

DUST FREE® BYPASS HEPA / BYPASS HEPA PLUS AIR CLEANER

Installation & Operation Manual



BYPASS HEPA PLUS
Model: DFHPAUV Part #: 19851



BYPASS HEPA
Model: DFHPA Part #: 19850

GENERAL

This unit is designed to be installed into an 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

- Air cleaner
- Dual-tube UV Lamp (Bypass HEPA Plus models only.)
- 5-ft C13 power cord
- 1:1 mounting template
- Installation and mounting hardware
- Installation instructions



VERIFIED
ZERO OZONE

MEETS UL 2998
DOES NOT EMIT MORE THAN
0.005 PPM AS TESTED
PER UL 867



DUST FREE®
BREATHE THE DIFFERENCE.

SPECIFICATIONS

Model	BYPASS HEPA PLUS	BYPASS HEPA
Unit Dimensions*	17"L x 13"W x 29"H (432mm x 330mm x 737mm)	17"L x 13"W x 23.9"H (432mm x 330mm x 607mm)
Round Collar Mount	8" (203mm)	
Direct Plenum Mount	16" x 4" (406mm x 102mm)	
Electrical	120VAC, 60Hz, 1.9A.	120VAC, 60Hz, 1.6A.
Weight	36lbs (16kg)	33lbs (15kg)
Air Speed	400 CFM (680m³/hr)	
UVGI	Dual-tube UV-C lamp	--
HEPA Filter	12" x 16" x 2.5" HEPA (305mm x 406mm x 64mm)	
Pre/Carbon Filter	12" x 16" x 2" MERV 8 (305mm x 406mm x 51mm)	
PCO Filter	15" x 5.325" x 0.625" (381mm x 135mm x 16mm)	--
LISTINGS	Safety Listed to UL 705 and CSA C22.2 #13. UL 2998 zero-ozone validated.	Safety Listed to UL 705 and CSA C22.2 #13.

* See Appendix A for dimensional schematics. Specifications subject to change without notice.



Conforms to UL STD 705
Certified to
CSA STD C22.2#113

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.

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.

OPERATION

The unit has multi-stage filtration, a ventilator, and a cabinet enclosure system.

SEQUENCE OF OPERATION

1. Air passes through a reflection chamber where germicidal UV light shines. (Bypass HEPA Plus only.)
2. PCO (Photocatalytic Oxidation) filter. (Bypass HEPA Plus only.)
3. The air then passes through a pleated MERV 8 pre-filter that captures large airborne particulates such as dust, pollen, and mold.
4. Next, the air passes through an impregnated carbon pad for odor control. This pad helps traps airborne chemicals produced from household cleaners, paints, solvents, and VOCs. Carbon also helps trap cooking and tobacco smoke.
5. In the last stage of treatment, smaller particles then pass through a long-life, 99.97% HEPA media filter, capturing particles of 0.3 microns (1/84,000 of an inch).

ACCESS

An access door is provided at the front of the unit to permit access to the filters. Opening the latch on the right side of the unit will allow the door to swing open. A safety door interlock switch cuts the power to the motors for your safety. To remove the door from the cabinet hinges, lift the door with two hands.



Door Safety
Interlock

Fig. 1 Door safety interlock cuts power when access door is opened.



NOTICE

Qualified Technicians Only.

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



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.

INSTALLATION NOTES

The unit is a versatile appliance with multiple installation configurations. It is recommended to take your time in planning the installation.

- Return to return integrated with the forced air heating/cooling system.
- Central draw points using dedicated duct system
- Consult the manufacturer for other special applications.
- Verify clearance on the ductwork to mount the unit using the Forced Air heating/ cooling system. See Appendix A.
- Minimum clearance requirements for maintenance and service. Allow at least 18" for filter removal.
- Interaction between the unit and other mechanical devices.
- Prior to installing, serious consideration must be taken to ensure this filtration system will operate properly if integrated to any other type of mechanical system, i.e. a forced air system, or an air handling unit. To insure proper operation & compatibilities of both system, it is required that you follow the instructions in this manual.

SUGGESTED MEDIA AND LAMP REPLACEMENT

- UV-C lamp - 1year
- Pre/Carbon filter - 6-12 months
- HEPA filter - 1-3 years
- PCO filter - 2-3 years

- UV unit #19851 is designed to emit powerful ultraviolet radiation. It is dangerous to come in contact with or look at the light from this unit. Always turn the air cleaner OFF and UNPLUG the unit before opening panels or the filter access door.
- Do not obstruct or cover the air intake or air outlet of the filtration system. An approximate 4" opening will need to be cut into the existing duct work to install the device properly.
- Vertical or horizontal mounting is permissible.



