MODEL S1H
Class I • 250°F or 350°F • Galvanized Steel • Single Thickness Blade • Smoke Damper

STANDARD MATERIALS AND CONSTRUCTION

FRAME: 5\(\frac{5}{8}\) x 7\(\frac{1}{4}\) x 16-GA galvanized steel hat channel; Flat 16-GA galvanized head and sill for maximum free area on dampers \(\leq 13\)\(^{\circ}\) high

BLADES: 16-GA galvanized steel single thickness; Parallel action

AXLES: Plated solid steel stub

BEARINGS: Oil impregnated bronze

LINKAGE: Plated steel angle and crank plates with stainless steel pivots, in-jamb type or on-blade type

STOPS: 18-GA galvanized steel angles at head and sill

BLADE SEALS: Silicone

JAMB SEALS: Stainless steel

SLEEVE: Minimum 20-GA galvanized steel by 18\(^{\circ}\) long (sizes greater than 8\(\frac{1}{4}\) wide or 8\(\frac{1}{4}\) high require minimum 18-GA)

CAULKING: Hardcast Irongrip 601 or UL-listed equivalent

ACTUATOR: Electric or pneumatic; Factory-installed for Power-Open/ Spring-Close (fail close) operation; External left hand mounted as viewed from jackshaft side of damper

FINISH: Mill

OPTIONS

Exact Size (no undercut)
Sleeve - Transition
Actuators - 120V, 24V, 230V or Pneumatic
Right Hand and/or Internal Actuator Mounting Locations (Restrictions Apply)
Dual Position Indication (DPI) Switches
Model SM-501 Flow-Rated Smoke Detector.
Model 2151 No-Flow Smoke Detector (12\(^{\circ}\) Minimum Damper Height)
Remote Test Box
Copper Tubing (for Pneumatic Actuators)
Transformers
Tab-Lox Retaining Angles - 1 or 2 Sets
Bearings - Stainless Steel
Axle - Stainless Steel
Security Bars
Short-Width (<8\(^{\circ}\)) and/or Short-Height (<6\(^{\circ}\)) Transitions

NOTES

1. "A" width and "B" height are opening dimensions. Dampers are provided approximately 1/4\(^{\circ}\) undersize.

2. Damper \(\geq 12\) in height with factory mounted SM-501 smoke detectors require a minimum 19\(^{\circ}\) deep sleeve (10.5\(^{\circ}\) on the actuator side); detectors will be mounted on the side of the damper opposite actuator.

3. Damper < 12\(^{\circ}\) in height with factory mounted SM-501 smoke detectors require a minimum 20 deep sleeve (11.5\(^{\circ}\) on the actuator side); detectors will be mounted on the bottom or top of damper.

4. Smoke Detectors can be ordered for field mounting with standard 18\(^{\circ}\) deep sleeve.

DAMPER SIZES

<table>
<thead>
<tr>
<th>Orientation</th>
<th>Hor &amp; Vert</th>
<th>2000 fpm, 4 in.wg</th>
<th>3000 fpm, 4 in.wg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panels</td>
<td><strong>Minimum Panel</strong></td>
<td>Max Panel 250(^{\circ})</td>
<td>Max Panel 300(^{\circ})</td>
</tr>
<tr>
<td>Rectangular</td>
<td>4(\frac{5}{8}) x 4(\frac{1}{2}) (8(\frac{1}{4}) W x 6(\frac{1}{4}) H frame)</td>
<td>36(\frac{1}{2}) x 48(\frac{1}{2}) x 36(\frac{1}{2})</td>
<td>36(\frac{1}{2}) x 48(\frac{1}{2})</td>
</tr>
<tr>
<td>Round</td>
<td>4(\frac{1}{4}) dia. (8(\frac{1}{4}) W x 6(\frac{1}{4}) H frame)</td>
<td>34(\frac{1}{8}) dia.</td>
<td>34(\frac{1}{8}) dia.</td>
</tr>
<tr>
<td>Oval</td>
<td>4(\frac{1}{4}) x 4(\frac{1}{4}) (8(\frac{1}{4}) W x 6(\frac{1}{4}) H frame)</td>
<td>34(\frac{1}{4}) x 46(\frac{1}{4})</td>
<td>34(\frac{1}{4}) x 46(\frac{1}{4})</td>
</tr>
</tbody>
</table>

* Dampers smaller than minimum frame size require a transitions. Reference SD-TRFS.
** For sizes smaller than 16\(\frac{1}{4}\) x 8\(\frac{1}{4}\), airfoil blades will be supplied.

UNDERWRITERS LABORATORIES INC.®
CLASSIFIED DYNAMIC SMOKE DAMPER
LEAKAGE RESISTANCE CLASS I

abi air balance FILE #R4708

This smoke damper meets the construction and performance requirements of:

- Underwriters Laboratories Inc. Standard 555S
- National Fire Protection Association Standards 80 and 90A
- ICC's International Building Code
- California State Fire Marshal Listing #3230-1328:106

- Underwriters Laboratories Inc. Approved for dual direction airflow and dynamic conditions.
- Underwriters Laboratories Inc. Classified for use in smoke control systems for Leakage Class I and 250°F or 350°F.

- Actuators must be controlled by a smoke detection system.

The 3rd dimension will increase if sleeve length is increased.

450 Riverside Drive • Wyfuling, PA 18853 • Phone: (570) 746-1888 • Fax: (570) 746-9286
**Operations Rating:**

Maximum Differential Pressure: 4 in.wg  
Maximum Face Velocity: 2000 fpm (3000 fpm for selected size/actuator combinations)

**Leakage Rating:**

UL Class I  
4 cfm per sq.ft. maximum @ 1 in.wg  
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></td>
<td>1000</td>
</tr>
<tr>
<td>12&quot;W x 12&quot;H</td>
<td>31</td>
</tr>
<tr>
<td>24&quot;W x 24&quot;H</td>
<td>33</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.