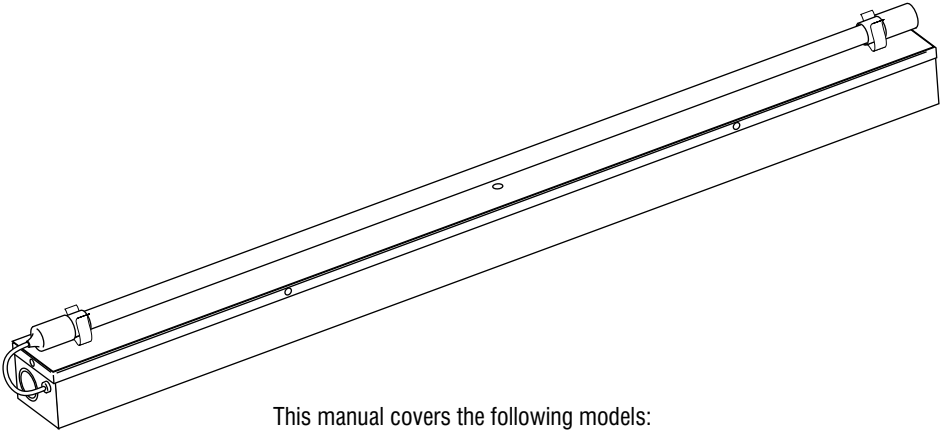


BIO-FIGHTER® XL

Installation & Operation Manual



This manual covers the following models:

	120V	230V	277V
XL 21"	#06170	#06178	#06171
XL 33"	#06172	#06179	#06173
XL 45"	#06174	#06188	#06175
XL 61"	#06176	#06189	#06177

GENERAL

This device is designed to be installed into a new or existing HVAC system for improved indoor air quality.

BEFORE INSTALLING

- Read all instructions carefully. Failure to do so could damage the equipment or cause harm to yourself or others.
- Acknowledge all warnings.
- Only qualified technicians should perform the installation.

INCLUDED INSIDE BOX

- Bio-Fighter® XL UV light system
- UV-C lamp
- Magnetic mounting brackets
- Mounting hardware
- Installation instructions

SPECIFICATIONS

Dimensions:

Model	Dim A.	Dim B.	Dim C.	Weight
XL 21	24"	3.375"	2.5"	3.9 lbs.
XL 33	36"	3.375"	2.5"	4.6 lbs.
XL 45	48"	3.375"	2.5"	6.4 lbs.
XL 61	64"	3.375"	2.5"	8.3 lbs.

Electrical: 120V, 50/60Hz, 1PH. Optional 230V. Optional 277V, 50/60Hz, 1PH.

Warranty: 5-year on unit. 1-year on lamp.

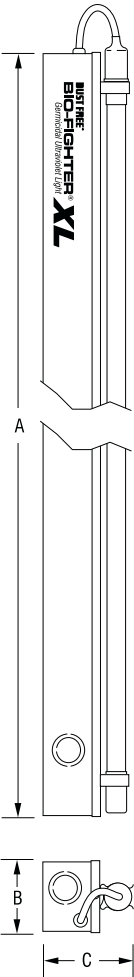


U.S. Patent Nos. 5,334,347, 5,817,276, 6,245,293, 6,267,924, 6,280,686, 6,313,470, 6,627,000, 6,539,727, 6,932,494, 6,550,257.

EPA Establishment No. 73316-TX-1

Visit <http://www.dustfree.com/testing> for a list of micro-organisms inactivated by Dust Free® products.

The product and technologies described are not medical devices, and are not intended to diagnose, treat, cure, or prevent any disease or illness.



NOTICE
Qualified Technicians Only.

This device must be installed in compliance with all national and local electrical and mechanical codes. Failure to do so will void Dust Free® Warranty.

UNPACKING

The Bio-Fighter® XL is packaged with a clear protective film covering the polished aluminum reflector. This film must be removed prior to operation. First remove the lamp from the lampholders and lay to the side. Then peel the film from the reflector.

PLACEMENT

Each foot of fixture length will irradiate a three square foot area. For example, one five foot Bio-Fighter® XL can irradiate 15 square feet of surface area. To maximize efficiency of the UVC light, each fixture should be placed 18-22 inches from the surface to be irradiated. Ensure no plastic parts or wire insulation is exposed, and that wherever the unit is placed, no light can be seen after installation.

