EFR01
EXTERNAL FILTER RACK KIT
INSTALLATION INSTRUCTIONS

Goodman Manufacturing Company, L.P. © 1997-2007
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P/N: IO-688 Date: August 2007

Description

This external filter rack kit is intended to provide a location, external to the furnace casing, for installation of a permanent filter. The rack is designed to mount over the indoor air blower compartment area of either side panel, and provide filter retention as well as a location for attaching return air ductwork.

Kit Contents

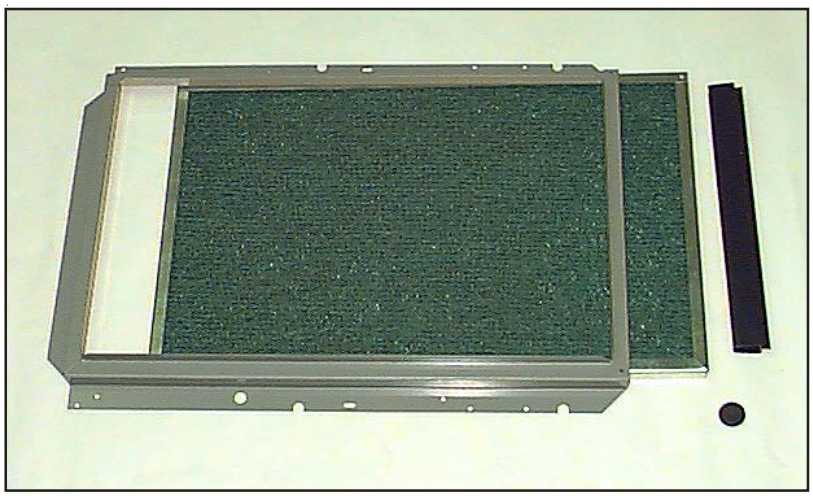
1	Sheet Metal Rack Assembly
1	16" x 25" x 1" Permanent (Washable) High -Velocity Filter
1	Plastic Filter Clip
1	Plastic Plug
	Installation Instructions

⚠ WARNING

HIGH VOLTAGE
DISCONNECT ALL ELECTRICAL POWER AND SHUT OFF GAS SUPPLY BEFORE SERVICING OR INSTALLING. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

⚠ CAUTION

TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, SHUT OFF GAS SUPPLY FIRST, THEN DISCONNECT THE ELECTRICAL SUPPLY BEFORE PROCEEDING WITH CONVERSION.



⚠ **RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION**

ATTENTION INSTALLING PERSONNEL

As a professional installer, you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair, it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense... a matter of thinking before acting. Most dealers have a list of specific, good safety practices... follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

CONTENTS

IMPORTANT INFORMATION

⚠ WARNING

IF THE GAS FURNACE IS INSTALLED IN A BASEMENT, AN EXCAVATED AREA OR A CONFINED SPACE, IT IS STRONGLY RECOMMENDED TO CONTACT A PROPANE SUPPLIER TO INSTALL A GAS DETECTING WARNING DEVICE IN CASE OF A GAS LEAK.
- SINCE PROPANE GAS IS HEAVIER THAN AIR, ANY LEAKING GAS CAN SETTLE IN ANY LOW AREAS OR CONFINED SPACES.
- PROPANE GAS ODORANT MAY FADE, MAKING THE GAS UNDETECTABLE EXCEPT WITH A WARNING DEVICE.

⚠ WARNING

PERSONAL INJURY OR DEATH MAY RESULT FROM IMPROPER INSTALLATION OR MAINTENANCE PERFORMED BY UNTRAINED PERSONNAL. CALL YOUR INSTALLING DEALER OR OTHER QUALIFIED SERVICE COMPANIES TO PERFORM THE INSTALLATION OR MAINTENANCE INSPECTION.

⚠ WARNING

TO AVOID PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO EXPLOSION OR FIRE, INSTALL A GAS DETECTING WARNING DEVICE. SINCE THE ODORANT IN PROPANE GAS CAN BE REDUCED BY IRON OXIDE (RUST), A GAS DETECTING WARNING DEVICE IS THE ONLY RELIABLE METHOD TO DETECT PROPANE GAS LEAKS.

⚠ WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY OR LOSS OF LIFE.

– DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

– WHAT TO DO IF YOU SMELL GAS:
- DO NOT TRY TO LIGHT ANY APPLIANCE.
- DO NOT TOUCH ANY ELECTRICAL SWITCH; DO NOT USE ANY PHONE IN YOUR BUILDING.
- IMMEDIATELY CALL YOUR GAS SUPPLIER FROM A NEIGHBOR'S PHONE. FOLLOW THE GAS SUPPLIER'S INSTRUCTIONS.
- IF YOU CANNOT REACH YOUR GAS SUPPLIER, CALL THE FIRE DEPARTMENT.

– INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS SUPPLIER.

Contact a local propane gas supplier about installing a gas detecting warning device.

