Application
Perforated return filter grilles are used as return units that match the appearance of the supply outlets. They are well suited for locations where the occupant can see into the duct, and can be mounted on the wall or in the ceiling.

Standard Features
- Extruded aluminum construction.
- Perforated face material is approximately 51% free area.
- Minimum grille size is 4” x 4”.
- Choice of 1” or 2” deep filter.
- Grille is closed with 1/4 turn fastener.
- Standard finish is electrocoat acrylic baked enamel.
- Standard color is #11 bright white.
- Choice of hinging along long or short side.
- Gasket around the edge of the mounting frame.

Optional Features
- Also available without filter clips (Opt. H or J).

Sizing and Performance Notes
All grilles take the same filter size as grille nominal size, except as follows:

<table>
<thead>
<tr>
<th>Nom. Size</th>
<th>To Fit</th>
<th>Takes this filter size</th>
</tr>
</thead>
<tbody>
<tr>
<td>21” x 21”</td>
<td>24” x 24” T-bar 20” x 20”</td>
<td></td>
</tr>
<tr>
<td>21” x 45”</td>
<td>24” x 48” T-bar 20” x 20” (2 qty)</td>
<td></td>
</tr>
</tbody>
</table>

Model Numbering System

```
R  A  F  M  0  0  4  0  0  4  0  1  1  D

R - Register or Grille
A - Aluminum Grille
F - Perforated Return
D - Piano Hinge

DESIGN SERIES
004 - 4” Minimum

WIDTH
8  9  10  11  12  13  14

HEIGHT
04 - 4” Minimum

FRACTIONAL SIZE
0 - 0”  1 - 1/8”  2 - 1/4”  3 - 3/8”  4 - 1/2”  5 - 5/8”  6 - 3/4”  7 - 7/8”

FINISH
11 - Bright White (Default)
01 - Off-White
04 - Gray
```

Detail of perforated hole pattern.

Piano Hinge

Knurled Nut Holds grille closed

Nom. Size +2-3/4”

Nom. Size +1/8”

1-1/16”

1-3/8”

1-5/8”

1/4”
Multi-Panel Construction

**Multi-Panel Construction for the following Registers & Grilles**

<table>
<thead>
<tr>
<th>Single Deflection</th>
<th>Steel</th>
<th>Stainless Steel</th>
<th>Aluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSSB, RTSB</td>
<td>RLSB, RMSB, RKSB</td>
<td>RASM, RNSM</td>
<td></td>
</tr>
<tr>
<td>RSDB, RTDB</td>
<td>RLDB, RMDB, RKDB</td>
<td>RADM, RNDM</td>
<td></td>
</tr>
<tr>
<td>RSRB, RTRB</td>
<td>RLRB, RMRB, RKRB</td>
<td>RARM, RNRM</td>
<td></td>
</tr>
<tr>
<td>RSAB, RTAB</td>
<td>RLAB, RMAB, RKAB</td>
<td>RAAM, RNAM</td>
<td></td>
</tr>
</tbody>
</table>

**In-line Construction**

- **W:** Over 72”
- **H:** Up to 36”
- **Notes:**
  1. Maximum single panel width and height is 36” listed size regardless of blade alignment.
  2. Panels are made in even inch increments unless specified otherwise.
  3. Front blade alignment is as pictured.
  4. Grille height & width dimensions shown are listed size dimensions.
  5. Panel flanges are sheared and aligned with joining strips.

**Ganged Construction**

- **W:** 38” - 72”
- **H:** Up to 36”
- **Notes:**
  1. Maximum single panel width is 36” listed size.
  2. Maximum single panel height is 36” listed size.
  3. Panels will be made in even inch increments unless specified otherwise.
  4. Front blade alignment is always parallel to center support.
  5. Either the vertical or horizontal joint can be sheared down, but not both.
  6. The center support can be aligned vertically or horizontally, depending on blade alignment desired. It is shown here mounted horizontally.
  7. Grille height and width dimensions shown are listed size dimensions.
  8. Metric dimensions are shown in millimeters.

**Center Support Attachment to Wall Opening**

- **Duct Height**
- **Duct Width**
- **Wall Angle**

**Cross-Sectional View of Center Support with Grilles Attached**

- **W:** 38” - 72”
- **H:** 38” - 72”

**Joining Strips**

1/4” (6)
1/2” (13)
2-1/2” (64)
2-3/8” (60)
1-1/4” (32)
2” (51)
Multi-Panel Construction

Multi-Panel Construction for the following Registers & Grilles

<table>
<thead>
<tr>
<th>Steel</th>
<th>Louvered Return</th>
<th>Perforated Return</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RSLA, RTLA</td>
<td>RSFA, RTFA</td>
</tr>
</tbody>
</table>

In-Line Construction

- Height: Up to 36"
- Width: Over 96"
- Horizontal Blade Alignment
- Three or More Sections

- Height: Up to 72"
- Width: Up to 48"
- Horizontal Blade Alignment
- Three or More Sections

- Height: 38-72"
- Width: Up to 48"
- Horizontal Blade Alignment
- Two Sections

- Height: Over 72"
- Width: Up to 48"
- Horizontal Blade Alignment
- Three or More Sections

Notes:
1. Panels will be made in even inch increments unless specified otherwise.
2. Dimensions shown are listed size dimensions.
3. Max. blade length on louvered face models is nominal 48".
4. Panels are sheared and aligned with joining strips.

