STANDARD MATERIALS AND CONSTRUCTION

FRAME: 20-GA galvanized steel flat by 18" long integral sleeve
BLADES: 16-GA galvanized steel single thickness; Parallel action
AXLES: Plated solid steel stub
BEARINGS: Oil impregnated bronze
LINKAGE: Galvanized steel angle interconnect, with plated steel brackets and pivots located on blade
STOPS: 18-GA galvanized steel at head and sill
BLADE SEALS: Silicone
JAMB SEALS: Stainless steel
SLEEVE: Integral 20-GA galvanized steel by 18" long
RETAINING ANGLES: ⅞" x 1½" x 16-GA adjustable perimeter mounting angle
CAULKING: Hardcast Irongrip 601 or UL-listed equivalent
FINISH: Mill on galvanized steel
ACTUATOR: Electric with heat response device (EHLD) or pneumatic with heat response device (PHRD); Factory-installed for Power-Open/Spring-Close (fail close) operation; External left hand mounted as viewed from jackshaft side of damper

OPTIONS

Integral Dual Position Indication (IDPI) switches
Sensotherm re-openable heat response device (ESOT) for electric actuator
Sensotherm re-openable heat response device (PSOT) for pneumatic actuator
Model SM-501 Flow-rated smoke detector shipped loose
Model SM-501 Flow-rated smoke detector mounted and wired (6" minimum damper height with a 20" sleeve - extra 2" on jackshaft side)
Tab-Lock retaining angles
Stainless steel bearings
Copper tubing (for pneumatic actuators)
Optional 18" or 20" sleeve depth - Additional sleeve length is added to the non-jackshaft side unless ordered with mounted smoke detector and/or < 6"H with B-Pan Transition
Round or oval transitions
Short-width (<16") and/or short-height (<6") transitions

NOTES

1. "A" width and "B" height are opening dimensions. Damper frames are provided approximately ¼" undersized.
2. Dampers are available in 1" increments only.
3. Dampers for horizontal installation can only be mounted in a fire barrier constructed of masonry/concrete materials.
4. The blades must stay in the fire wall. The adjustable retaining angle may only be adjusted the distance shown on the label or installation instructions.

DAMPER SIZES

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Horizontal &amp; Vertical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panels</td>
<td>Minimum Panel</td>
</tr>
<tr>
<td>Rectangular</td>
<td>4&quot;W x 4&quot;H</td>
</tr>
<tr>
<td></td>
<td>(16&quot;W x 6&quot;H frame)</td>
</tr>
<tr>
<td>Round</td>
<td>4&quot; dia.</td>
</tr>
<tr>
<td></td>
<td>(16&quot;W x 6&quot;H frame)</td>
</tr>
<tr>
<td>Oval</td>
<td>4&quot;W x 4&quot;H</td>
</tr>
<tr>
<td></td>
<td>(16&quot;W x 6&quot;H frame)</td>
</tr>
</tbody>
</table>

*Dampers smaller than minimum frame size require a transition. Reference SD-TRFS. Dampers < 6"H will have a 20" sleeve with the additional sleeve length on the jackshaft side when a B-Pan type transition is ordered.

UNDERWRITERS LABORATORIES INC.®

CLASSIFIED DYNAMIC FIRE AND SMOKE DAMPER
FIRE RESISTANCE RATING 1½ HR
LEAKAGE RESISTANCE CLASS I

This combination fire/smoke damper meets the construction and performance requirements of:
- Underwriters Laboratories Inc. Standards 555 and 555S
- National Fire Protection Association Standards 80 and 90A
- ICC's International Building Code
- California State Fire Marshal Listing #3225-1328:120
- Underwriters Laboratories Inc. Approved for dual direction airflow and dynamic conditions.
- Underwriters Laboratories Inc. Classified for use in fire resistive ratings of less than 3 hours.
- Underwriters Laboratories Inc. Classified for use in smoke control systems for Leakage Class I and 250°F or 350°F.
- Actuators must be arranged to operate automatically, must fail closed upon loss of power, and must be controlled by a smoke detection system.

450 Riverside Rd • Wyalusing PA, 18853 • Phone 570-746-1888 • Fax 570-746-9286
**Operations Ratings:**

Maximum Differential Pressure: 4 in. wg

Maximum Velocity: 2000 fpm

**Leakage Ratings:**

UL Class I

8 cfm per sq. ft. maximum @ 4 in. wg

**Sound Ratings:**

The Noise Criterion data below was tested in accordance with ASTM E477.99 in the center octave band.

<table>
<thead>
<tr>
<th>Damper Size</th>
<th>Noise Criterion (NC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;W x 12&quot;H (305mm x 305mm)</td>
<td>22dB 44dB 55dB 62dB</td>
</tr>
</tbody>
</table>

**Pressure Drop Ratings:**

The pressure drop data shown below is based on laboratory conditions. The test setup does not take into account elbows or other duct fittings that are part of every actual duct system. The configuration of the actual duct system immediately upstream and downstream of the damper often contributes more pressure loss than the damper itself.

**Static Pressure Drop in. wg (Pa)**

<table>
<thead>
<tr>
<th>Face Velocity fpm (m/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000 (5.08) 2000 (10.16) 3000 (15.24) 4000 (20.32)</td>
</tr>
</tbody>
</table>

**AMCA Figure 5.3**

Data shown is at standard air density.