NOTE: *To ensure proper operation, install, operate and maintain the unit in accordance with these installation instructions, all local building codes and ordinances. In their absence, follow the latest edition of the National Fuel Gas Code (NFPA 54/ANSI Z223.1), and/or CAN/CSA B149.1 Installation Codes.*

LOCATION & PLACEMENT

This kit is designed for side panel application to Upflow furnace models. Note that furnace condensate drain trap relocation is required on 90% efficient furnace installations supporting five tons of airflow through two side return air ductwork connections. Refer to *Installation Precautions and Considerations* section for details.

NOTE: *Condensate drain trap must be relocated on five ton airflow 90% units (two side return air ductwork connections).*

NUMBER OF KITS REQUIRED

Less Than Five Tons of Airflow

Installations supporting less than five tons of airflow require only one return air ductwork connection when a permanent filter is used. For this case one filter rack kit is required.

NOTE: *This filter rack cannot be applied to a bottom return. On 90% furnaces, the drain trap must be located either opposite the side receiving the filter rack or relocated (see Drain Trap Relocation section).*

Five Tons of Airflow

Installations supporting five tons of airflow require two return air ductwork connections. If both connections are side panel connections, two filter rack kits are required. When a bottom return is used in conjunction with a side panel connection, a permanent filter must be installed in the bottom return and a filter rack kit used for the side panel connection.

NOTE: *This filter rack cannot be applied to a bottom return. On 90% furnaces, the drain trap must be located either opposite the side receiving the filter rack or relocated (see Drain Trap Relocation section).*

INSTALLATION PRECAUTIONS AND CONSIDERATIONS

WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS KIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

Disconnect Electrical Power

Turn OFF electrical power to furnace prior to installation of the filter kit. Use caution when installing screws into furnace cabinet as to prevent damage to internal furnace components.

Furnace Airflow Requirements

Use adequate return air ductwork connections to accommodate an installation's airflow tonnage requirements. Refer to furnace Installation Instructions or Specifications Sheet for details.

Drain Trap Relocation

Furnace drain trap relocation will be required on 90% furnace installations if the filter rack kit is to be installed on the same side as the furnace's condensate drain trap, or if the installation supports five tons of airflow (two side return air ductwork connections). Drain lines may be extended to clear the filter rack, and the trap mounted to the ductwork. Drain lines must maintain a downward slope to the drain trap.

Electrical Connection Compatibility on 90% Efficient Furnaces

Use of an alternate electrical inlet is required on 90% furnace installations if the kit is to be applied on the same side as the furnace's junction box, or if the installation supports five tons of airflow (two side return air ductwork connections). The alternate inlet will allow electrical connections through the blower compartment to the junction box without interfering with the filter removal (Figure 1).

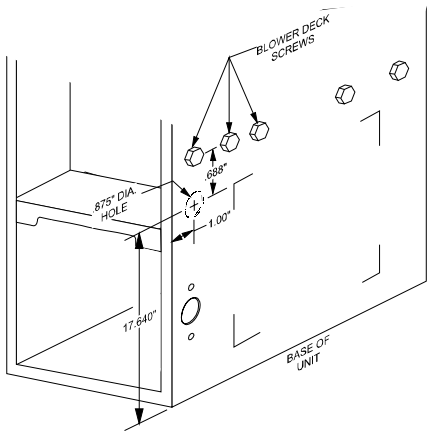


Figure 1

Alternate Electrical Inlet Location

90% Furnaces Only

Mating Ductwork Dimensions

Refer to the following figure for filter rack dimensions.

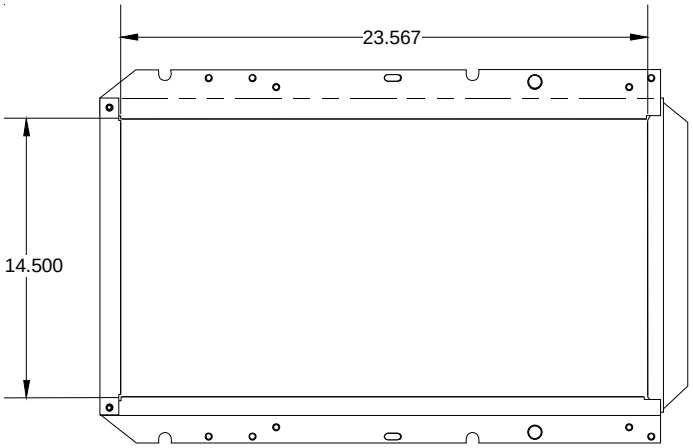


Figure 2

Filter Dimensions

Filter Access and Removal

The installed position of the furnace should be taken into account when determining which side(s) will receive the filter rack. Assure that the filter(s) may be removed for cleaning purposes once the furnace, ductwork, and electrical and drainage connections are in place.

