot circuit for operation of the UV-C lamp

Step 4

Attach 2 separate 12 gauge supplementary hanger wires from each corner of the unit to the existing supports (*Fig 4*).

Step 5

Install the mounting bracket flush against the suspension system. Refer to the arrow on the bracket indicating direction of installation (*Fig 5*).

Step 6

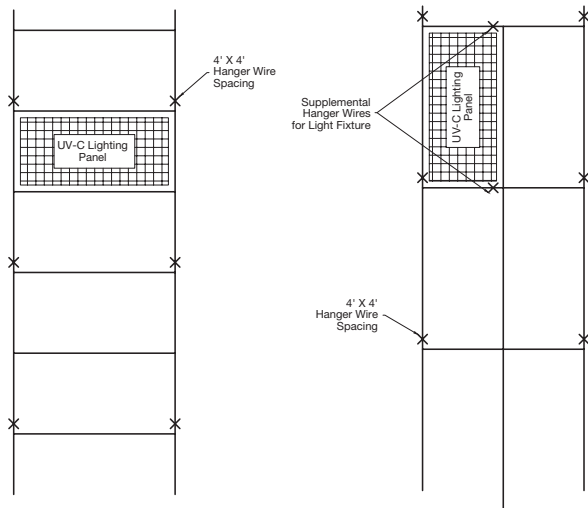
CAUTION: Do not drill into the hanger wire.

If either of the recessed holes line up with the suspension system, do not drill/rivet in that location to avoid damage. Instead, a single rivet in the center bracket is acceptable, though not preferred.

Using a 3/16" drill bit, enlarge the two recessed holes in the center of the mounting bracket, being sure to drill through both the mounting bracket and the suspension system (*Fig 6*).

Step 7

Locate the rivet pack provided with your fixture and install the rivets in the center recessed hole(s). (*Fig 7*).



(Fig 4)



(Fig 5)



(Fig 6)



(Fig 7)

Step 8

To secure the corners of the mounting bracket, locate the pre-drilled hole in each corner. Ensure the hole lines up with the drop ceiling frame. Using the 3/16" drill bit, enlarge the predrilled hole. Be sure to drill through both the mounting bracket and the suspension system. (Fig 8).

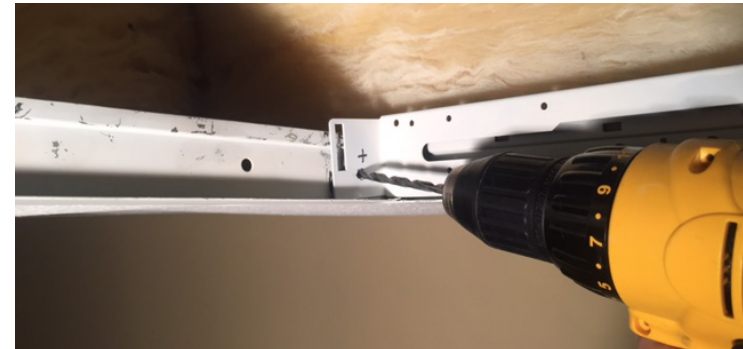
Step 9

Install a rivet in each of the pre-drilled corner locations.

Step 10

To install the fixture, insert one shoulder bolt into the slider joint. Hold the fixture at an angle so the uninstalled shoulder bolt is slightly in front of the installed bolt. Holding the fixture in this position will enable you to easily align the secondary shoulder bolt with the slider joint. Insert the secondary bolt into the slider joint. Now that both shoulder bolts are installed, the fixture will need to be leveled so that both bolts are parallel and the fixture is no longer at an angle. Now evenly slide the fixture forward until the shoulder bolts reach the end of the slider joint (Figs 9 & 10).

The fixture should be hanging at the end of the mounting bracket and should be parallel in the drop ceiling frame (not at an angle). With the fixture hanging from the ceiling, you are now ready to install the power connector (Fig 11).



(Fig 8)



(Fig 9 & 10)



(Fig 11)

Step 11

CAUTION: Ensure all power has been removed to the circuit.

The Ceiling Panel Unit requires one constant hot circuit for the UV-C input power.

The LED Light Unit requires one constant hot circuit for the UV-C input power, and an additional switched circuit to power the down light.

First, remove the access plate and determine if the remaining knock out tab should be removed (*Fig 12*).

