RAS
RETURN AIR SILENCER
The compact design of the Return Air Silencer (RAS) provides an innovative solution for reducing plenum noise entering occupied spaces through return air openings and mechanical equipment noise transmission through transfer grilles.

- Fits standard ceiling grids and openings
- Slim design is ideal for narrow spaces
- Multiple grille options to meet aesthetic requirements
- Reduced visibility with optional black finish

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SOUND PERFORMANCE

+ Designed for return air applications, the aerodynamically designed internal geometry of RAS silencers allows return air to flow through with minimal pressure drop and maximum attenuation performance.

+ This low velocity silencer provides the highest insertion loss levels across the full range of frequencies and is best suited to applications with velocities below 750 fpm.

DESIGN FLEXIBILITY

+ Multiple return grille options allow the RAS to meet a variety of aesthetic requirements and minimize visibility through grilles.

+ Available in several standard sizes or custom built for each installation, the RAS integrates seamlessly with return grilles.

+ The RAS is lightweight and compact ensuring fit and ease of installation in almost any application.

+ Low pressure drop and film lined options are available for applications that require lower pressure drops or more stringent air quality requirements.

TYPICAL APPLICATIONS

The RAS provides an effective, engineered solution to mechanical and air transfer noise. The slim design of the RAS ensures seamless integration with standard transfer grilles and is ideal for return systems that use ceiling or wall space as the return plenum, such as mechanical equipment rooms, conference rooms, and private offices.

CONSTRUCTION

+ Configuration
  - Standard (RAS)
  - Low pressure (RAS-LP)
  - Low pressure, film lined (RAS-LP-T)

+ Acoustic Media
  - Fiberglass
  - Fiber free foam

+ Material
  - Galvanized Steel
  - Galvanneal
  - Stainless Steel
  - Aluminum

+ Accessories
  - Grilles
  - Extended sleeve for inclusion with grilles
**EASY INSTALLATION**

- Designed specifically for ceiling, wall or door applications the RAS is available in standard grille sizes and fits easily onto standard ceiling grids or openings.
- For increased convenience and single source supply, the RAS is able to be shipped with an attached return grille.
- Silencers that exceed a width of 48 in. are built in multiple components, then field assembled (by others).

**FIRE RATED**

- Class 1 index: flame/smoke < 25/50
- ASTM E84, UL 723, NFPA 255
### Standard Dimension Limits

<table>
<thead>
<tr>
<th>Component Width</th>
<th>Component Height</th>
<th>Bank Width</th>
<th>Bank Height</th>
<th>Standard Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min 6</td>
<td>Max 48</td>
<td>Min 6</td>
<td>Max 48</td>
<td>Min 6</td>
</tr>
</tbody>
</table>

1. All dimensions are in inches.
2. Standard sizes are based on raw material sizes and acceptable engineering practices.
3. For sizes outside the standard range, please contact your local sales representative.
4. When the overall width and/or height dimensions exceed the maximum component dimensions, the silencer will consist of multiple components.
## PERFORMANCE DATA

### Recommended Air Velocity Ranges

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Air Velocity Range (fpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAS</td>
<td>Return Air Silencer</td>
<td>0 - 750</td>
</tr>
<tr>
<td>RAS-LP</td>
<td>Return Air Silencer - Low Pressure Drop</td>
<td>0 - 750</td>
</tr>
<tr>
<td>RAS-LP-T</td>
<td>Return Air Silencer - Low Pressure Drop - Film Lined</td>
<td>0 - 750</td>
</tr>
</tbody>
</table>

### Insertion Loss (dB)

<table>
<thead>
<tr>
<th>Model</th>
<th>Depth in.</th>
<th>Measured at Octave Band Center Frequencies, Hz</th>
<th>STC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>63</td>
<td>125</td>
<td>250</td>
</tr>
<tr>
<td>RAS</td>
<td>4</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>RAS-LP</td>
<td>4</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>RAS-LP-T</td>
<td>4</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

**Performance Notes:**
1. For noise reduction +6 dB to insertion loss.

### Pressure Drop (in. w.g.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Face Velocity (fpm)</th>
<th>100</th>
<th>200</th>
<th>300</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAS</td>
<td>in. w.g.</td>
<td>0.02</td>
<td>0.07</td>
<td>0.16</td>
<td>0.28</td>
</tr>
<tr>
<td>RAS - LP</td>
<td>in. w.g.</td>
<td>0.01</td>
<td>0.05</td>
<td>0.12</td>
<td>0.20</td>
</tr>
<tr>
<td>RAS - LP - T</td>
<td>in. w.g.</td>
<td>0.01</td>
<td>0.05</td>
<td>0.12</td>
<td>0.20</td>
</tr>
</tbody>
</table>
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