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



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INSTALLATION NOTES

USE A DEDICATED 120VAC OUTLET ONLY

- Do not obstruct or cover the air intake or air outlet of the filtration system.
- Do not modify, repair or disassemble this system. These tasks are to be performed by authorized serviced personnel only. Fire, electrical shock and/or bodily injury may occur if these warnings are not followed.
- To prevent injuries, do not operate the filtration system while servicing or maintaining. There is an impeller wheel turning at a very high speed that must fully stop rotating prior to accessing the inside of the unit.
- Always assess the operation of the filtration system on how it may interact with vented combustion equipment (ie. Gas Furnace, Oil Furnace, Combustion, Appliances, etc.)
- **This unit must be installed on the return-air side of the system only. Do not connect to supply side. Do not install in a cooking area or connect directly to any appliance.**

TURN OFF ALL INTEGRAL DISCONNECTS BEFORE SERVICING

- Before servicing or cleaning the unit, always remove the power cord from the AC wall outlet.
- To reduce the hazards of electric shock or fire, do not perform any service to the system other than those stated in the operating manual instructions.
- To reduce the risk of electric shock, this filtration system comes equipped with a 3-prong plug-in. This plug will fit in a polarized outlet only one way.
- Do not use filtration system for outdoor application.
- Do not pull or twist power cord when disconnecting it from the ventilation system. Grasp the plug firmly, not the cord.
- Do not modify the power plug in any way; if modified, risk of electric shock fire or even damage to the unit may occur.
- Do not use the filtration system for removal of flammable fumes or gases.



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RETURN AIR DIRECT PLENUM MOUNTING INSTALLATION

Installing directly onto the return air plenum of the forced air heating/cooling system is the designed installation method. This install eliminates the need to duct the unit to the plenum system externally. See fig.2.

Install the return side connections after the last branch on the return air plenum and minimum two linear ft distance from the furnace. Supplied with the unit is a 5-ft power cord. If there is not a 120VAC outlet, there will need to be one installed.

Note: The unit does not replace the filter from the forced air heating/cooling system. Regular maintenance of this filter is necessary to permit the proper operation of the forced air heating/cooling system.

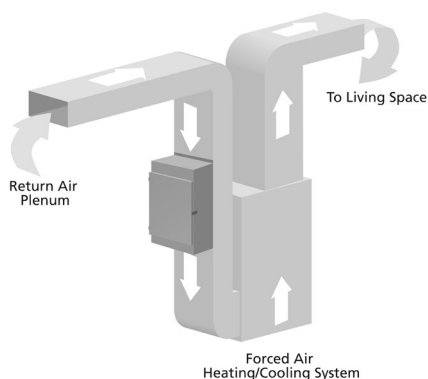


Fig. 2 Return air installation diagram.

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1. Find a location that satisfies both service and maintenance requirements.
2. Tape template to return air plenum. Cut opening with metal shears, predrill for the securing screws and remove the template.
3. Remove the door and filters and proceed to cut the rectangle precut metal tabs on the back of the unit and remove insulation.
4. Before mounting to plenum or ductwork, use included 1/2" gasket sealing tape to line the 16" x 4" cut-outs on the back of the unit.
5. Align the unit into place and then fasten the mounting bracket to the return air plenum.
6. Filters may be shipped in clear plastic wrapping. If present, remove the protective wrapping prior to turning the system on. When installing the filters, match the direction of filter flow to the direction of air flow directed on the fan housing.
7. Place the access door back on the unit. Insert the power cord into the receptacle on the unit and plug into the wall outlet.

COLLAR MOUNTING INSTALLATION

Installing using the collar mounting system in the return air plenum of the forced air heating/cooling system is another installation method. Use the two field-provided, 8 inch round collars for installation. See fig.3.

Install the return side connections after the last branch on the return air plenum and minimum two linear ft distance from the furnace. Supplied with the unit is a 5-ft power cord. If there is not a 120VAC outlet, there will need to be one installed.

Note: The unit does not replace the filter from the forced air heating/cooling system. Regular maintenance of this filter is necessary to permit the proper operation of the forced air heating/cooling system.