Step 12

With the proper knock out tabs removed, install the wiring conduit through the access plate and secure with lock ring. Be sure to take note of which circuit is switched and which is constant. (*Fig 13*).

Step 13

It is important to connect the ground wires from all power connectors to the ground connector on the fixture before connecting the fixture to any power source (*Fig 14*).

Remove the male portion of the power connectors and connect one to each of the incoming power circuits (*Fig 15*).

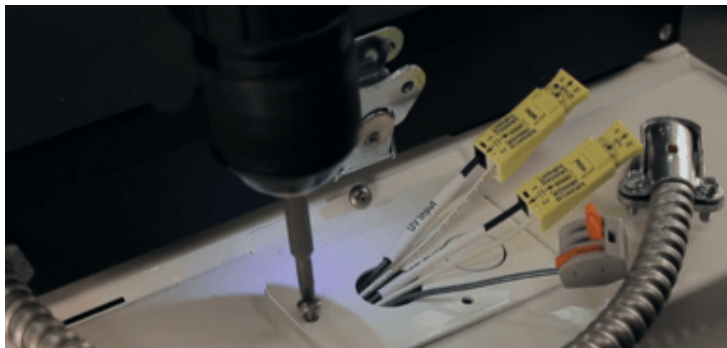
IMPORTANT: The black power wire should always be connected to terminal one of the power connector. The white power wire should always be connected to terminal two.



(Fig 13)



(Fig 14)



(Fig 12)



(Fig 15)

Step 14

Once the power is connected, all the connectors will need to be placed within the housing. The access plate will now be screwed down (*Fig 16*).

Step 15

The fixture is now completely wired and can be installed into the ceiling. The lock bar will need to be held flush against the body of the fixture as it is rotated up into the ceiling. Inspect the rear end of the housing where the door is hinged as it may latch onto the ceiling frame, bracket, and/or rivet when lowering the fixture. This will cause the fixture not to sit flush. Rotate the fixture until the lock bar is just above the suspension system. Release the lock bar and gently lower the fixture until the lock bar engages the ceiling frame. Ensure that the fixture is placed level into the ceiling as the lock bar is released. If the fixture is not flush, simply compress the lock bar and lower the fixture before releasing the lock bar again. At this point, the lock bar should stop the fixture's rotation and hold it flush in the ceiling.

Step 16

The VidaShield UV24™ Air Purification System is complete (*Fig 17*).



(Fig 16)



(Fig 17)

4. OPERATING INSTRUCTIONS

If installed as instructed, the VidaShield UV24™ Air Purification System runs autonomously 24/7. The Armstrong VidaShield UV24 Air Purification System is an engineering control system that requires minimal quarterly maintenance, and treats the air without the need for manual adjustment when the UV lamp and fans are operating. Follow these steps to keep it operating as intended. The system must be operated indoors, in a temperature- and humidity-controlled environment, between 68 and 122 degrees Fahrenheit and 20 – 80% humidity.

Indoor Air Quality

This system operates at the UV24 wavelength of 253.7 nanometers. It continuously reduces bacterial and fungal populations in the air treated by the units and reduces the settlement of viable bacteria and fungi from treated air.* Unlike terminal cleaning systems which operate for short periods in sealed environments, this system operates continuously in an open environment.

Nevertheless, even in rooms where the Armstrong VidaShield UV24 Air Purification System is installed, whole room bacterial and fungal particulate air concentrations and composition can be expected to experience wide variations over the course of a day and longer periods. These conditions are normally influenced by a wide variety of independent and changing circumstances that cannot be overcome by the system operating in an open environment. Important independent influences will vary by facility and location but may include, for example, the rate of room air exchanges by building HVAC systems, room air humidity and temperature, the relative quality and microbial/particulate composition of air entering the room through doors and other openings, and other changing or cyclical room and building activities affecting air quality.

For these reasons, whole room microbial concentrations will vary between installation locations and over time. It is not possible to predict the extent of microbial unit reductions that will be achieved by the VidaShield in whole room air or on surfaces in any particular room or environment. **The Armstrong VidaShield UV24 Air Purification System isn't a substitute for good building air exchange or manual cleaning and disinfection practices.**



UV Lamp Check Procedure

In order to validate if the UV lamp is working properly, you must turn off the power to the UV lamp and observe the indicator light. Since the unit is connected to a hot switch to power the UV ballast, you have to disconnect the hot switch to the UV ballast to power down the UV. If the indicator light illuminates for a short moment and is not continuous, then the UV bulb is working properly. But if the indicator light ever appears to be illuminated in a continuous manner, then the UV bulb will need to be replaced.

