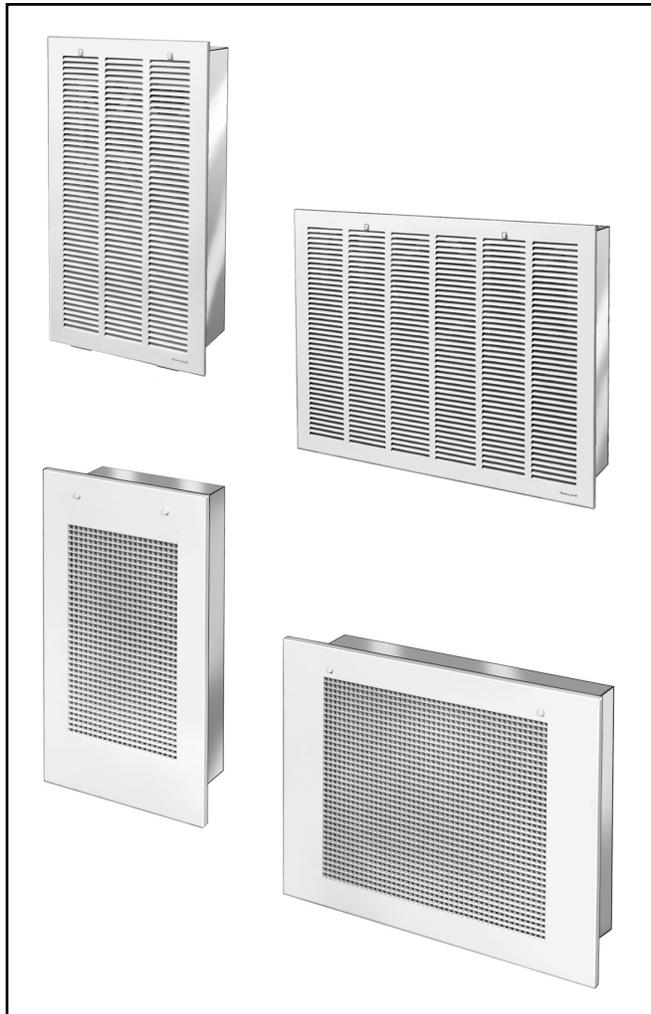


F27F Return Grille Media Air Filter

PRODUCT DATA



FEATURES

- High efficiency filter media removes particles as small as 1.0 micron.
- Efficiency and arrestance ratings based on the American Society of Heating, Refrigeration and Air Conditioning Engineers Standard 52.1-1992.
- Applicable to all gas, oil, and electric forced warm air furnaces and to compressor cooling up to 5 tons. Can be used with heat pumps only if the filter is changed regularly to prevent excessive pressure drop. Not recommended for applications where pressure drop may be critical.
- Requires no electrical connections.
- Requires no maintenance except periodic media filter replacement.
- Media filter is easily replaced by homeowner.
- Models available with louvered door/grille or egg crate door/grille.
- Egg crate door/grille models can be mounted vertically or horizontally.
- Allows easy upgrade to F52 Electronic Air Cleaner.

APPLICATION

The F27F Return Grille Media Air Filter is a media air cleaner that mounts in the main return air duct of a central forced air heating, cooling, or ventilation system. The F27F removes airborne particles such as dust, soot, pollen, and some cooking smoke from the air circulated through its filter. The F27F design allows easy upgrade to the F52F Electronic Air Cleaner when desired.

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SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not exactly match the listed specifications. Also, 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:

F27F Return Grille Media Air Filter — includes cabinet, access door and pleated media filter. Models available with louvered door/grille or egg crate door/grille.

Upgrade kits are available to change a louvered door/grille unit to an egg crate door/grille unit (see Table 3 in the Replacement Parts section for part numbers).

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. Not recommended for applications where pressure drop may be critical.

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 52.1-1992.

Initial Efficiency: 10 percent (staining dirt removal).

Average Efficiency: 18 percent (staining dirt removal).

Average Arrestance: 90 percent (bulk dirt removal).

The F27F removes particles as small as one micron. See Fig. 1 for size ranges of common household particles.

Filter Media:

Nonwoven, reinforced cotton and synthetic fabric, pleated to increase media area. See Table 1.

Capacity and Pressure Drop:

See Table 1.

Temperature Rating:

-40°F to +125°F (-40°C to +52°C).

Table 1. Capacity, Pressure Drop and Area of F27F Filter Media.

