**Application**

The FSD-151 combination fire smoke damper employs airfoil blades for point-of-origin control of fire and smoke in static and dynamic smoke management systems. The FSD-151 is qualified to 4,000 ft/min (20.3 m/s) and 6 in.wg. (1.5 kPa) and may be installed in vertical walls or partitions, or horizontally in floors or assemblies with fire resistance ratings up to 2 hours.

**Standard Construction**

Frame: 5" x 1" (127 x 25) galvanized steel hat channel with interlocking corner gusset. Equivalent to 13 gauge (2.4) channel frame. Low profile head and sill are used on sizes less than 13" (330) high.

Blades: 6" x 14 gauge (152 x 2.0) equivalent galvanized — steel airfoil.

Sleeve: 16" x 20 gauge (406 x 1.0) galvanized steel.

Axles: 1/2" (13) diameter plated steel hex.

Linkage: Concealed in frame.

Bearings: Stainless steel oilite, sleeve-type.

Seals: Silicone blade edge seals integrally rolled and mechanically fastened to blades. Flexible metal jamb seals.

Actuator: 120 VAC, power-open, spring-close, external mount.

Fire Closure Device: HS-10 (electric) PFV (pneumatic)

Fire Closure Temperature: 165°F (75°C).

Minimum Size: 8" x 6" (203 x 152)

Maximum Size: Single section: 32" x 48" (813 x 1219).

Multiple section: Vertical: 144" x 48" (3658 x 1219) or 128" x 96" (3251 x 2438).

Horizontal: 120" x 96" (3048 x 2438)

**Options**

Installation: □ Vertical Mount □ Horizontal Mount

Velocity Rating: □ 2000 fpm □ 3000 fpm □ 4000 fpm

Temperature Rating: □ 250° F □ 350° F

□ Alternate actuator: □ Internal mount (actuator in air-stream).

□ 24 VAC □ 230 VAC □ Pneumatic □ 24V Modulating** □ Opposed blade □ Parallel blade

□ Alternate power-close, spring-open position.**

□ Alternate Actuator:

□ Internal Mount (actuator in air-stream) □ 24 VAC

□ DRS-30 — Two temperature fire closure device. (Includes PI-50 switch package)

□ PI-50 — Dual position indicator switch package.

□ Alternate factory installed sleeve: Gauge: □ 18 (1.3) □ 16 (1.6) □ 14 (2.0) □ 10 (3.5)

Length: □ 20" (508) □ 24" (610) □ Other

□ Side Plate □ No Sleeve (Actuator must be internally mounted)

□ Transitions: □ Flanged □ Round □ Oval

□ Duct connections: □ 1" (25) S-clip

□ DM25 □ DM35 □ S & Drive □ Ward

□ Retaining angle systems: Gauge: □ 20 (1.0) □ 16 (1.6)

Picture frame: □ SSPF (single-side) □ DSPF (2-sided)

Individual angle sets: □ SS (single-side) □ DS (2-sided)

□ Alternate fire closure temperature:

□ 212°F (100°C) □ 250°F (121°C) □ 350°F (177°C)

□ Duct smoke detector factory mounted and wired: D4120 (100-4,000 fpm [0.5-20.3 m/s]) 2151 (0-3,000 fpm [0-15.2 m/s])

□ Duct access door factory mounted in common sleeve.

□ Remote control stations:

□ RCP-1 (single) □ RCP-1K (single, key controlled) □ RCP-1M (single, momentary switch)

□ Generic mullion for oversized masonry or concrete wall openings.

Information is subject to change without notice or obligation.

**Ratings**

UL 555 Fire Resistance Rating: 1 1/2 hour (vertical and horizontal)

UL 555S Leakage Class: 1 [8 cfm/sq.ft. @ 4 in.wg.]

