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Installation, Operation, Maintenance Manual EnviroMax Enclosure



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EnviroMax Description

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RECEIVING AND INSPECTING SHIPMENTS

Transportation companies are responsible for shipment from the time that it is received by them until it is delivered. All shipments leaving our plant have been carefully inspected and loaded on the carrier's vehicle.

If a shipment arrives with the crating or packaging damaged, have the driver note the condition on the bill of lading and inspect the contents immediately for concealed damage. Due to the crate sizes and number of components HEMCO recommends that with any crate damage, even minor, that the bill of lading be signed for noting "crate damage...pending further inspection for concealed product damage"

If the equipment has been damaged in transit, immediately notify and file a claim with the carrier. Do not return to HEMCO. If this procedure is not followed, the carrier will reject the claim and the consignee will suffer the loss. Please notify HEMCO so that we may help you in anyway possible with evaluation, repair, replacement, and valuation of the damage that has occurred.

PREPARATION FOR INSTALLATION

- Read the Complete Manual
- Gather Required Tools/Equipment
- Clear Installation Area

REQUIRED TOOL & MATERIAL LIST

- Gloves
- Safety Glasses
- Step Ladder

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1 Year Limited Warranty (Effective 05.1.2014)

HEMCO warrants EnviroMax Enclosures for materials, and workmanship. HEMCO's warranty shall be for a period of (1) year from the date of sale to the original purchaser. HEMCO Corporation will repair or replace products found to be defective in materials or workmanship within the period set forth above, provided that:(a) the product has not been subjected to misuse, contamination, neglect, accident, incorrect wiring, improper installation or servicing, or used in violation of instructions furnished by HEMCO Corporation. And (b) as to any defects in materials or workmanship covered by this warranty, the product shall be repaired or altered by anyone authorized by HEMCO Corporation, and (c) the serial number has not been removed, defaced or other wise changed, and (d) HEMCO Corporation, does not assume the costs of removal and/or installation of the product or any other incidental costs of removal and/or installation of the product or any other incidental costs which may arise as a result of any defect in material or workmanship, and (e) upon discovery of defect, Buyer shall notify HEMCO Corporation.

Any Warranty implied by law, including warranties of merchantability or fitness, is in effect only for the duration of the expressed warranties set forth above, no person is authorized to give any other warranty, or to assume for HEMCO Corporation any other liability in connection with the sale of it's products; HEMCO Corporation shall not be liable for the loss of use, revenue, or profit or for any injury, or for any other consequential or incidental damages, buyer is not relying on seller's judgement regarding original buyer particular requirements, and has had an opportunity to inspect the product to original buyer satisfaction.

This Warranty is in lieu of all other expressed or implied Warranties

This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

GENERAL SYSTEM DESCRIPTION

HEMCO EnviroMax Filtered Enclosure

- Wall and ceiling panels are 2" thick with rigid foam core that is faced with chemical and fire resistant composite resin surface panels.
- Front has a hinge-up acrylic sash.
- Work surface is 1" Phenolic resin.



INSTALLATION

1. Unpack and deliver components to installation location.
2. Note: Be very careful with the edges of the enclosures.
3. Position and level the base table.
4. Apply silicone on the perimeter flange and set the worksurface.
5. Apply silicone around the top perimeter of the worksurface and set the enclosure evenly on the worksurface.
6. Installing the HEPA filters (see separate filter installation manual).

MAINTENANCE / GENERAL TIPS

- For all composite surfaces use a general purpose non-abrasive cleaner
- For acrylic surfaces use a non-solvent cleaner.
- For painted or powder coated metal surfaces use a general-purpose non-abrasive cleaner.
- For anodized surfaces use a general-purpose non-abrasive cleaner.

EnviroMax Filter Installation

FILTER INSTALLATION

- Remove front PREFILTER PANEL by pulling on the tabs on each side of the PREFILTER FRAME.
- Your unit is equipped with one **PREFILTER / HEPA FILTER**. Insert the **FILTER** with the white prefilter on top and airflow arrow pointed down.

IMPORTANT: BEFORE INSTALLING FILTERS REMOVE ALL PROTECTIVE PACKAGING.

CAUTION: READ AND SAVE THESE INSTRUCTIONS!

- There are no user serviceable parts inside. Do not attempt to disassemble.
- Do not block air flow into or around/above the unit.
- To reduce risk of fire or electric shock, do not use this unit with any solid state speed control device.

MAINTENANCE / GENERAL TIPS

- For all composite surfaces use a general purpose non-abrasive cleaner
- For glass surfaces use a formula glass cleaner. (Windex, etc.)
- For painted or powder coated metal surfaces use a general-purpose non-abrasive cleaner.
- For anodized surfaces use a general-purpose non-abrasive cleaner.