Nominal Size in in. (mm)	Filter Depth (in.)	Media Area (sq ft.)	Maximum Capacity (cfm) ^a	Initial Pressure Drop (in. wc) ^b
12-1/2 x 20 (318 x 508)	4.25	13.6	875	0.27
16 x 25 (406 x 635)	4.25	23.1	1400	0.27
21-1/2 x 27-1/2 (546 x 698)	4.25	33.9	2000	0.27

^a Maximum capacity based on 500 fpm face velocity.

^b When first installed. Pressure drop increases as filter becomes loaded. Replace filter when pressure drop reaches 0.5 in. wc (0.1 kPa).

Dimensions:

See Fig. 2.

Grille Type:

Louvered or egg crate.

Underwriters Laboratories, Inc.:

Listed to U.L. 900, Class 2.

Upgrade Path:

The 12-1/2 x 20 in. and 21-1/2 x 27 in. F27F cabinets have the same dimensions as models of the F52F Electronic Air Cleaner. Upgrade requires removing the F27F and installing the F52F in its place.

Accessory:

S830A Clogged Filter Indicator (duct mounted).

ORDERING INFORMATION

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

1. Order number.
2. Type of door/grille—louvered or egg crate.
3. Accessories, if desired.

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 Honeywell Home and Building Control Sales Office (check white pages of phone directory).
2. Home and Building Control Customer Relations
Honeywell, 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.

Replacement Media:

Replace media filter annually or more often if reduced airflow results in lower heating/cooling equipment performance. Replacement part numbers are shown in Table 3, Replacement Parts section.

Mounting:

Recesses into duct opening on wall or ceiling. Not intended for floor installations.

PLANNING THE INSTALLATION

The F27F is installed in place of the main return grille so all the air circulated by the system passes through the air filter. For most efficient air cleaning, airflow must be spread evenly across the face of the media. If the duct is a different size than the media air filter grille, transitions may be needed. Gradual transitions reduce air turbulence and increase efficiency. The transition should be 20 degrees (about 4 in. per running ft [100 mm per 300 linear mm]) or less on each side of a transition fitting, Fig. 3. If the duct turns sharply just after the air filter, turning vanes may be necessary, Fig. 4.

The F27F can be installed in either a wall or ceiling, but not in the floor. See Fig. 5 through 7 for typical installations.

In a wall installation, mount the unit with the door hinge on the bottom so the smaller models fit between the studs. One or more studs may have to be cut and framed to make space for larger units. The return duct should end at, or slightly behind, the finished wall surface. Do not use a standard register flange, or the door may not fit tightly against the wall.

Do not install the unit in the wall with the hinge on the top.

The front door of the grille is hinged to provide access to the media filter. See Fig. 8. The F27 filter must be installed with the airflow arrow pointing away from the grille. The filter is held in place by a bracket and spring clip.

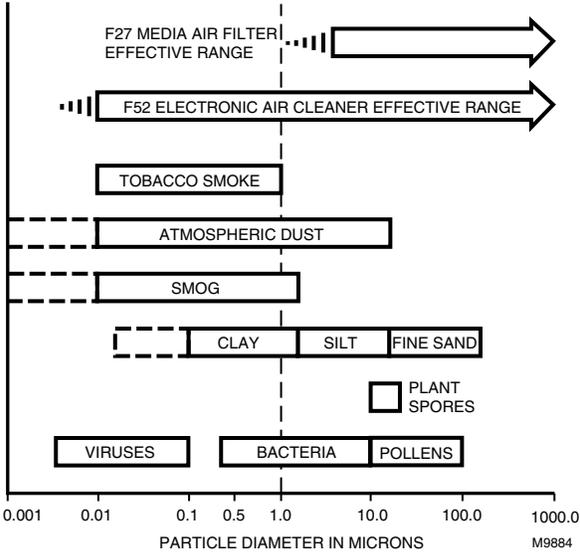
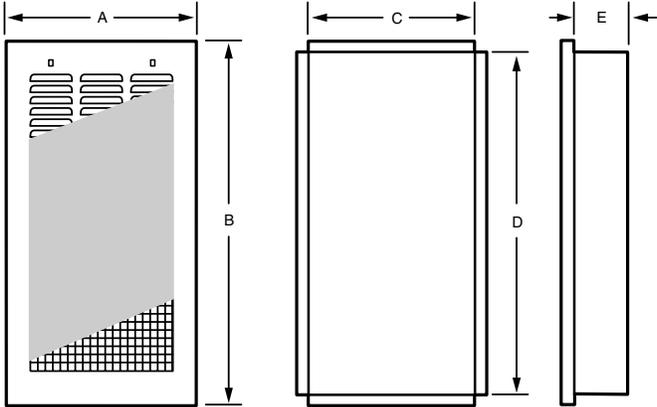


Fig. 1. Size ranges of common airborne particles.



