CURTAIN TYPE FIRE DAMPERS
BLADES IN AIR STREAM

Description

Shutter type fire dampers provide an automatic means of localizing areas of fire in ventilation systems.

The SSA range of curtain bladed fire dampers are suitable for installation in walls and ceilings made from concrete or brickwork, and will stop the spread of fire through duct, walls or floors.

There is a wide choice of sizes available for low, medium and high velocity applications and include rectangular, square, circular and flat oval connections.

The dampers are fitted with standard release 74 °C fusible links (UL listed) unless otherwise specified.

SSA-1-A-100 Standard Construction

Frame:
Built of 18 gauge (1.2mm) galvanized steel.

Blades:
Built of 20 gauge (0.93mm) galvanized steel.

Finish:
Mill galvanized.

Fusible Link:
Standard release 74 °C (165 °F) UL listed.
Other temperatures available on request.

Springs:
Stainless steel closure springs.

Fire Rating:
Up to 4 hours fire rating.

Minimum Size:
100 x 100mm

Maximum Size:
1000 x 1000mm, as single section. Multiple section assembly with unlimited size, where each section operates independently.

For details of multiple sections consult SAFID.

SSA-1-A-110
General construction as type SSA-1-A-100 damper but blades in stainless steel (Grade 304).

SSA-1-A-120
General construction as type SSA-1-A-100 damper but frame, blades and catchplates all from stainless steel (Grade 304).

Dimensions

1 - Galvanized or S/S Casing
2 - Galvanized or S/S Blades
3 - Fusible Link 74 °C (UL Listed)
4 - Top Blade Riveted to Frame
5 - S/S Closure Spring
6 - Catch Plates

Damper Blades in Air Stream
CURTAIN TYPE FIRE DAMPER
WITH BLADES OUTSIDE AIR STREAM

DAMPER BLADES
OUTSIDE AIR STREAM

SSA - 1 Series
Type B

Description
Shutter type fire dampers provide an automatic means of localizing areas of fire in ventilation systems.

The SSA range of curtain bladed fire dampers are suitable for installation in walls and ceilings made from concrete or brickwork, and will stop the spread of fire through duct, walls or floors.

There is a wide choice of sizes available for low, medium and high velocity applications and include rectangular, square, circular and flat oval connections.

The dampers are fitted with standard release 74 °C fusible links (UL listed) unless otherwise specified.

SSA-1-B-100 Standard Construction

Frame:
Built of 18 gauge (1.2mm) galvanized steel.

Blades:
Built of 20 gauge (0.93mm) galvanized steel.

Finish:
Mill galvanized.

Fusible Link:
Standard release 74 °C (165 °F) UL listed.
Other temperatures available on request.

Springs:
Stainless steel closure springs.

Fire Rating:
Up to 4 hours fire rating.

Minimum Size:
100 x 100mm

Maximum Sizes:
1000 x 1000mm, as single section.
Multiple section assembly with unlimited size, where each section operates independently.

For details of multiple sections consult SAFID.

SSA-1-B-110
General construction as type SSA-1-B-100 damper but blades in stainless steel (Grade 304).

SSA-1-B-120
General construction as type SSA-1-B-100 damper but frame, blades and catchplates all from stainless steel (Grade 304).

Dimensions

1 - Galvanized or S/S Casing
2 - Galvanized or S/S Blades
3 - Fusible Link 74 °C (UL Listed)
4 - Top Blade Riveted to Frame
5 - S/S Closure Spring
6 - Catch Plates