SPECIAL INSTALLATION NOTES

Do not install in closet return grille applications.

Do not expose wiring or plastic parts to UV-C light.

Do not install where UV-C light can be seen after installation.

Do not install beneath a humidifier.

If the UV device is installed on the inlet side (return air side) of a coil, make sure that the HVAC system is configured such that the blower is located between the return air filter and the inlet side (return air side) of the coil, such as would be found in a traditional upflow, or horizontal furnace with the coil placed after the heat exchanger.

If the UV device is installed near an air filter, check with filter manufacturer for UV-C resistance properties.

If the desired UV installation location is intended to irradiate an air filter, to neutralize the microbiological matter on the air filter surface, such as would be found in the return air drop of a basement application or in the return plenum of a horizontal system in an attic; take precautions as described in note above, and make sure the UV fixture is placed on the return side of the filter. **DO NOT INSTALL THE UV FIXTURE ON EITHER SIDE OF THE FILTER IN HALL / CLOSET RETURN AIR APPLICATIONS.** (See ATTENTION! Warning sheet #212945-00).



WARNING

Electric Shock Hazard.

Can cause injury or death.

Electrical wiring of the unit to the HVAC system should be done by a licensed HVAC technician or electrical installer.



WARNING

UV Light Hazard.

Can cause serious eye and skin damage.

Do not look at UV-C light. Wear UV-C eye and skin protection.

COIL SIZING REFERENCE

INSTALLATION

Determine the dimensions of the coils or area to be irradiated.

Use the Coil Sizing Reference to determine the number of lamps needed for proper coverage.

Larger coils may require multiple Bio-Fighter kits.

UV LAMP CONFIGURATION GUIDELINES

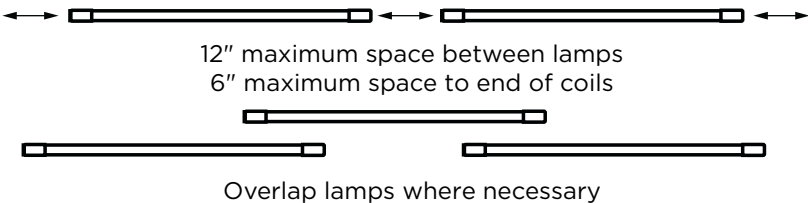
The distance between UV lamp(s) and the irradiated surface should be between 6"-18" is optimal.

The distance between stacked UV lamps should not exceed 35".

The distance between end to end UV lamps should not exceed 12".

The distance of UV lamp ends to the edge of irradiated surface should not exceed 6".

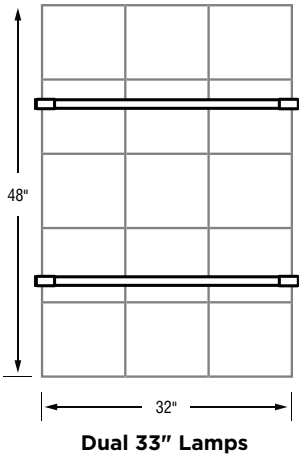
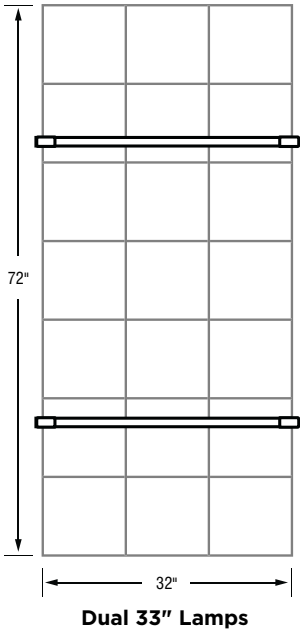
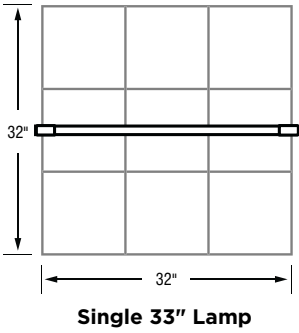
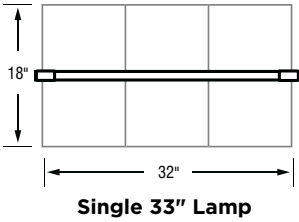
One single lamp can cover 36" of coil height, 18" above and 18" below. Each lamp also covers an additional 6" of width beyond the ends of the lamp, 3" on either side of the lamp.