Filter Unit front view



Filter Unit top view, with filter installed



Filter Unit top view, with filter removed

ON / OFF OPERATION

The EnviroMax is equipped with a speed control switch and filter change light. To operate, plug unit into a standard outlet. Select desired operation.

CLEANING

To keep your unit clean and new looking, dust with a dry cloth or wipe with a damp cloth. Do not use abrasives or harsh detergents.

HEPA Filtration Units

3. With a 5/32" allen wrench, remove the (4) filter clamp bolts and (4) filter clamps (D) from housing.

4. Pull down on the HEPA filter to break the seal, then lower the filter straight down through the housing. Discard the filter.

Note: For CRF units insure that the knife edge is free of any and all debris. Paying special attention to the (4) corners of the unit, as these are the areas that would be most susceptible to debris/glue fragments, after removal of the filter.

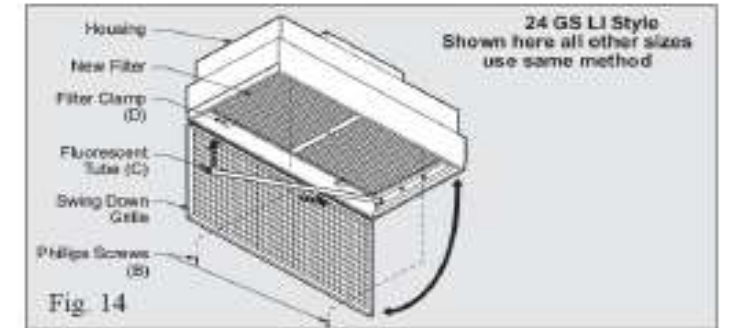
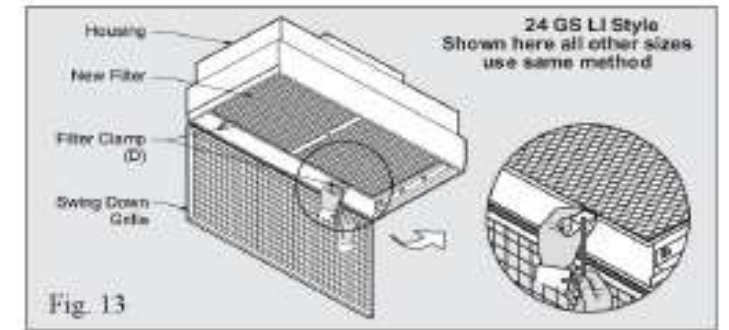
5. With the assistance of another person, center the new HEPA filter in the housing with equal clearance on all four sides between the filter and the housing guides. Then carefully install the new filter into the housing.

6. (Fig. 13) With the assistance of another person (to hold the new filter in place), replace the (4) filter clamps and the (4) filter clamp bolts. Using a 5/32" allen wrench hand tighten firmly. Proceed to Step 8 for CRF or GS series units without lights.

7. (Fig. 14) To replace fluorescent tubes (C) in the in the CRF LI or GS LI housing:

- Carefully grasp one of the fluorescent tubes with both hands.
- Gently insert one end of the fluorescent tube into the lamp holder.
- Then align the pins on the other end, with the slot in the lamp holder.
- Gently insert into the lamp holder. Rotate the fluorescent tube 1/4 turn in either direction until the pins are firmly locked in place.
- Repeat this procedure for all remaining fluorescent tubes.

8. (Fig. 14) Replace the grille assembly and fasten with the remaining (2) Phillips screws (B).



HEPA Filtration Units

NCR Style units with HEPA Filter
(are not replaceable from roomside)

CRF, CRF LI, GS and GS LI Style units with HEPA Filter
(are replaceable from roomside)

How to Change the HEPA Filter

Note: For the purposes of this manual it is understood that changing/installation (for CRF, CRF LI, GS and GS LI styles) is being performed from roomside.