UNIT (INCHES)	DIMENSION A	DIMENSION B	DIMENSION C	DIMENSION D	DIMENSION E
12-1/2 X 20	15-11/16	28	13-1/16	25-15/16	6-15/16
21-1/2 X 27-1/2	31	24	29-1/16	22	6-15/16
16 X 25	26-5/8	20	25-1/16	17-3/4	5-1/2

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Fig. 2. Installation dimensions in in. (mm) .

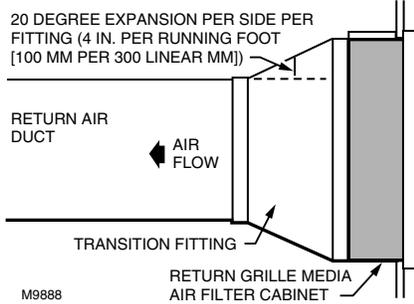
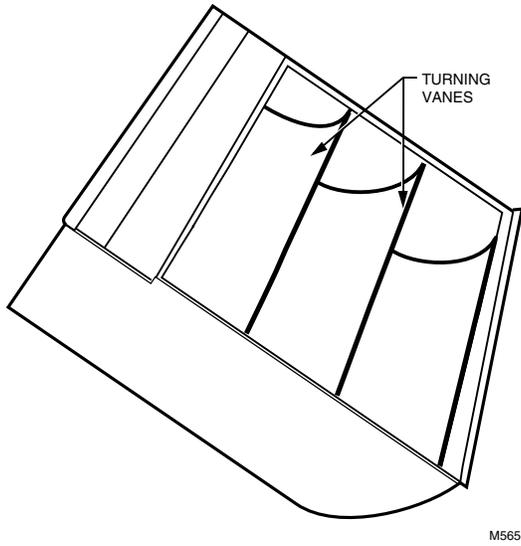
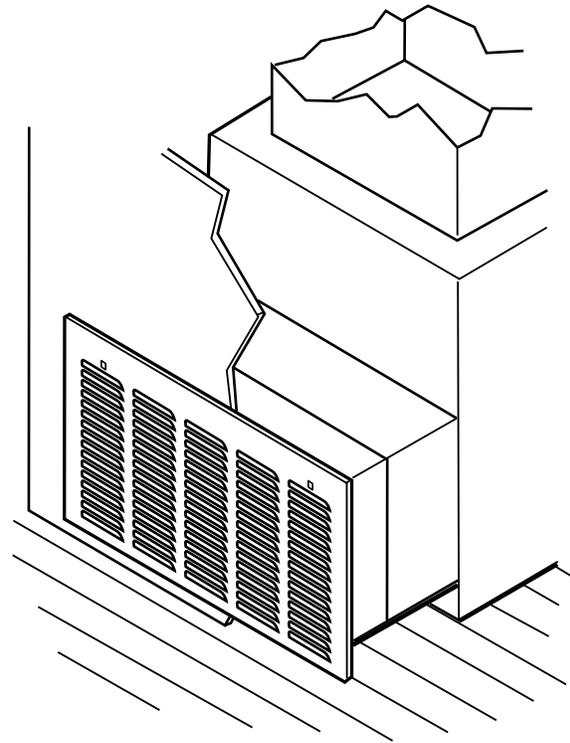


Fig. 3. Change duct size gradually to prevent turbulence.



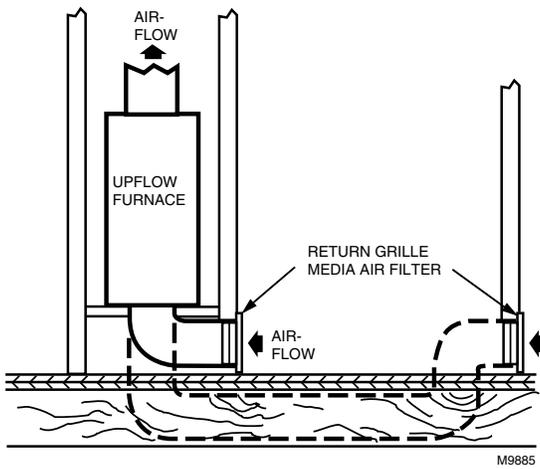
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Fig. 4. Turning vanes installed in bend help distribute airflow evenly over face of media.