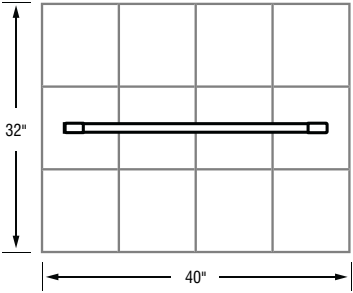


LAMP SPACING

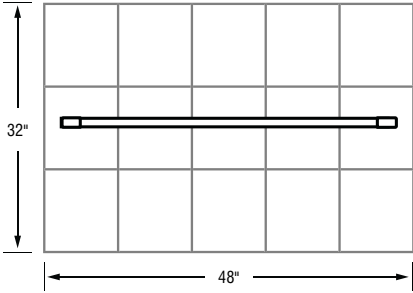
CONFIGURATIONS

Note: The configurations shown represent typical UVC coverage for coil surface disinfection. Adding more lamps is acceptable and is recommended for airborne disinfection.

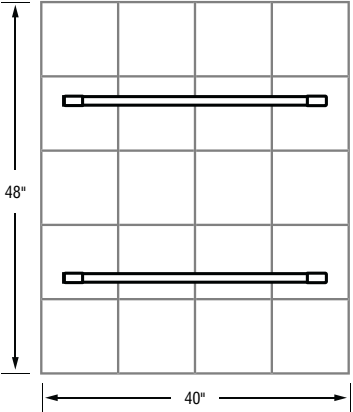




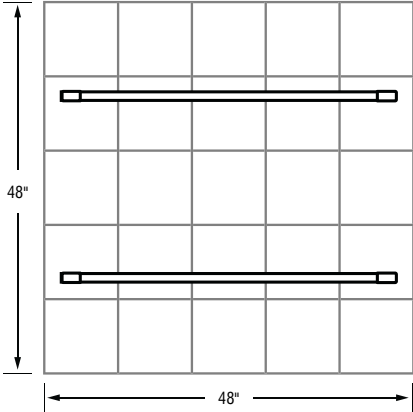
Single 33" Lamp



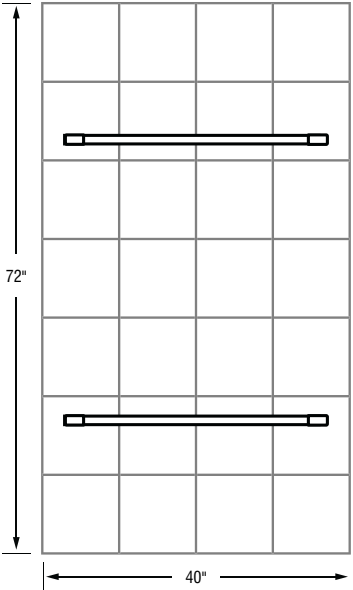
Single 45" Lamp



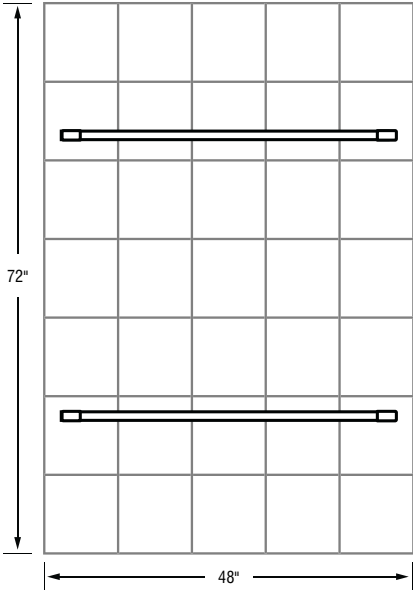
Dual 33" Lamps



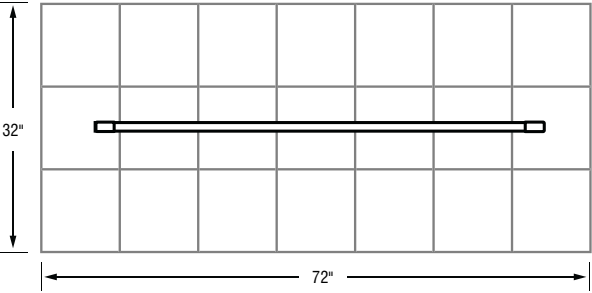
Dual 45" Lamps



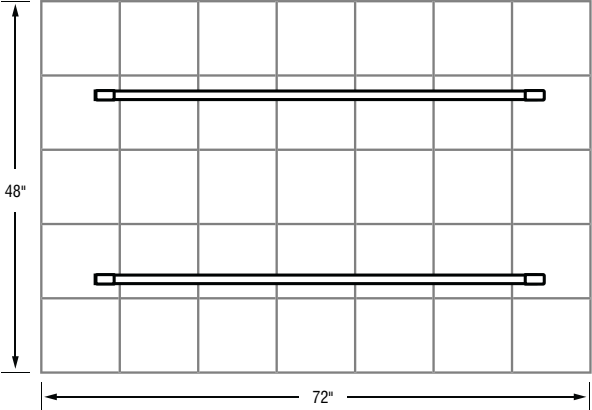
Dual 33" Lamps



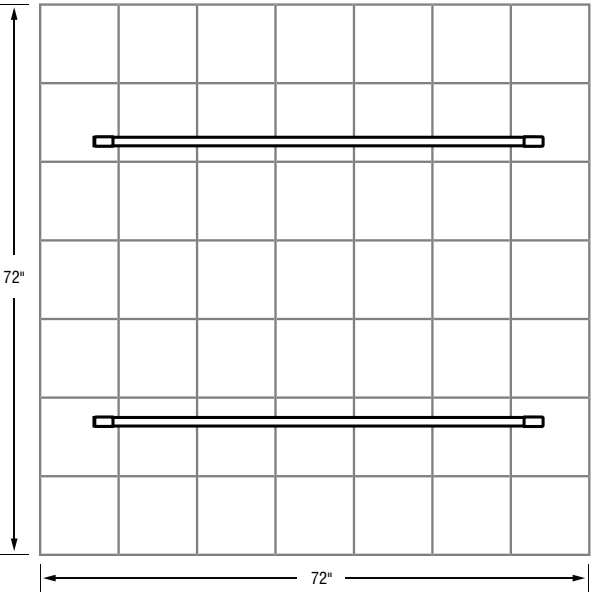
