## APPLICATION

The FD35 and FD35SS are 1½ hour rated multiple blade static fire dampers. The FD35 is constructed with galvanized steel 3-V blades and FD35SS, 304 or 316 stainless steel. FD35 series can be installed vertically in walls or horizontally in floors.

### STANDARD CONSTRUCTION

**FRAME**
- FD35 – 5" x 1" x 16 gage (127 x 25 x 1.52) galvanized steel hat channel, structurally superior to 13 gage (2.3) channel frame.
- FD35SS – 5" x 1" x 16 gage (127 x 25 x 1.52) galvanized steel hat channel.

**BLADES**
- 16 gage (1.52) galvanized, 304 or 316 stainless steel triple vee groove, approximately 6" (152) on center.

**BEARINGS**
- Stainless steel sleeve, pressed into frame.

**LINKAGE**
- Concealed in frame.

**AXLES**
- 1/2" (13) plated steel hex or 300 series stainless steel.

**FUSIBLE LINK**
- 165°F (74°C) standard. 212°F (100°C) available.

**DAMPER WEIGHT**
- Approximately 8 lbs. per sq. ft. without damper sleeve.

### DAMPER SIZES

**FD35**

**MINIMUM SIZE**
- Vertical or Horizontal Installation – 8"w x 6"h (203 x 152).

**MAXIMUM SIZE**
- Single Section
  - Vertical or Horizontal Installation – 36"w x 48"h (914 x 1219).
- Multiple Section
  - Vertical or Horizontal Installation – 120"w x 96"h (3048 x 2438).

**FD35SS**

**MINIMUM SIZE**
- Vertical or Horizontal Installation – 8"w x 6"h (203 x 152).

**MAXIMUM SIZE**
- Single Section
  - Vertical or Horizontal Installation – 30"w x 48"h (762 x 1219).
- Multiple Section
  - Vertical or Horizontal Installation – 90"w x 48"h (2286 x 1219).

### OPTIONS

- FM Approvals as Specification Tested Product.
- SP100 Switch Package to remotely indicate damper blade position.
- FAST Angle for one side angle installations.
- PFMA Angles for two side angle installation.
- Sleeve of various lengths and gages to ensure field compliance with UL installation requirements.
- Jamb Seals stainless steel flexible metal compression type.
- Blade Seals silicone blade edge seals.
- Crank Lever to assist with testing and fuse link replacement.
- GA, Grille Access for one side installation and “out of wall” applications (see models IB02GA or DIBD2GA).
- OW, Out of Wall of application where the damper cannot be installed within the plane of the wall or floor.

### NOTES:

1. Dimensions in inches, parentheses ( ) indicate millimeters.
2. Damper assembly furnished actual size.
Ruskin Company certifies that the FD35 and FD35SS shown hereon are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance for the FD35 and FD35SS.

To determine the AMCA Licensed air performance:
Locate the applicable feet per minute face velocity on the bottom of the velocity vs. pressure drop chart below. Move up the chart to the most appropriate size damper line. From the intersection point, move left to determine the pressure drop on the left side of the chart.
### DAMPER DIMENSIONAL DATA

**Sleeve Dimensions**

- **5” (127)**
- **7 1/2” (191)**
- **18” (406)**

### FUSE LINK ADJUSTMENT

**To Test or Replace the Fuse Link**

1. Loosen the nuts on the J-bolt (Do not remove the nuts all together).
2. Remove the truarc ring.
3. Turn the jackshaft to open the damper and remove the fuse link.
4. Cycle the damper full open to full close positions, making sure the damper operates freely.
5. Replace the fuse link and adjust the damper into the original position.

**Note:** The damper can be adjusted in any position for volume control operation.

**CAUTION**

Damper assembly is under spring tension. Care should be taken to avoid bodily injury or damage to the damper assembly.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Multiple Blade Fire Damper</td>
</tr>
<tr>
<td>2</td>
<td>Fusible Link Issue ‘E’</td>
</tr>
<tr>
<td>3</td>
<td>Fuse Link Linkage</td>
</tr>
<tr>
<td>4</td>
<td>J-Bolt</td>
</tr>
<tr>
<td>5</td>
<td>Truarc Ring 1/4” (6)</td>
</tr>
<tr>
<td>6</td>
<td>Over Center Linkage</td>
</tr>
<tr>
<td>7</td>
<td>Jackshaft Assembly</td>
</tr>
</tbody>
</table>

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**FD35SS Multiple Section**

- **48” (1219) Max.**
- **90” (2286) Max.**

**FD35 Multiple Section**

- **96” (2438) Max.**
- **120” (3048) Max.**
DUCT TRANSITION CONNECTIONS

FD35 and FD35SS dampers may be supplied with Round, Oval and Rectangular duct connections.