NOTE:

VS03 Ceiling Panel Unit – Red interior indicator light (*Fig 18*)

VS02 LED Light Unit – Green interior indicator light (*Fig 19*)

UV Lamp Maintenance:

The system is designed to treat the air continuously. In order to assure that the UV lamp in each unit works as expected, we recommend that you change it annually. The intensity of UV lamps continuously degrades during use and will start to depreciate to a significant Indicator light degree after 9000 hours (375 days) of constant use. The UV lamp used in this unit is a special lamp. Please contact your distributor or the factory for replacement parts.

MERV 6 Filter Maintenance:

We recommend changing the MERV 6 filter every 3 months. Dust and debris gather on the filter as the fans draw air into the system so keeping the filter clean is critical to the operation of the unit. The filter used in this unit is a special filter designed for the system. Please contact your distributor or the factory for replacement parts.

Managing Spent UV Lamps:

In 1999, the US Environmental Protection Agency (EPA) added a provision for mercury containing lamps to the Universal Waste Rule (UWR, 40 CFR Part 273). The UWR was developed to encourage recycling and proper disposal of these wastes, which meet the Federal criteria for hazardous waste but are widely generated and typically do not pose an immediate and undue risk. Here is a list of lamp recyclers you can contact for services near you.

<http://www.lamprecycle.org/commercial-lighting-lamp-recyclers/>



(Fig 18)



(Fig 19)

Trouble Shooting:

1. If the indicator light is on, there is a possible issue with the UV lamp and/or UV ballast.

- Wearing eye protection appropriate for UVC light protection, remove the lid from the UV chamber. When the UV chamber lid is removed, the safety switch will be automatically disengaged, shutting off the UV lamp. Press the safety switch down to see if the UVC lamp lights.
- If the lamp does not light, replace it. After a “known good” (new) lamp is installed, press the safety switch to verify the new lamp operates properly and that the warning indicator does not illuminate.

2. If “known good” UVC lamp does not light up:

- Remove UVC lamp and with the appropriate multi-meter, test lamp socket to see if 24v is reaching the socket. If 24v is not present at the socket, remove the ballast tray cover and locate the UV Ballast. Remove the output wires from the lever nuts they are connected to and test for voltage across the output wires directly from the ballast.
- If the correct voltage indicated on the ballast case is not measured, replace the ballast.

3. If the fan assembly stops spinning:

- UV lamp failure is NOT the reason for the warning light. Next, remove the top air baffles from the end of the UV chamber that the power connector is joined to. Once the top air baffles are removed, the fan assembly should be visible. Wearing eye protection suited for UVC light, reengage the safety switch and visually determine if all four fans are running. If any of the fans are not spinning then the fan array must be replaced.

- Remove the bottom air baffle. Disconnect all the red wires running from the fan assembly from the five position lever nut containing all red wires. Remove all the back wires running from the fan assembly from the five position lever nut containing all black wires. Lift the fan assembly out of the unit. Insert the new fan assembly and reconnect all wires back into their original orientation.
- Wearing eye protection suited for UVC light, engage the safety switch to verify all new fans are operational. Once successful, replace the bottom air baffle taking care not to pinch or puncture any of the wires with the baffle or mounting screws. Replace the top air baffles and reinstall the UV chamber lid.

For additional trouble shooting assistance, please contact Armstrong TechLine at 877-276-7876 or techline@armstrongceilings.com.

Replacements:

To order replacement UV lamps and MERV 6 filters, contact TechLine at 877-276-7876 or techline@armstrongceilings.com.

Warranty:

Medical Illumination offers a limited warranty on the VidaShield unit.

See warranty accompanying your unit for full details. If you need to submit a claim for a warranty, contact TechLine at 877-276-7876 or techline@armstrongceilings.com.

MORE INFORMATION

For more information, or for an Armstrong Ceilings representative, call 1 877 276-7876.

For complete technical information, detail drawings, CAD design assistance, installation information, and many other technical services, call TechLine customer support at 1 877 276-7876 or FAX 1 800 572-TECH.

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