Dual 45" Lamps



Single 61" Lamp



Dual 61" Lamps



Dual 61" Lamps

INSTALLATION

Remove the lamp from the fixture and remove the cover. Multiple mounting methods may be used depending on installation and desired orientation. Slotted Uni-strut channel (13/16") is commonly used to mount the unit. (Not included.)

STRUT MOUNT

Attach brackets to the Bio-Fighter® XL first. Mounting hardware included. Then mount entire assembly to strut channel. See fig. 1.

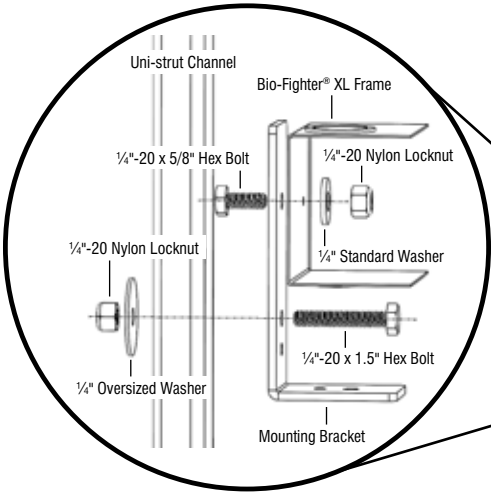


Fig. 1 Attach brackets to unit first. Then mount assembly to strut channel.

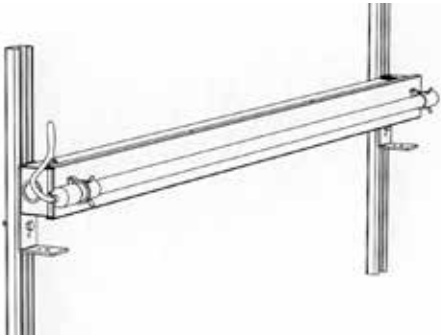


Fig.2 Typical strut mount installation.

