

## F35F Media Air Cleaner WITH EXPANDAPAC™ MEDIA FILTER

### PRODUCT DATA

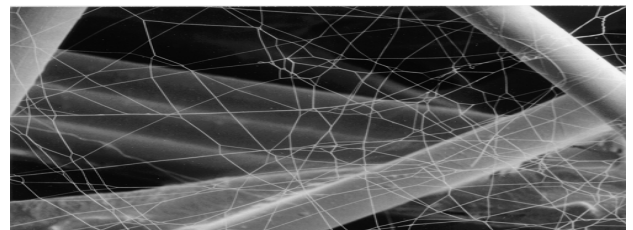


### APPLICATION

The F35F Expandapac Media Air Cleaner captures a significant amount of the airborne particles, 1.0 microns and larger from the air circulated through the unit.

### FEATURES

- High efficiency Expandapac media filter with Ultra-Web® technology captures particles as small as 1.0 micron.



- Strong media will not tear when installing combs.
- Combs are located down stream from filter so they stay clean.
- Efficiency and arrestance ratings based on the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 52.1-92.
  - Initial Atmospheric Dust Spot Efficiency: 25.8%
  - Average Atmospheric Dust Spot Efficiency: 32.0%
  - Average Synthetic Dust Weight Arrestance: 92.0%
  - ASHRAE Dust Holding Capacity: 55gThe above data is for a 16 x 25 in. filter.

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- Available in three sizes to fit most air ducts.

Media Air Cleaner Order Number	Size	cfm
F35F1008	16 x 25	1400
F35F1016	20 x 20	1400
F35F1024	20 x 25	2000

- Applicable to all gas, oil, and electric forced warm air furnaces and to compressor cooling up to five tons. Can be used with heat pumps only if the filter is changed regularly to prevent excessive pressure drop.
- Mounts in the return air duct.
- Cabinet can support weight of residential furnace and evaporator coil.
- Requires no electrical connections.
- Mounts in any position.
- Requires no maintenance except periodic Expandapac media filter replacement, which is easily replaced by homeowner.

- Compact packaging makes replacement media filters easy to fit on service trucks or mail to customers.

Replacement Media Filter Order Number	Size
FC35A1001	16 x 25
FC35A1019	20 x 20
FC35A1027	20 x 25

- Replacement filter comes with bag to dispose of old filter.
- FC35B Kit available to upgrade an F25F to an F35F (requires FC35A Replacement Media).

Upgrade Kit Order Number	Size
FC35B1018	16 x 25
FC35B1000	20 x 20
FC35B1026	20 x 25

- Easy to upgrade to the F50 Electronic Air Cleaner when the homeowner's needs change.

## ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number, or specify—

1. Order number.
2. Duct size.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Logistics  
Honeywell Inc., 1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.  
International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

# SPECIFICATIONS

**IMPORTANT**

The specifications in this publication do not include normal manufacturing tolerances; therefore, an individual unit may not exactly match the listed specifications. This product is tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed.

**Model:**

F35F Expandapac Media Air Cleaner includes cabinet, access door, Expandapac media filter, filter frame, and combs.

**Application:**

Use with gas, oil, and electric forced warm air furnaces and with compressor cooling. Can be used with heat pumps if filter is changed regularly to prevent excessive pressure drop.