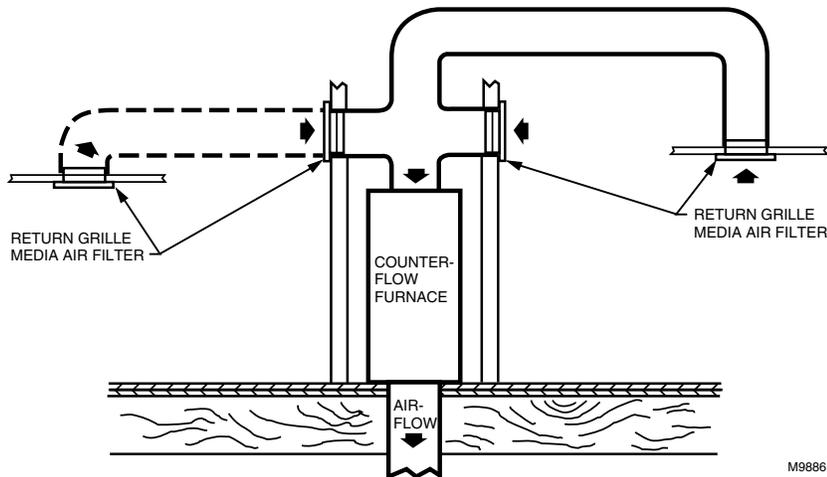
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Fig. 6. Typical media filter installation on an upflow furnace (louvered model shown).



M9885

Fig. 5. Typical media filter application on a platform-mounted upflow furnace.



M9886

Fig. 7. Typical media filter application on a counterflow (downflow) furnace.

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

Unpack the Air Cleaner

Check that all components are included. The unit consists of:

- Cabinet and grille/door assembly.
- Media cartridge.
- Literature package.

Make Opening

- 1 Size the opening to fit the media filter cabinet as closely as possible. When wall mounting, orient the media filter door hinge on the bottom or side. The hinge fastens to the posts in the cabinet.
- 2 Frame the opening to provide adequate support for the cabinet. The cabinet must fit snugly in the opening; allow no more than 1/4 in. (6 mm) from the opening to each side of the cabinet.
- 3 Cover the framing and any unused portion of the opening with wallboard, plywood, or other material and finish to match the wall or ceiling.

Seal Joints

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

Mount Filter Media Cabinet

- 1 Remove the door/grille from the carton and set it aside.
- 2 Fit the cabinet into the prepared duct opening so the flange on the cabinet frame fits tightly against the finished wall surface. Make certain there is a stud along the bottom of the frame to support the air cleaner.
- 3 Fasten the cabinet to the duct work using sheet metal screws. See Fig. 8. Use a minimum of three screws on each side.
- 4 Insert the media cartridge into the cabinet as follows:
 - a. Insert one end of the cartridge into the bracket.
 - b. Pull up the spring and push the other end of the cartridge into place.
 - c. Release the spring down onto the cartridge.
- 5 Attach the door/grille to the cabinet using the hex nuts provided.
- 6 Close the door/grille and turn the latches.