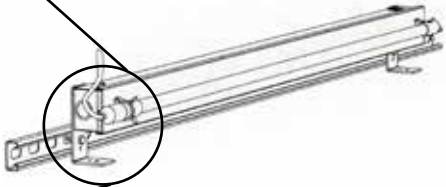


Fig. 3 Strut mount installation with unit bolted to the strut on the long side of the bracket.



Fig. 4 Strut mount installation with unit bolted to the strut on the short side of the bracket.

DIRECT MOUNT

Remove the lamp from the fixture and remove the cover. Mounting holes are pre-cut in each fixture making installation a bolt-on procedure using sheet metal screws or proper mounting hardware depending on installation. See fig. 5.



Fig. 5 Direct mount installation allows unit to be bolted directly, without need for brackets.

MAGNET MOUNT

Attach brackets to the Bio-Fighter® XL first. Mounting hardware included. Then attach magnet to bracket. See fig. 7.



Fig. 6 Magnet mount installation with magnets on the short side of the bracket

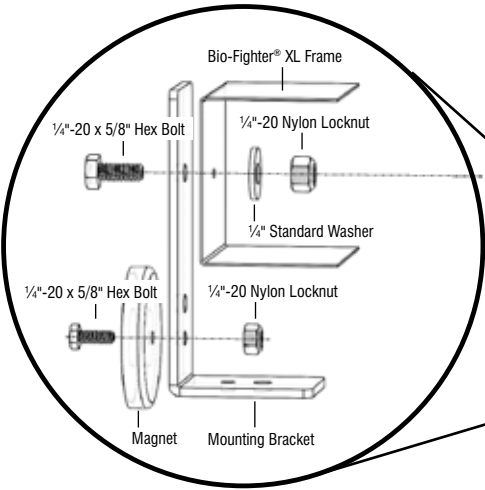


Fig. 7 Attach brackets to unit first. Then attach a magnet to each bracket.

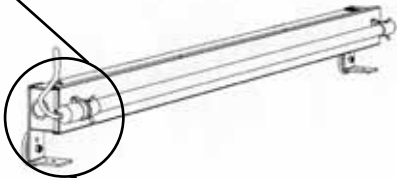


Fig. 8 Magnet mount installation with magnets on the long side of the bracket.

CONNECTING TO POWER

With cover removed, use a screwdriver to remove one of the unit knockouts. Locate the ends of the wires and push through this hole. Connect the black and white wires to proper power and the green wire to ground.

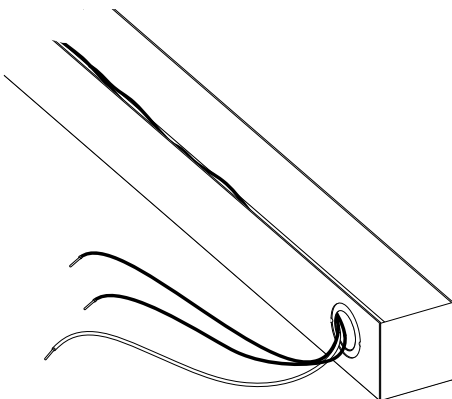
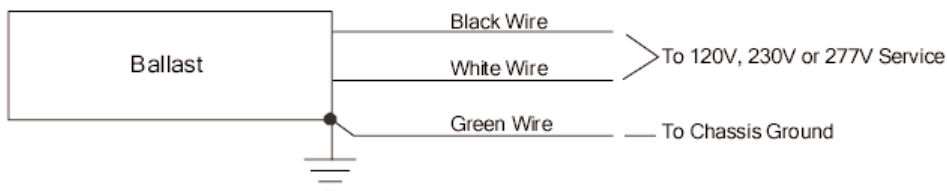


Fig. 1 Remove a knockout and connect black wires to proper power and connect green wire to ground.

POWER INPUT WIRE DIAGRAM



WARNING

Electric Shock Hazard.

Can cause injury or death.

Electrical wiring of the unit to the HVAC system should be done by a licensed HVAC technician or electrical installer.



WARNING

Mercury Hazard. Do Not Break.

UV-C lamp contains a small amount of Mercury. May cause redness or irritation. Manage in accordance with disposal laws. www.lamprecycle.org



WARNING

UV Light Hazard.