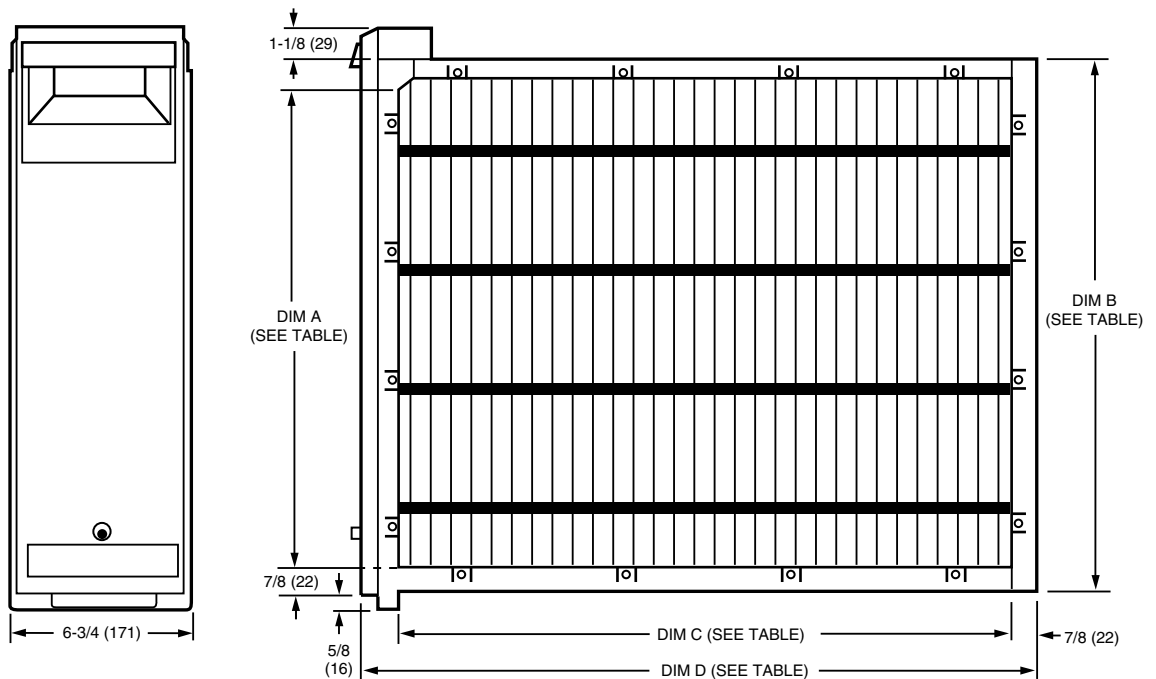
**Arrestance Efficiency:**

Efficiency ratings are based on National Bureau of Standards Dust Spot Method using atmospheric dust and American Society of Heating, Refrigerating and Air-Conditioning Engineers Standard 52.1-92.

- Initial Atmospheric Dust Spot Efficiency: 25.8%
  - Average Atmospheric Dust Spot Efficiency: 32.0%
  - Average Synthetic Dust Weight Arrestance: 92.0%
  - ASHRAE Dust Holding Capacity: 55g
- The above data is for a 16 x 25 in. filter.

The F35F removes particles as small as 1.0 microns.

**Dimensions:**



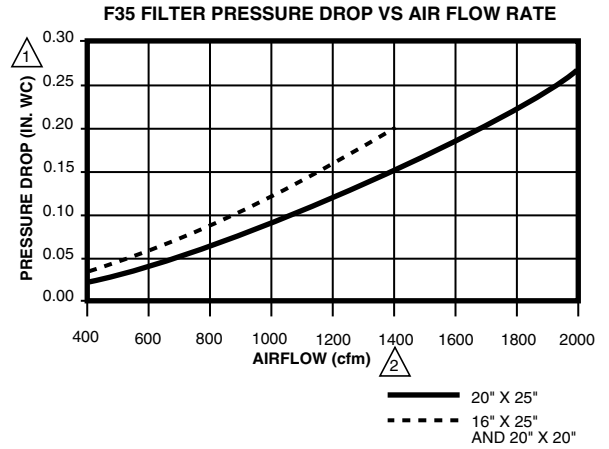
F35 SIZE		DIM A		DIM B		DIM C		DIM D	
IN.	MM	IN.	MM	IN.	MM	IN.	MM	IN.	MM
16 X 25	406 X 635	14 7/16	367	16 3/16	411	23 1/4	591	25 1/2	648
20 X 25	508 X 635	18 7/16	468	20 3/16	513	23 1/4	591	25 1/2	648
20 X 20	508 X 508	18 7/16	468	20 3/16	513	18 1/4	457	20 1/2	521