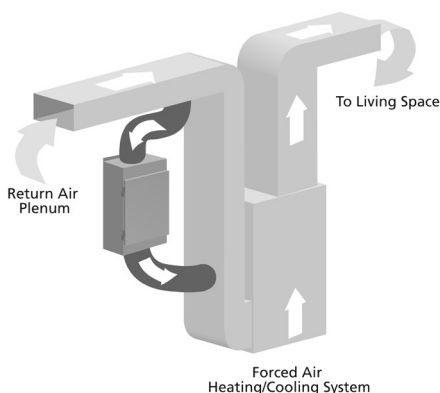


Fig. 3 Remote mount installation diagram.

- ⚠ WARNING**
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 - ⚠ WARNING**
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 - ⚠ NOTICE**
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- Find a location that satisfies both service and maintenance requirements.
 - Cut two 8-inch opening with metal shears.
 - Remove the door and filters and proceed to cut the round precut metal tabs on the top and bottom of the unit and remove the insulation.
 - Align the unit into the desired location and then fasten the mounting bracket.
 - Run approved ductwork to the HEPA and fasten the round collars.
 - Filters may be shipped in clear plastic wrapping. If present, remove the protective wrapping prior to turning the system on. When installing the filters, match the direction of filter flow to the direction of air flow directed on the fan housing.
 - Place the access door back on the unit. Insert the power cord into the receptacle on the unit and plug into the wall outlet.

UV LAMP INSTALLATION

BYPASS HEPA PLUS ONLY

To maximize the efficiency and life of the UV-C lamp, clean each lamp before installation. Use isopropyl alcohol and a cotton cloth to wipe dust and fingerprints from the lamp.

Attach lamp to the connector by inserting the front of the lamp first, then snapping the back of the lamp into place. See fig.4.

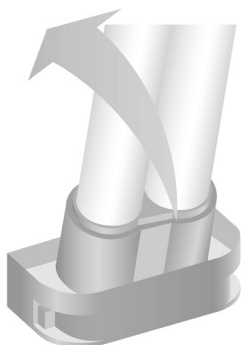


Fig. 4 UV lamp installation.

LAMP REPLACEMENT (ANNUALLY)

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 the lamp to cool 10 minutes before touching.
3. Remove the four screws securing the cover. See Fig. 5 on the following page.
4. Remove the old lamp and install a new lamp, as described in the section above.
5. Reconnect power.

DISPOSAL OF CORE/UV-C LAMP

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

Dust Free® Reclamation

1112 Industrial Drive
Royse City, TX 75189



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



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PCO FILTER REPLACEMENT

BYPASS HEPA PLUS ONLY

- 1. The PCO filter is behind a sheet metal panel. Remove the top screws and loosen the bottom screws to remove the panel. See Fig. 5.
- 2. Slide the PCO filter out of the rack and replace with the new filter. See Fig. 6.
- 3. Reattach the sheet metal panel.

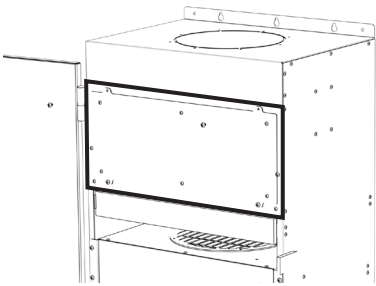


Fig. 5 Remove panel.

REPLACEMENT PARTS

Part #	Description
19731	HEPA Plus 1-Yr Kit (UV-C Lamp, Pre/ Carbon Filter, HEPA Filter)
19732	HEPA 1-Yr Kit (Pre/Carbon Filter and HEPA Filter)
19730	Pre/ Carbon Filter, HEPA & HEPA Plus
19729	HEPA Filter, HEPA & HEPA Plus
19865	PCO Filter, HEPA Plus ONLY
19728	UV-C Lamp, HEPA Plus ONLY
19727	UV-C Lamp Ballast, HEPA Plus ONLY

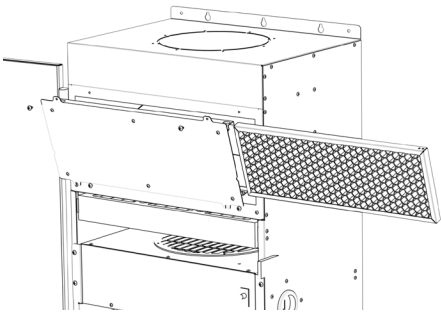


Fig. 6 Slide out PCO filter.