UL HNLJ.V-5: Ventilation Duct Assemblies

Maximum Dynamic Closure Velocity*: 4,000 fpm (20.3 m/s)

Maximum UL555S Rated Pressure: 6 in.wg. (1.5 kPa)

24 in.wg. (1.0 kPa) below 8" in height

Maximum Temperature**: 350°F (177°C)

**Listings**

UL 555 and 555S listing: R11767

CSFM listing: 3225-0368:115 and 3230-0368:116

New York City MEA listing: 295-98-E

Meets NFPA Standards: 90A, 92A, 92B and 101

Meets Building Code Standards: IBC, NBC, NFPA, SBC and UBC

**Dimensions in parentheses ( ) are millimeters.**

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**Air Performance**

Pottorff certifies that the model FSD-151 shown herein is 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 ratings only.

NOTE: Dimensions in parentheses ( ) are millimeters.
**Actuator and Sleeve Dimensional Data**

The drawings and corresponding table illustrate the position of the damper when mounted in a factory sleeve and the relative space required for a given actuator. The standard mounting locations provide enough space for installation of retaining angles and duct connections.

### Pressure Loss vs. Velocity

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Pressure Loss (in.wg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-7&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>8-9&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>10-11&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>12-13&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>14&quot;</td>
<td>0.01</td>
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<tr>
<td>15-16&quot;</td>
<td>0.01</td>
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<tr>
<td>17&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>18&quot; and 23&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>19&quot;-20&quot; and 25&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>21&quot;-22&quot; and 24&quot;</td>
<td>0.01</td>
</tr>
<tr>
<td>25&quot;-27&quot;</td>
<td>0.01</td>
</tr>
</tbody>
</table>

### Damper and Actuator Dimensions

<table>
<thead>
<tr>
<th>Actuator Model</th>
<th>FSLF120</th>
<th>FSLF24</th>
<th>GGD121</th>
<th>ML4115</th>
<th>MS4120</th>
<th>MS8120</th>
<th>POTTORFF®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>6&quot;-7&quot;</td>
<td>8&quot;-9&quot;</td>
<td>10&quot;-11&quot;</td>
<td>12&quot;-13&quot;</td>
<td>14&quot;</td>
<td>15&quot;-16&quot;</td>
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<td></td>
<td>18&quot;-23&quot;</td>
<td>24&quot;-27&quot;</td>
<td>28&quot;-31&quot;</td>
<td>32&quot;-37&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Actuator Area

- **Sleeve Length**: 6" (152) 5-1/4" 2-5/8" 2-1/8" 1/2" 0" 0" 0" 0" 0" 0" 0"
- **Actuator Area**: 3/4" 1/4" 1/4" 1/4" 1/4" 1/4" 1/4" 1/4" 1/4" 1/4" 1/4"

2. Damper may be rotated 180° to position actuator area on the left side.
3. The entire damper frame is not required to be installed within the wall, partition or floor.
4. Dimensions for FSNF24 apply to FSAF24-SR and FSAF24-BAL.
5. Dimensions for FSLF24 apply to FSAFB24.
6. Dimensions for MS4120 apply to MS4209.
7. For dimensions on actuators not shown above, contact factory.

### Airflow Performance Data

**Pressure Loss vs. Velocity**

- **Figure 5.3 — Ducted Inlet and Outlet**
- **Figure 5.2 — Ducted Inlet**
- **Figure 5.5 Plenum Mount**

**AMCA Certified Ratings**

- **Fire Smoke Dampers**
- **AMCA Certified Ratings Seal applies to air performance ratings only.**

**Air Performance**

Pottorff certifies that the model FSD-151 shown herein is 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 ratings only.

Pressure drop testing was performed in accordance with AMCA Standard 500-D using the three configurations shown. All data has been corrected to represent air density of 0.075 lb/ft³. Actual pressure drop in any ducted HVAC system is a combination of many elements. This information, along with analysis of other system influences, should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

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**NOTE**: Dimensions in parentheses ( ) are millimeters.