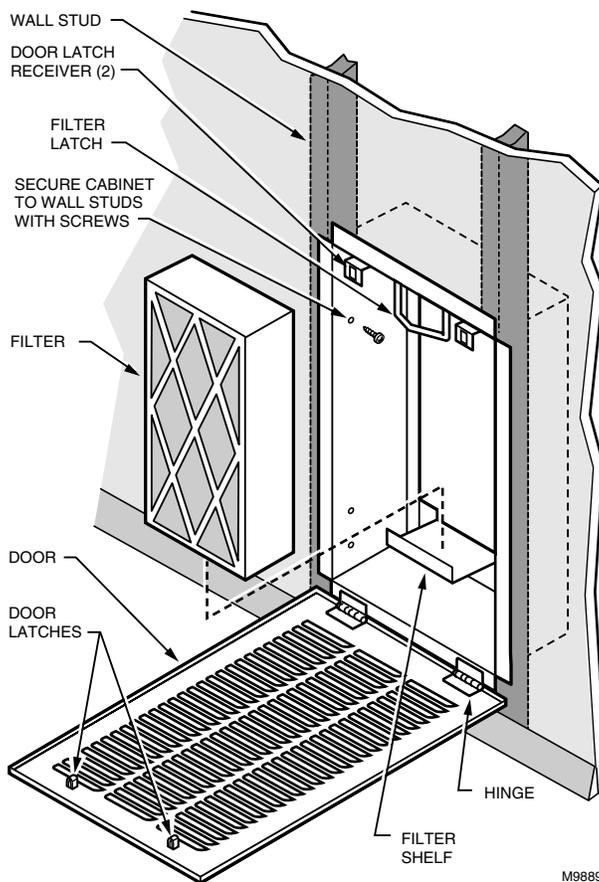


Fig. 8. Fasten cabinet to frame with sheet metal screws (louvered model shown).

Painting the Door/Grille

The door/grille is painted white and needs no additional finishing. If another color is desired, remove the door/grille from the cabinet and paint it. (Be sure the door/grille is clean so that the paint will adhere.)

Replacing Door/Grille

The louvered and egg crate door/grilles are interchangeable on the F27F (see Table 3 in the Replacement Parts section for part numbers). To change from a louvered to an egg crate door/grille, turn the quarter-turn fasteners to the open position. Open the door/grille and remove the two hex nuts that fasten the door/grille to the air cleaner cabinet. Install the two tinnerman clips that are supplied with the egg crate door/grille on the door latch receivers. Mount the new door/grille on the air cleaner cabinet with the two hex nuts previously removed. Close the door/grille and turn the thumb screws to engage the mating screws in the tinnerman clips.

CHECKOUT

Visually check the installation. Make sure:

- Arrow on the media filter cartridge points away from the grille, in the direction of airflow.
- Turning vanes and transitions, if used, are properly installed.
- Joints in sheet metal between media filter and furnace or cooling system are sealed.
- All sheet metal connections are complete.
- Original furnace filter is removed and the blower compartment is clean.

Replace any access doors removed during installation and run the furnace or cooling system through one complete cycle to make certain the system operates as desired.

MAINTENANCE

IMPORTANT

Reduced airflow in the system caused by a very dirty filter reduces comfort, increases energy consumption of heating and cooling equipment and could, in extreme cases, cause air conditioning coil freezeup or high-limit shutdown of furnace burner.

The media filter must be replaced when the pressure drop across the media filter reaches 0.5 in. wc (0.1 kPa) or at least annually. See the Replacement Parts section.

Replace clogged media promptly to avoid restricting airflow and reducing efficiency of the heating-cooling system. A maintenance reminder space is provided on the replacement media filter to record the filter replacement date.

FUTURE OPTIONS

When the Time is Right—Upgrade

Some models of the F27F Return Grille Media Air Filter are designed to be easily upgraded to a high-efficiency F52F Electronic Air Cleaner, as shown in Table 2. The F52F installs in the same opening as the F27F, and provides even higher levels of air cleaning efficiency.

- Up to 95% efficient at removing airborne particles.
- Up to 30 times better at cleaning the air than typical furnace filters. (Based on initial dust spot efficiency, ASHRAE 52.1-1992).

REPLACEMENT PARTS

Table 3. Replacement Parts.

Filter Size in in.	Replacement Filter	Stamped Louvers Door/Grille	Egg Crate Door/Grille	Quarter-turn Fasteners
12-1/2 x 20	203722	207610	32001438-001	207631
16 x 25	203719	207611	32001438-002	207631
21-1/2 x 27-1/2	207583	207612	32001438-003	207631

- Can save 10 to 15 % 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 *like new* efficiency.
- Furnishings and draperies stay **cleaner**, longer.
- Removes irritating allergens like **pollen** and **dust mite debris** and even microscopic particles such as **bacteria, viruses** and **tobacco smoke** as small as 0.01 micron.
- Easy to maintain.
- **And it's by Honeywell, a leader in indoor air quality products for over 30 years.**



High-efficiency Cleaning F52 Electronic Air Cleaner.

Table 2. Upgrade Path for F27F Models.

Nominal Size in in. (mm)	Upgradable To
12-1/2 x 20 (318 x 508)	F52F 1-Cell
16 x 25 (406 x 635)	None
21-1/2 x 27-1/2 (546 x 698)	F52F 2-Cell

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