**Fig. 1. Installation dimensions in in. (mm) of air cleaner.**

**Filter Media:**  
Expandapac.

**Temperature Rating:**  
-40°F to +125°F (-40°C to +52°C).

**Capacity and Pressure Drop:**



- △1 WHEN FIRST INSTALLED. PRESSURE DROP INCREASES AS FILTER BECOMES LOADED. FILTER SHOULD BE REPLACED WHEN PRESSURE DROP REACHES 0.5 IN. WC (0.1 kPa).
- △2 MAXIMUM CAPACITY BASED ON 500 fpm FACE VELOCITY. M12002-A

**Fig. 2. Capacity pressure drop of F35 Expandapac Media Filter.**

**Mounting:**

Mounts in any position in the return air duct next to the furnace blower compartment. Airflow must be in the direction of the arrow on the filter. Cabinet is sturdy enough to support weight of a residential furnace and evaporator coil.

**Underwriters Laboratories, Inc.:**

UL 900, Class 2 listed.

**Upgrade Path:**

The F35 uses the same cabinet as the F50 Electronic Air Cleaner. Upgrade requires installing the cell key, electronic cells, protective screens, and power box installation and wiring.

**Accessory:**

S830A Clogged Filter Indicator.

**Replacement Parts:**

Replace Expandapac media filter annually or more often if reduced airflow results in lower heating/cooling equipment performance. See Replacement Parts section for Media Filter and Frame/Comb replacement part numbers.

## PLANNING THE INSTALLATION

### Location

Install the media air cleaner where all the air passing through the system is circulated through it. The best location is in the return air duct next to the blower compartment so the media air filter can help to keep the blower motor and evaporator coils clean. Do not mount in the supply air duct.

For most efficient air cleaning, spread airflow evenly across the face of the media. If the duct is a different size than the media air cleaner cabinet, gradual transitions are required. If the duct turns sharply just before the air filter, turning vanes are required (Fig.12).

Choose a location that is readily accessible for checking and replacing the filter. Allow at least 26 in. (660 mm) clearance in front of the unit for removal of the filter.

Install the media air cleaner where the temperature will not exceed the ratings in the Specifications section.

### Applications with Air Conditioning

Mount the media air filter upstream of the evaporator coil in a cooling system. The filter will help to keep the coil clean and reduce maintenance.

### Applications with a Charcoal Filter

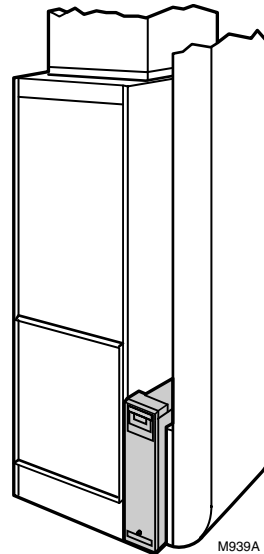
Add an activated charcoal filter to the air handling system to remove gaseous (nonparticulate) contaminants from the circulated air. A common residential application is to remove odors that cannot be removed by mechanical air filters. The activated charcoal filter, if used, should be installed downstream from the media air cleaner to protect the charcoal filter from lint and other particles.

### Applications with a Humidifier

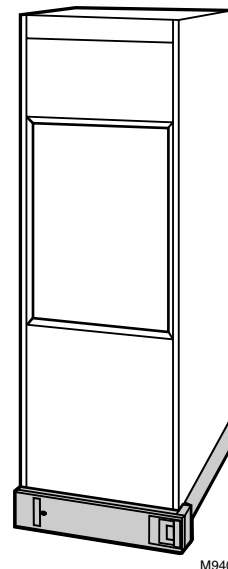
The media air filter is compatible with humidifiers. Avoid applications where water mist can reach the media. If an atomizing humidifier is used, the filter media will require replacement more often because of minerals in the water.