INSTALLATION PROCEDURE

1. Turn OFF power to furnace.

WARNING

HIGH VOLTAGE

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2. Select side(s) to receive filter rack.
3. Using the corner marks provided on the side panel(s) as guidelines, mark an outline and cut out the return air cutout area(s) (Figure 3).
4. On 80% efficient furnace models, remove the two screws securing the side panel internal filter retainers and the retainers themselves.
5. An alternate electrical inlet must be provided on 90% furnace installations in which the electrical supply connection and junction box are on the same side as a filter rack. Place an 0.875" diameter hole in the side panel supporting the electrical connection at the location shown in Figure 1. Attach electrical inlet to this location and plug standard electrical inlet with plug provided.
6. Remove and save two screws from blower deck and one screw from lower edge of the furnace. The filter rack should be positioned against the side panel to locate the screws requiring removal. When properly located, the filter rack will be flush with the back panel and bottom edge of the furnace.

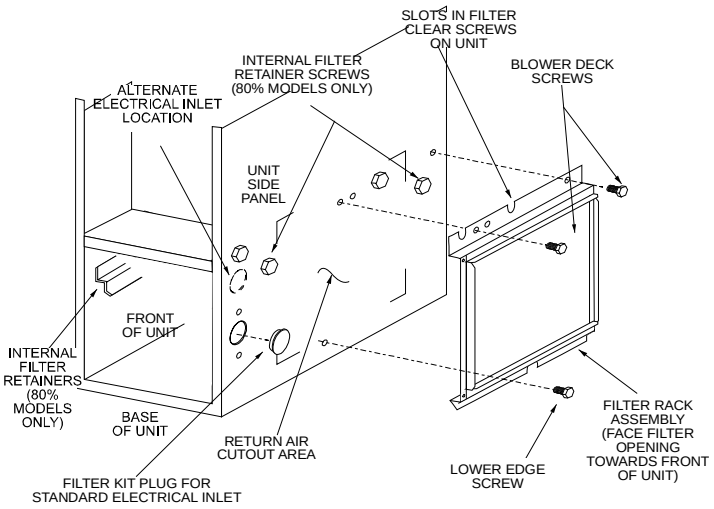

Figure 3

Return Air Cutout

7. Attach sheet metal filter rack(s) using screws removed in prior step. Additional installer-supplied, self-drilling screws may be added if desired.
8. Attach ductwork to filter rack(s).

Note: *On 90% efficient furnaces, make appropriate drain trap and drain hose connections.*

9. If not already attached, clip filter clip(s) to 16-inch side of filter(s).
10. Insert filter(s) with clip into the front opening of filter rack(s). Verify that filter(s) is (are) fully inserted, seated properly, and can be easily removed by grasping the filter clip. Filter(s) should slide in easily, do not force.
11. Turn ON power to furnace.
12. Verify proper furnace operation as outlined in the furnace's Installation Manual.

FILTERS

Filter Care

Note: Disposable filters must not be used with the filter rack from this kit. A permanent-type, washable filter designed for high velocity airflow applications is supplied with this kit. Usage of a permanent filer is required due to the higher airflow velocities associated with the large airflow volume (CFM) moving through the available filter cross sectional surface area.

Dirty filters are the most common cause of inadequate heating and cooling performance. Filters should be inspected and cleaned every two months or as required. The permanent filter supplied with the kit should be cleaned as follows:

1. Turn OFF power to the furnace.

WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING, REMOVING THE FILTER, OR PERFORMING ANY OTHER MAINTENANCE. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

CAUTION

TO AVOID THE RISK OF PROPERTY DAMAGE, PERSONAL INJURY OR FIRE, SHUT OFF GAS SUPPLY FIRST, THEN DISCONNECT THE ELECTRICAL SUPPLY BEFORE PROCEEDING WITH CONVERSION.

2. Remove filter(s) through front of the rack(s) by gently pulling on the plastic filter clip. Filter(s) should slide out easily, do not force.
3. Wash filter(s) with low pressure, clean water. Water should be applied from opposite the direction of airflow to avoid driving dirt into the filter.
4. Allow filter(s) to air dry. Drain holes are provided in the metal frame.
5. Reinstall filter(s) through front of the rack(s). Verify that filter(s) is (are) fully inserted, seated properly, and can be easily removed by grasping the filter clip. Filter(s) should slide in easily, do not force.

If the original filter(s) supplied with the kit have been replaced, follow the new filter manufacturer's recommendations for step 3 and 4 of the cleaning process.

Filter Replacement

Should it become necessary to replace a filter, it must be replaced with a permanent-type filter of the same size as supplied and suitable for face velocities of 600 feet/minute. Follow filter manufacturer's care recommendations.

To remove plastic clip from filter:

1. Slide clip towards one corner of the frame.
2. Spread clip slightly to clear frame at corner.
3. Continue to slide clip until it is free of filter.

NOTE: SPECIFICATIONS AND PERFORMANCE DATA LISTED HEREIN ARE SUBJECT TO CHANGE WITHOUT NOTICE