**STANDARD CONSTRUCTION**

**FRAME:** 5½" x 7/8" x 16 GA. 304 stainless steel hat channel. A flat head and sill are used for sizes up to 13" high.

**BLADES:** 16 GA. galvanized steel single thickness, parallel action.

**AXLES:** 304 stainless steel stub.

**BEARINGS:** 304 stainless steel.

**LINKAGE:** 304 stainless steel angle and crank plates with stainless steel pivots, in-jamb type.

**STOPS:** 18 GA. 304 stainless steel at head and sill.

**BLADE SEALS:** Silicone.

**JAMB SEALS:** Stainless steel.

**SLEEVE:** Minimum 20 GA. 304 stainless steel by 18" long (sizes greater than 84" wide or 84" high require minimum 18 GA.)

**CAULKING:** Hardcast irongrit 601 or UL-listed equivalent.

**ACTUATOR:** Electric with heat response device (EHRD) 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.

**FINISH:** Mill on 304 stainless steel.

**OPTIONS**

Type 316 Stainless Steel (where available)

External right hand actuator mounting location.

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 (10" minimum damper height)

Tab-Lock retaining angles.

Copper tubing (for pneumatic actuators)

Sleeves of various depths and gauge thicknesses.

Round or oval transitions.

Short-width (less than 16") and/or short-height (less than 8") transitions.

**NOTES**

1. Damper frames are provided approximately 1/4" undercut. The addition of a sleeve will increase the size of the assembly.
2. Damper with smoke detector must have a minimum sleeve of 19" (10½" on the actuator side and 3" on the non-actuator side).
3. Dampers for horizontal installation can only be mounted in a fire barrier constructed of masonry/concrete materials.
4. On dampers with all internal actuators, minimum height for factory mounted smoke detectors to be 14".

**DAMPER SIZES**

<table>
<thead>
<tr>
<th>Orientation</th>
<th>2000 fpm, 4 in. w.g.</th>
<th>3000 fpm, 4 in. w.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Horz &amp; Vert</td>
<td>Horizontal</td>
</tr>
<tr>
<td>Panels</td>
<td>Min Panel</td>
<td>Max Panel</td>
</tr>
<tr>
<td>Rectangular</td>
<td>4&quot;W x 4&quot;H (16&quot;W x 8&quot;H frame)</td>
<td>24&quot;W x 24&quot;H</td>
</tr>
<tr>
<td>Round</td>
<td>4&quot; dia. (16&quot;W x 6&quot;H frame)</td>
<td>22&quot; dia.</td>
</tr>
<tr>
<td>Oval</td>
<td>4&quot;W x 4&quot;H (16&quot;W x 6&quot;H frame)</td>
<td>22&quot;W x 22&quot;H</td>
</tr>
</tbody>
</table>

* Dampers smaller than the minimum frame size require a transition. Reference SD-TRFS for details.

For handwritten orders, use the schedule block on page 2.

In the interest of product development, Louvers & Dampers reserves the right to make changes without notice.

www.louvers-dampers.com

450 Riverside Drive • Wyalusing PA, 18853 • Phone 570-746-1888 • Fax 570-746-9286

LD-21-01-06
**Model MS1(SS)**
Combination Fire/Smoke Damper • 1½ Hr. Rated • Single Thickness Blade • Leakage Class I • 250°F or 350°F Rated • Stainless Steel

**OPERATIONAL RATING**
- Maximum Differential Pressure: 4 in. w.g.
- Maximum Face Velocity: 2000 FPM (3000 FPM for selected size/actuator combinations)

**LEAKAGE RATING**
- UL Leakage Class I
  - 4 CFM per sq.ft. maximum @ 1 in. w.g.
  - 8 CFM per sq.ft. maximum @ 4 in. w.g.

**SOUND RATING**
- 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>1000</th>
<th>2000</th>
<th>3000</th>
<th>4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot;W x 12&quot;H</td>
<td>31</td>
<td>53</td>
<td>64</td>
<td>71</td>
</tr>
<tr>
<td>24&quot;W x 24&quot;H</td>
<td>33</td>
<td>54</td>
<td>65</td>
<td>-</td>
</tr>
</tbody>
</table>

**SOUND RATING**
- 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.

**Item #** | **Qty** | **Damper Size** | **Horizontal** | **Vertical** | **250°F** | **350°F** | **Velocity** | **Pressure** | **Orientation** | **Temp. Rating** | **Operational Rating** | **Union Made**
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
Arch. / Eng.: | EDR: | ECN: | Job: |
Contractor: | Date: | DWN: | DWG: |