### Choose Mounting Position

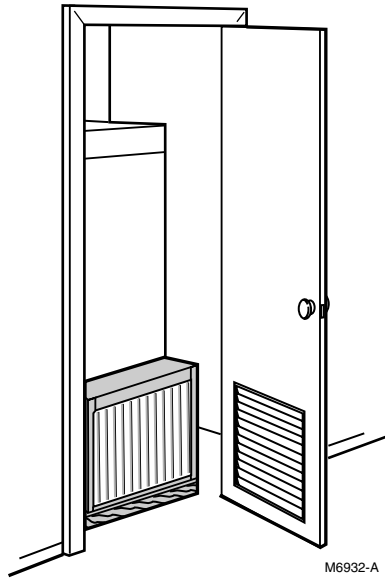
The media air cleaner can be mounted in any position, but the arrow on the cartridge must point in the same direction as the airflow. See Fig. 3-10 for proper location of the media air cleaner for a variety of furnace installations. Note that the media air filter cabinet is sturdy enough to easily support the weight of the furnace and evaporator coil. See Fig. 4.



**Fig. 3. Highboy furnace, with side installation. Media air cleaner is mounted vertically where return enters side inlet of furnace.**

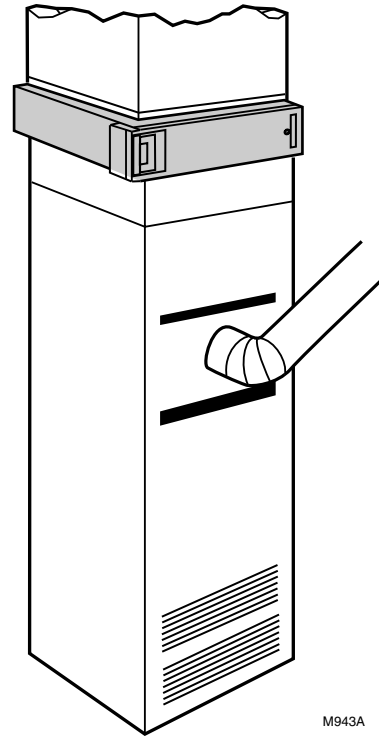


**Fig. 4 Highboy furnace, with installation beneath furnace. Media air cleaner is mounted horizontally where return enters from below.**



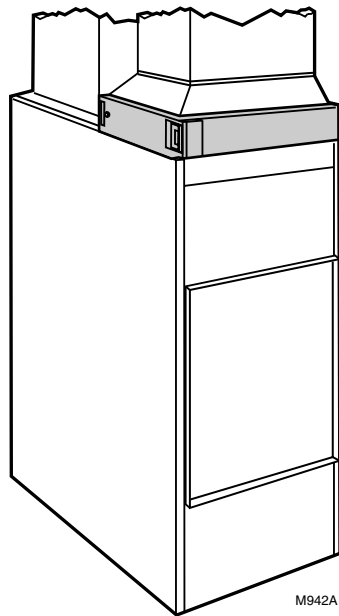
M6932-A

**Fig. 5. Highboy furnace, with closet installation. Media air cleaner is mounted vertically on furnace between furnace and louvered return air opening in closet door.**



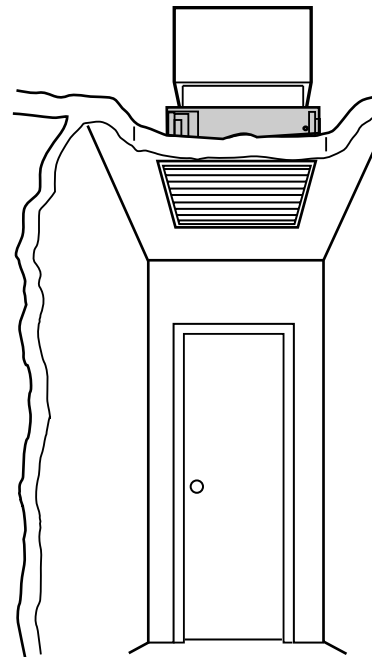
M943A

**Fig. 7. Counterflow furnace, with media air cleaner mounted horizontally in return duct or plenum just above furnace.**