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Units Under 6&quot; (152) Tall</td>
</tr>
<tr>
<td>R</td>
<td>Round Non-Sealed (Low Pressure)</td>
</tr>
<tr>
<td>CR</td>
<td>Round Sealed (Medium Pressure)</td>
</tr>
<tr>
<td>WR</td>
<td>Round Welded (High Pressure)</td>
</tr>
<tr>
<td>C</td>
<td>Rectangular Sealed (Low and Medium Pressure)</td>
</tr>
<tr>
<td>WC</td>
<td>Rectangular Welded (High Pressure)</td>
</tr>
<tr>
<td>LO</td>
<td>Oval Non-Sealed (Low Pressure)</td>
</tr>
<tr>
<td>CO</td>
<td>Oval Sealed (Medium Pressure)</td>
</tr>
<tr>
<td>WO</td>
<td>Oval Welded (High Pressure)</td>
</tr>
</tbody>
</table>

The square damper size will be 2" (51) larger in width and height than the round, oval or rectangular duct size ordered.

 Minimum and MAXIMUM SIZES

- **Round Transitions**
  - Minimum 6" (152) diameter
  - Maximum FD35 – 94" (2388) diameter
  - Maximum FD35SS – 60" (1524) diameter

- **Rectangular and Oval Transitions**
  - Minimum 6" x 4" (152 x 102) diameter
  - Maximum FD35 – 118" x 94" (2997 x 2388) diameter
  - Maximum FD35SS – 84" x 46" (2134 x 1168) diameter

- **‘B’ Style Transitions**
  - Minimum height 4" (102) “B” style transitions are utilized on units where the damper height is less than 6" (152).
  - Note: For medium pressure units (Styles CR, C and CO) the collar extends 1 1/2" (38) beyond the sleeve length and for low pressure and high pressure units (Styles R, WR, WC and LO) the collar extends 2 1/2" (64) beyond the sleeve length.

SUGGESTED SPECIFICATION

Furnish and install at locations shown on plans or as described in schedules AMCA Certified fire dampers constructed and tested in accordance with UL Safety Standard 555 that meet or exceed the following specifications. Fire Dampers shall be produced in an ISO 9001 certified factory.

Damper frame, where size permits, shall be constructed using Uniframe Design Concept (UDC) and shall be minimum 16 gage (1.52) galvanized steel [or stainless steel] formed into a structural hat channel superior to 13 gage (2.30) channel frame. Top and bottom frame members on dampers less than 12” high shall be low profile design to maximize the free area of these smaller dampers. Damper blades shall be single skin 16 gage (1.52) galvanized steel [or stainless steel] with three longitudinal grooves for reinforcement. Bearings shall be stainless steel sleeve turning in an extruded hole in the frame for maximum life.

Each fire damper shall have a 1 1/2 hour fire protection rating and shall be supplied with a 165°F (74°C) or 212°F (100°C) fusible link.

Fire dampers shall be approved for vertical or horizontal mounting as required by the location and shall be installed using steel sleeves, angles and other materials and practice required to provide an installation in accordance with the damper manufacturer’s installation instructions. In addition, the fire dampers shall be AMCA licensed for air performance and shall bear the AMCA Certified Ratings Seal.

The FD35 and FD35SS carry a 1 1/2 hour UL fire damper label and is classified as a static damper for use in HVAC systems that shut down during a fire.

Optional FM Approvals Specification

Each fire damper shall be listed in Factory Mutual (FM) Approvals Specification Tested Product and labeled accordingly.

Fire dampers shall be Ruskin model FD35 (or FD35SS). (Consult www.ruskin.com for electronic version of this “Quick” spec as well as for complete 3- part CSI MasterFormat Specifications)