Ganged Construction

Notes:
1. Either the vertical or horizontal joint can be sheared down, but not both.
2. Maximum single panel width is 48" listed size.
3. Maximum blade length on louvered face models is listed size 48".
4. Maximum single panel height is 36" listed size.
5. Panels are made in even inch increments unless specified otherwise.
6. Blade alignment is always parallel to center support.
7. The center support can be aligned vertically or horizontally, depending on the blade alignment desired. It is shown here mounted horizontally.
8. Grille dimensions shown are listed size dimensions.

Center Support Attachment to Wall Opening

- Center Support install flush with wall

Cross-Sectional View of Center Support with Grilles Attached

- Duct Height
- Duct Width
- W: 50" - 96"
- H: 38" - 74"

Joining Strips

- 1/2" (13)
- 1/4" (6)

Wall Angle

- Wall
- 2-3/8" (60)

Center Support

- 1/2" (13)
- 1-1/4" (32)
- 2" (51)
Multi-Panel In-Line & Ganged Construction

Multi-Panel In-Line Construction

Notes:
1. Maximum single panel width and height is 48” nominal size, regardless of blade alignment.
2. Panels are made in even inch increments unless specified otherwise.
3. Front blade alignment is always parallel to center support.
4. Either the vertical or horizontal joint can be sheared down, but not both.
5. Grille dimensions shown are nominal dimensions.
6. Panel flanges are sheared and aligned with joining strips.

Multi-Panel Ganged Construction

Notes:
1. Maximum single panel width and height is 48” nominal size.
2. Panels are made in even inch increments unless specified otherwise.
3. The center support can be aligned vertically or horizontally, depending on blade alignment desired.
4. Grille dimensions shown are nominal dimensions.

Cross-Sectional View of Center Support

Joining Strips

Center Support Mounted flush with wall (Shown aligned horizontally).
All Sections of Butted Grilles or Registers will be made in Listed Sizes as Standard.

STANDARD REGISTERS AND GRILLES
Applies to all models except louvered return air registers and grilles and door partition grilles. Registers and grilles over 36" x 36" butting two or more grilles together.

NOTES:
Extruded aluminum supporting members with mounting angles, are furnished where required.
Center support may run vertically or horizontally, depending upon combination of grilles used.
Combination of panels will be furnished to fit duct opening with satisfactory clearance.
### Screw Hole Location for the following Registers & Grilles

<table>
<thead>
<tr>
<th>Model</th>
<th>Steel</th>
<th>Aluminum</th>
<th>Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Deflection</td>
<td>RSSB, RTSB</td>
<td>RASM, RNSM</td>
<td>RLSB, RMSB, RKS3</td>
</tr>
<tr>
<td>Double Deflection</td>
<td>RSDB, RTDB</td>
<td>RADM, RNDM</td>
<td>RLDB, RMDB, RKDB</td>
</tr>
<tr>
<td>0° Fixed Return</td>
<td>RSRB, RTRB</td>
<td>RARM, RNRM</td>
<td>RLRB, RMRB, RKRB</td>
</tr>
<tr>
<td>45° Fixed Return</td>
<td>RSAB, RTAB</td>
<td>RAAM, RNAM</td>
<td>RLAB, RMAB, RKAB</td>
</tr>
<tr>
<td>Louvered Return</td>
<td>RSLA, RTLAL</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Perforated Return</td>
<td>RSFA, RTFA</td>
<td>RAFM, RNFM</td>
<td>---</td>
</tr>
</tbody>
</table>

**Notes:**

- Screw holes on the face are standard on Registers and Grilles.
- Steel R&G can be ordered without screw holes, for use with concealed hangers (Opt. N).
- The screw holes is 5/32” in diameter.
- Each Register or Grille is provided with the appropriate number of screws as standard.
- The standard screw is #8 x 1-1/4” pan head screw, with a flat blade head.
- Tamper-proof screws are available as an option (Opt. B).

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**One Screw hole per Side**
Nominal Size Range 4” through 18”.

- Nominal Size Plus 2”
- 1/2 Nominal +1”
- 1/2”

**Two Screw holes per Side**
Nominal Size Range 19” through 31”.

- Nominal Size +2”
- 6”
- 1/2”

**Three Screw holes per Side**
Nominal Size Range 32” through 48”.

- Nominal Size +2”
- 6”
- 1/2 Nominal +1”
- 1/2”