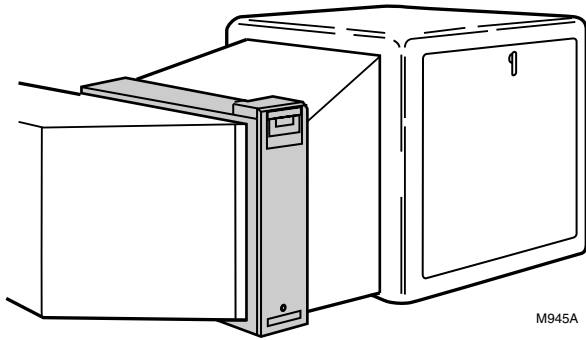
M942A

**Fig. 6. Lowboy furnace, with media air cleaner mounted horizontally in return plenum just above furnace and opposite heating plenum.**

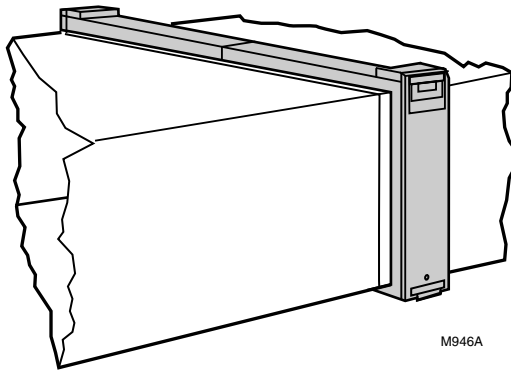


M944A

**Fig. 8. Central fan installation, with media air cleaner mounted horizontally in central return duct.**



**Fig. 9. Horizontal furnace, with media air cleaner mounted vertically in return duct near furnace.**



**Fig. 10. Two or more media air cleaners used in a high capacity system.**

## Determining Sheet Metal Requirements

The media air cleaner is adaptable to all new or existing forced air heating and cooling systems used in residential applications. Transitions or turning vanes may be required in some applications for effective media air cleaner operation.

## Transitions

Transitions are needed when the duct is a different size than the media air filter cabinet. Follow these guidelines when fabricating:

1. Use gradual transitions to reduce air turbulence and increase efficiency. See Fig. 11.
2. Use no more than 20 degrees (about 4 in. per running ft [100 mm per 300 linear mm]) of expansion on each side of a transition fitting.

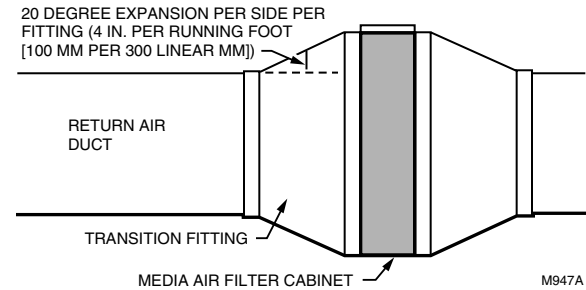
## Turning Vanes

If the media air cleaner is installed next to an elbow or angle fitting, add turning vanes inside the angle to distribute airflow more evenly across the face of the media. See Fig. 12.

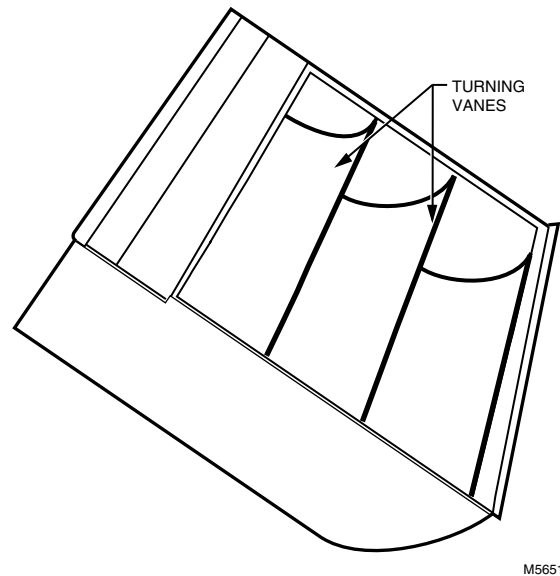
## Offsets

If the duct connection to the furnace in a side installation allows less than 7 in. (178 mm) for mounting media air cleaner cabinet, attach an offset to the elbow. See Fig. 13.