CAUTION: Do not touch either side of the HEPA filter surface while installing or removing the filter. For Gel Seal units, do not touch gel. Do not allow gel to collect dirt or dust. Inspect gel track on filters to:

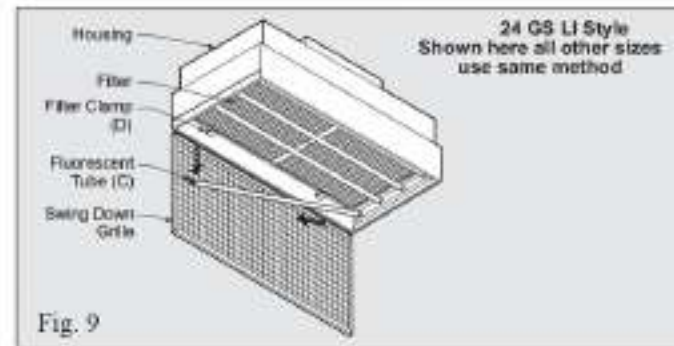
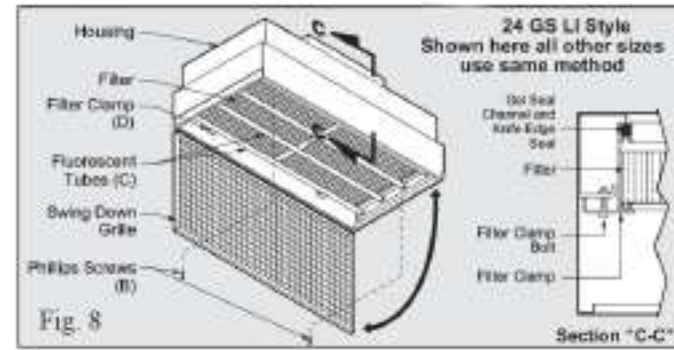
1. (Insure adequate gel depth, (within 1/16" from top of gel track).

2. Check for consistency and color for uniformity. Removal of unit from ceiling grid is not required.

1. (Fig. 7 and Fig. 8) Using a standard phillips head screw driver, remove (2) Phillips screws (B) from the grille assembly, lower grille. Proceed to Step 3 for CRF or GS series units without lights.

2. (Fig. 9) To remove fluorescent tubes (C) from the housing:

- Carefully grasp one of the fluorescent tubes with both hands.
- Rotate the fluorescent tube 1/4 turn in either direction until the pins line up with the slot in the lamp holder.
- Then gently pull down on one end. The other end will pull out easily once this is done.
- Repeat this procedure for all remaining fluorescent tubes.



HEPA Filtration Units

READ AND SAVE THESE INSTRUCTIONS
WARNING- TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

Use this unit only in the manner intended by the manufacturer.

If you have questions, contact the manufacturer. 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 warning device, such as a tag, to the service panel.

Fan Filter Units are suitable for commercial and industrial use only. They are designed for suspended installation or installation in T-Grid Ceiling Systems for Vertical Flow.

Fan Filter Units must never be exposed to rain, ice, snow, or excessive moisture. Do not use this product near water, i.e. near bathtubs, washbowls, whirlpools, etc. If the unit is equipped with a flexible power cord, do not handle with wet hands.

Do not place anything on top of the units. Do not restrict the flow of air into the unit.

RECEIVING AND UNPACKING

All shipments are "FOB Ship Point". This means once goods are picked up and signed for by the driver, they are the responsibility of the freight company. When the shipment is delivered and signed for by your receiving personnel, the ownership and responsibility is transferred to the receiving company.

HEMCO Corporation inspects each product before packaging and does not ship damaged goods. Inspect the incoming shipment with the freight carrier driver present. Note any suspected damage on the receiving papers and immediately inspect the damaged carton(s). Note damages on the receiving documents and file a freight claim with the transportation company.

HEMCO Corporation does not take responsibility for damages caused by the freight company. If damage is discovered after the carton is opened, it is the buyer's/receiver's responsibility to file a freight claim. Keep all incoming cartons and the product for inspection. Do not send back to HEMCO Corporation.

PRE-INSTALLATION INSTRUCTIONS
WARNING- TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.

Fan Filter Units operate on 115 Volts, 208-230 Volts, 277 Volts at 60 Hz., or 208-240 Volts, 50 Hz. Check the label on the front of the unit for voltage, current and frequency of operation. Verify the rating of the branch circuit protector and branch circuit wiring prior to installation and electrical connection to the unit.

Certain models are provided with an optional flexible power cord with plug. Do not use any type of adapter that will allow the unit to be plugged into an outlet that is not grounded.

Do not plug the unit into an outlet that is controlled by an on/ off wall switch or by a facility house lighting control switch.

CAUTION: To Reduce the risk of injury to persons, install the unit at least 7 feet above grade or in ceiling.