Can cause serious eye and skin damage.

Do not look at UV-C light. Wear UV-C eye and skin protection

TROUBLESHOOTING

Maintenance and troubleshooting should be performed by a qualified technician.

Device fails to operate.

1. Check proper power is being supplied to the device, and that the lamp lights when unit is turned on.
2. Check that the lamp connector is securely attached to the lamp.
3. Check that ballast is receiving correct power. Replace ballast if necessary.
4. Check continuity of lamp filaments. (Replace lamp if necessary.)
5. Check that wires are properly connected to lamp and ballast.

LAMP REPLACEMENT

The lamp should be replaced annually even if it appears to be operating normally. UV-C energy production diminishes over time.

1. Obtain the correct replacement lamp for your model.
2. Disconnect power to the equipment. Allow lamp to cool 10 minutes before touching.
3. Disconnect the electrical connector to the lamp and remove the lamp from the lampholders.
4. Connect replacement lamp to electrical connector and place lamp in lampholders.
5. Reconnect power.
6. Verify operation.



WARNING

Burn Hazard. Can cause injury.

During replacement, allow lamps to cool 10 minutes before removing. Personal injury may result.

LAMP DISPOSAL

Dispose of UV-C lamp at your local recycling center. You may also send your UV-C lamp, in the same container you received your replacement, to:

Dust Free® Reclamation

1112 Industrial Drive
Royse City, TX 75189

PROPER CLEAN-UP IN CASE OF BREAKAGE

Wear protective gloves, eyewear and mask.

Sweep the broken glass and debris into a plastic bag, seal the bag, and dispose of properly.

Contact your local waste management office for proper disposal.

Do not use a vacuum cleaner. Do not incinerate.

REPLACEMENT PARTS

21" UV Lamp - #06180
33" UV Lamp - #06182
45" UV Lamp - #06184
61" UV Lamp - #06186
120V Ballast - #06192
230V Ballast - #06195
277V Ballast - #06193



WARNING

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WARRANTY

Dust Free®, LP warrants this Bio-Fighter® UV Light to be free from defects in materials and workmanship under normal use and service, for as long as it is owned by the original purchaser. This warranty does not cover UVC bulb(s), which carry a one (1) year warranty from the date of installation, or the ballast(s) which carry(s) a five (5) year warranty.

This warranty does not cover cosmetic damage, damage due to acts of God, damage as a result of handling or shipment, negligence, misuse, connection to improper voltage, improper maintenance, or abuse. This warranty is void if defect(s) result from failure to have this unit installed by a qualified, properly licensed, heating and air conditioning contractor in compliance with all local building and construction codes.

Dust Free®, LP exclusive obligation under this warranty shall be to supply, without charge, a replacement for any covered component of the Bio-Fighter® UV Light which is found to be defective within the parameters defined herein. Dust Free®, LP reserves the right to replace or repair the defective part or component.

DUST FREE®, LP SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.) THE WARRANTIES SET FORTH HEREIN ARE EXCLUSIVE AND DUST FREE, LP EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, WHETHER WRITTEN OR ORAL, IMPLIED OR STATUTORY, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, WORKMANSHIP, OR FITNESS FOR A PARTICULAR USE. If the limited warranty is void due to failure to use a qualified contractor all disclaimers of implied warranties shall be effective upon installation.

How to make a warranty claim or have questions answered:

Should you have a warranty claim or questions about the warranty policy, contact the distributor or dealer from which you purchased the product. Proof of original purchase and proof of identity that the original purchasing party is filing the claim is required in order to initiate a warranty claim. Defective parts must be returned no later than thirty (30) days after the failure to the installing contractor together with the model number, serial number, and date of installation. All service and removal must be performed by a licensed HVAC contractor. You must pay shipping charges and all other costs of warranty service. Warranty is only valid the United States and Canada.

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 GERMICIDAL LIGHT ITSELF.

NOTE: Do not return any products or parts to the factory without a factory issued Return Authorization number issued by the Dust Free® LP customer service department.

In the event you have any questions concerning the use and care of this product or this warranty which have not been answered to your satisfaction by the distributor or dealer, please call or write the factory.

Dust Free®

PO Box 519, 1112 Industrial Park Drive

Royse City, TX 75189

1-972-635-9564

www.dustfree.com