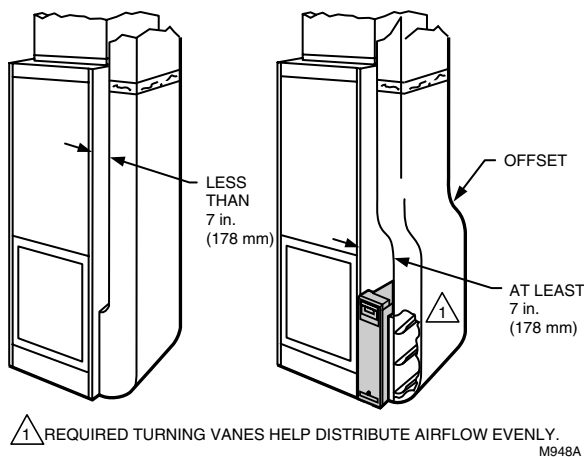
### DUCT SIZE CHANGED GRADUALLY TO PREVENT TURBULENCE.



**Fig. 11. Duct size changed gradually to prevent turbulence.**



**Fig. 12. Turning vanes installed in bend help distribute airflow evenly over face of media.**



**Fig. 13. Typical use of duct offset to make room for media air cleaner.**

## INSTALLATION AND CHECKOUT

### When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the media air cleaner or cause a hazardous condition.
2. Check the ratings given in the instructions and on the media air cleaner to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.

### Remove Furnace Filter and Clean Blower Compartment

Before starting the installation, remove and discard the existing furnace filter (if used). Thoroughly clean the blower compartment. If possible, power vacuum the ductwork to remove accumulated dust in an occupied home or remove construction dirt in a new home. The media air filter cannot remove dirt that has settled in the blower compartment and distribution ducts.

### Install the Cabinet

The following procedure describes a typical side installation on an existing highboy furnace. Alternate procedures are noted as appropriate. Other changes in installation procedures may be necessary to complete your installation.

### Review the Installation Plan

Temporarily place the cabinet on the floor, oriented as it will be when installed. Measure to make sure the plan allows adequate clearance (at least 26 in. [660 mm]) for easy removal and replacement of the filter.

Make sure that shop-fabricated sheet metal components, such as turning vanes, are available.

### Fasten the Cabinet to the Furnace

Align the cabinet with the return air opening. Place blocks under the cabinet, as necessary, to make sure the unit is seated securely. Create an opening in the furnace to match the cabinet opening. Attach the cabinet securely to the furnace. Attach the unit directly or fit a starting collar in the furnace opening. Either drill holes and fasten with sheet metal screws or rivets, or use slip joints. If you are drilling holes, use a locking pliers to help hold the unit in place during drilling.

### Install Turning Vanes

Install turning vanes to help distribute air equally over the full surface of the upstream side of the media. Install the vanes whenever an abrupt 90 degree elbow is installed directly against the media air cleaner cabinet.

### Fasten Cabinet to Ductwork

Fasten the side of the cabinet to the ductwork using sheet metal screws, rivets, or slip joints, as appropriate.

### Connect Ductwork

Connect the vertical duct section to the elbow. If the vertical drop of the duct is less than 7 in. (178 mm) from the side of the furnace, shorten the horizontal trunk or attach an offset fitting to the elbow. See Fig. 13. When ductwork is properly aligned, connect the vertical duct to the horizontal trunk.