INSTALLATION INSTRUCTIONS

CAUTION - HEPA filter media is fragile and can be damaged easily. Special precautions must be taken during un-packaging and installation of Fan Filter Units. To avoid damage to the filter media, touch only the frame. **DO NOT PLACE HANDS OR ANY OTHER OBJECTS ON THE FILTER SURFACE.**

HEPA Filtration Units

Electrical Installation:

Refer to wiring schematics at the back pages of these instructions. Provision of electrical branch circuit supply to the appropriate location within close proximity to the Fan Filter Units is the responsibility of the customer's electrical installer. If local or national electrical codes or the customer's installation specifications require the provision of metal conduit directly to the unit it is recommended that a Listed flexible metal conduit be provided.

Start-up Check List—Before Applying Power:

Check the voltage on the Manufacturer's Name Plate and verify that the power supplied to the unit is the same as that listed on the Name Plate. Remove the prefilter and determine if the fan is free to rotate and has not been misaligned during shipment or installation. Check nuts, bolts, screws and electrical connections for tightness.

CAUTION: If the unit is provided with a square perforated metal barrier over the opening to the prefilter frame, it must be re-installed prior to application of power and start-up of the Fan Filter Units.

Apply power and check that the wheel is rotating in the correct direction. Looking through the prefilter frame the fan must be rotating in a clockwise direction.

OPERATING INSTRUCTIONS

Principle of Operation:

Fan Filter Units are self-contained, low profile, electric powered, motor-fan driven HEPA Filter, air filtering appliances. The units are heavy-duty units suitable for man industrial/commercial applications where clean air is needed. This is accomplished by maintaining a flow of filtered air to remove airborne particles within an enclosed room or chamber. Where manufacturing and assembly processes require Federal Standard 209 or ISO Classification clean rooms, multiple Fan Filter units can provide a sufficient number of filtered air changes to maintain a positive pressure of clean air within the controlled environment.

Method of Operation:

Unfiltered air is drawn into the air inlet at the top of the unit through an optional 20x20 Pre-Filter. This air is pulled through the motor/blower assembly into a plenum designed to evenly distribute air over and through the entire receiving surface of the HEPA Filter. Thus, Fan Filter Units efficiently and quietly deliver the desired volume of cleaned air to the controlled environment. The volume of air delivered can be adjusted by means of a factory installed variable motor speed controller mounted within the unit.

Troubleshooting Guide

Problem: Blower does not run:

Possible Solution :

1. Make sure the unit is properly connected to the power source.
2. Make sure switch is in the On position.
3. Make sure the speed control is in an On position.
4. Verify power to the outlet.
5. Check capacitor for loose connection.

Problem : Blower is running but no or very little air flow:

Possible Solution:

1. Make sure the blower is running clockwise as viewed thru the prefilter frame and blower opening.
2. Prefilter is dirty and should be replaced.
3. HEPA filter is dirty and should be replaced.

HEPA Filtration Units

Maintenance

Preventive Maintenance

It is the intention of HEMCO Corporation, to deliver a safe and reliable product that will give years of trouble-free service.

To ensure optimum, safe performance and maximum product life a preventative maintenance program must be established.

1. Inspect prefilter and HEPA filter after the first three (3) months of operation. Based on the findings, schedule periodic inspections and maintenance for changing prefilter and the HEPA Filter.
2. (Fig. 1) Prefilters should be changed at least every six (6) months.
3. Cleaning fan wheel is required to insure smooth quiet operation. Periodic cleaning of all fan equipment is strongly recommended because dirt accumulation on the impeller can cause vibration which greatly increases stress and load on motor bearings.

All services to be performed by a qualified technician. Order replacement filters and parts from your local distributor or contact Customer Service.

Servicing Units

WARNING - REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, OR INJURY BY OBSERVING THE FOLLOWING:

1. (Fig. 2) Turn the Safety Switch and Variable Speed Control on each unit to the off position.
 2. (Fig. 3) To prevent power from being switched on accidentally before servicing, switch power off at service panel and lock the service disconnecting means.
 3. If the service disconnecting means cannot be locked, REFER TO YOUR COMPANY OSHA MANDATED LOCKOUT/TAG-OUT PROCEDURES.
 4. (Fig. 4) For units with an optional power cord, unplug unit and tie cord out of reach of receptacle.
- When to Change the HEPA Filter
Static pressure can be measured with a Magnehelic gage or manometer.

It is time to change the HEPA filter when the pressure drop across the filter reaches two (2) times the original resistance.

Tools Required for NCR Style:

1. Power driver, 1/4" socket bit. Or,
2. Standard slotted screw driver.

Tools Required for CRF, CRF LI, GS and GS LI Style:

1. Standard phillips head screw driver.
2. 5/32" allen wrench.
3. (2) persons, if installing from roomside. To hold the filter in place and to position the filter clamps correctly.
4. (1) person, if installing on a bench with housing upside down.