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WARRANTY

Dust Free LP warrants this Bypass HEPA / Bypass HEPA Plus air cleaner (product), for as long as the purchaser owns the real property where the product is installed, to be free from defects in materials and workmanship under normal use and service, for a period of ten (10) years from the date of installation. This warranty does not cover UV-C lamps or filters.

In order to be eligible for service under the warranty the product **MUST** be registered online at <http://www.dustfree.com/warranty> within 10 days from the date of installation.

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's exclusive obligation under this warranty shall be to supply, without charge, a replacement for any covered component of the product 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 PRODUCT 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.

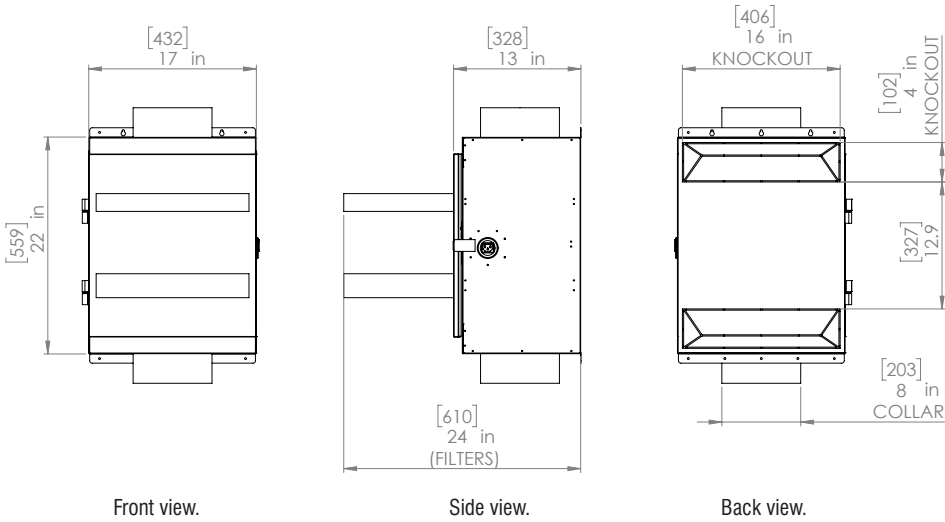
In the event you have any questions concerning the use and care of this product or this warranty which have not been answered to your satisfaction by the distributor or dealer, please call or write the factory.

Dust Free®

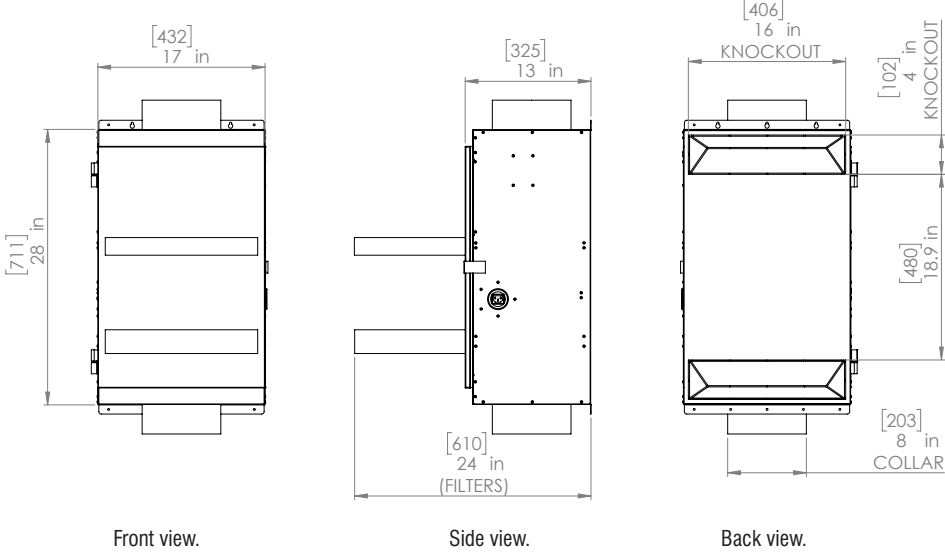
PO Box 519, 1112 Industrial Park Drive
Royse City, TX 75189
1-972-635-9564
www.dustfree.com

APPENDIX A

BYPASS HEPA DIMENSION DIAGRAMS*



BYPASS HEPA PLUS DIMENSION DIAGRAMS*



*Collar dimensions only refer to the size of the knockouts. Duct collar flanges are not included with the system.