### Seal Joints

Seal all joints in the return air system between the media air cleaner and the furnace to prevent dust from entering the clean airstream.

### Assemble Expandapac Media Filter

1. Open the new media filter; expand it and set it upright on a flat surface.
2. Insert one end panel tab into the retainers on the frame. Fold in the end panel flanges and push the tab completely in, making sure the end panel flanges are inside the frame flanges. See Fig. 14.
3. Repeat step 2 on the opposite corner.
4. Flip over the assembly and repeat steps 2 and 3 on the remaining two corners.
5. Lay the filter assembly down flat so the arrows point up. Insert the combs as shown in Fig. 15, aligning them with the notches in the end panel flanges. Make sure the combs are inserted completely.

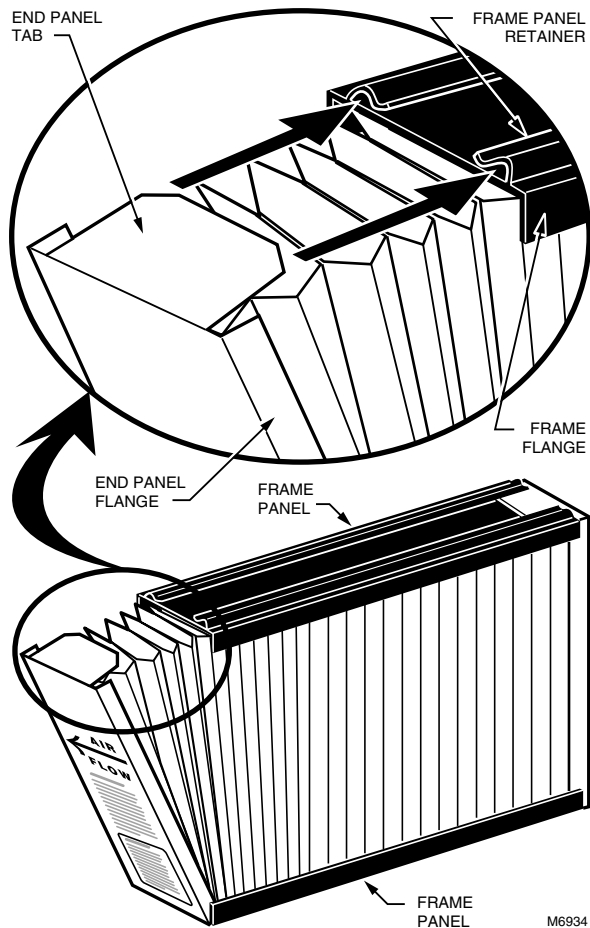


Fig. 14. Assemble Expandapac media filter in frame.

## Install Expandapac Media Filter

Slide the assembled Expandapac media filter into the cabinet, making sure the arrow on the cartridge points in the direction of the airflow.

Replace the access door. Insert the tab on the bottom of the door into the slot in the cabinet. Swing the door closed and press it into place.

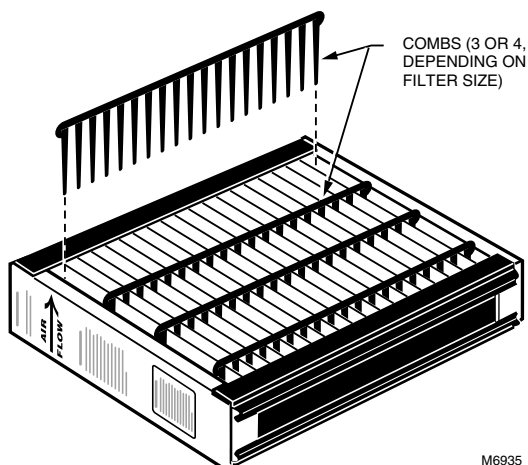


Fig.15. Insert combs in media filter.

## Checkout

Visually check the installation. Make sure:

- Airflow is in the direction of the arrow on the Expandapac media air filter.
- Turning vanes and transitions, if used, are properly installed.
- Joints in sheet metal between media air cleaner and furnace are sealed.
- All sheet metal connections are complete.
- Original furnace filter was removed and blower compartment was cleaned.

Replace any access doors removed during the Installation or Checkout.

Run the furnace or cooling system through one complete cycle to make sure the system operates as desired.

## Maintenance

Replace the media filter when pressure drop across the media filter reaches 0.5 in. wc (0.1 kPa) or at least annually. If the media air filter is installed downstream from an atomizing humidifier or if the installation includes both heating and cooling, more frequent replacement may be necessary. Clogged media filter must be replaced promptly to avoid restricting airflow and reducing efficiency of the heating-cooling system. Record the replacement date in the space provided on the replacement media filter.

Replace the Expandapac Media Filter as follows:

1. Remove the cabinet door and pull out the dirty filter assembly.
2. Remove all the combs and two frame panels. Set them aside. Dispose of the dirty filter.
3. Open the new media filter; expand it and set it upright on a flat surface.
4. Insert one end panel tab into the retainers on the frame. Fold in the end panel flanges and push the tab completely in, making sure the end panel flanges are inside the frame flanges. See Fig. 15.
5. Repeat step 4 on the opposite corner.
6. Flip over the assembly and repeat steps 4 and 5 on the remaining two corners.
7. Lay the filter assembly down flat so the arrows point up. Insert the combs as shown in Fig.16, aligning them with the notches in the end panel flanges. Make sure the combs are inserted completely.
8. Insert the new filter assembly into the cabinet and close the door.

See Replacement Parts in the Specifications section. If desired, install the S830A Clogged Filter Indicator to allow visual indication of when the media needs replacing. Install and adjust the S830A by following the instructions provided with the unit.



## FUTURE OPTION

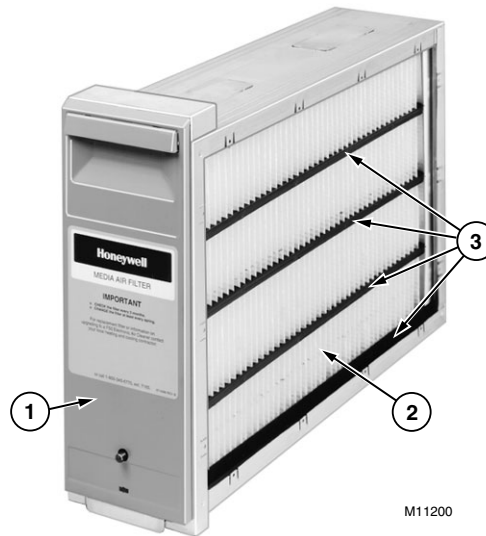
The F35F Expandapac Media Air Cleaner cabinet and filter are designed to be easily upgraded to an F50 Electronic Air Cleaner. An electronic air cleaner has the features to increase the comfort and enjoyment of your home:

- Captures up to 95% of airborne particles, 0.5 microns and larger that pass through the unit.
- Can save 10 to 15 percent in operating costs over the life of your equipment. Honeywell offers an exclusive **10-year Clean Coil Guarantee**.
- Protects your expensive HVAC equipment.
- No on-going filter replacements necessary because cells can be washed and restored to top efficiency.
- Increases home **comfort**.
- Easy to maintain.
- **And it's by Honeywell, a leader in indoor air quality products for over 30 years.**



High Efficiency Cleaning F50 Electronic Air Cleaner.

## REPLACEMENT PARTS



M11200

F35F part numbers are keyed to parts list.

### F35F Replacement Parts List

No.	Description	16 x 25 in.	20 x 25 in.	20 x 20 in.
1	Access Door	203306AB (1)	203305AG (1)	203305AG (1)
2	Expandapac Media Air Filter. Must be ordered in multiples of 6.	FC35A1001	FC35A1027	FC35A1019
3	Frame and Combs. Must be ordered in multiples of 6.	FC35B1018	FC35B1026	FC35B1000





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