Damper Blades Outside Air Stream

Horizontal Mounting

Vertical Mounting

W x H = Duct Size

<table>
<thead>
<tr>
<th>Duct Height 'H'</th>
<th>Y</th>
<th>Overall Damper Height (H + Y - 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>35</td>
<td>129</td>
</tr>
<tr>
<td>150</td>
<td>40</td>
<td>184</td>
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<td>200</td>
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<tr>
<td>300</td>
<td>60</td>
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<tr>
<td>350</td>
<td>65</td>
<td>409</td>
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<tr>
<td>400</td>
<td>75</td>
<td>469</td>
</tr>
<tr>
<td>450</td>
<td>85</td>
<td>529</td>
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<tr>
<td>500</td>
<td>95</td>
<td>589</td>
</tr>
<tr>
<td>550</td>
<td>100</td>
<td>644</td>
</tr>
<tr>
<td>600</td>
<td>105</td>
<td>699</td>
</tr>
<tr>
<td>650</td>
<td>110</td>
<td>754</td>
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<td>700</td>
<td>120</td>
<td>814</td>
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<td>750</td>
<td>125</td>
<td>869</td>
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<tr>
<td>800</td>
<td>130</td>
<td>914</td>
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<tr>
<td>850</td>
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<td>900</td>
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<td>155</td>
<td>1109</td>
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<tr>
<td>1000</td>
<td>165</td>
<td>1159</td>
</tr>
</tbody>
</table>

CURTAIN TYPE FIRE DAMPERS
WITH BLADES OUTSIDE AIR STREAM
CURTAIN TYPE FIRE DAMPER
FRAME AND BLADES

DAMPER FRAME AND BLADES
[100 & Free Area]

SSA - 1 Series
Type C

Description
Shutter type fire dampers provide an automatic means of localizing areas of fire in ventilation systems.

The SSA range of curtain bladed fire dampers are suitable for installation in walls and ceilings made from concrete or brickwork, and will stop the spread of fire through duct, walls or floors.

There is a wide choice of sizes available for low, medium and high velocity applications and inclucde rectangular, square, circular and flat oval connections.

The dampers are fitted with standard release 74 °C fusible links (UL listed) unless otherwise specified.

SSA-1-C-100 Standard Construction

Frame:
Built of 18 gauge (1.2mm) galvanized steel.

Blades:
Built of 20 gauge (0.93mm) galvanized steel.

Finish:
Mill galvanized.

Fusible Link:
Standard release 74 °C (165 °F) UL listed.

Other temperatures available on request.

Springs:
Stainless steel closure springs.

Fire Rating:
Up to 4 hours fire rating.

Minimum Size:
100 x 100mm

Maximum Size:
1000 x 1000mm, as single section. Multiple section assembly with unlimited size, where each section operates independently.

For details of multiple sections consult SAFID.

SSA-1-C-110
General construction as type SSA-1-C-100 damper but blades in stainless steel (Grade 304).

SSA-1-C-120
General construction as type SSA-1-C-100 damper but frame, blades and catchplates all from stainless steel (Grade 304).

Dimensions

1 - Galvanized or S/S Casing
2 - Galvanized or S/S Blades
3 - Fusible Link 72 °C (UL Listed)
4 - Top Blade Riveted to Frame
5 - S/S Closure Spring
6 - Catch Plates

Damper Frame and Blades (100% Free Area)

Vertical Mounting

Horizontal Mounting

W x H = Duct Size

<table>
<thead>
<tr>
<th>Duct Height 'H'</th>
<th>Y</th>
<th>Overall Damper Height (H + Y - 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>35</td>
<td>129</td>
</tr>
<tr>
<td>150</td>
<td>40</td>
<td>184</td>
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<td>200</td>
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<td>250</td>
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<td>750</td>
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<td>869</td>
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<td>850</td>
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<td>1199</td>
</tr>
<tr>
<td>1000</td>
<td>165</td>
<td>1159</td>
</tr>
</tbody>
</table>
CURTAIN TYPE FIRE DAMPER WITH ROUND SPIGOT

DAMPER WITH ROUND SPIGOT

SSA - 1 Series
Type R

Description
Shutter type fire dampers provide an automatic means of localizing areas of fire in ventilation systems.

The SSA range of curtain bladed fire dampers are suitable for installation in walls and ceilings made from concrete or brickwork, and will stop the spread of fire through duct, walls or floors.

There is a wide choice of sizes available for low, medium and high velocity applications and include rectangular, square, circular and flat oval connections.

The dampers are fitted with standard release 74 °C fusible links (UL listed) unless otherwise specified.

SSA-1-R-100 Standard Construction

Frame:
Built of 18 gauge (1.2mm) galvanized steel.

Blades:
Built of 20 gauge (0.93mm) galvanized steel.

Finish:
Mill galvanized.

Fusible Link:
Standard release 74 °C (165 °F) UL listed. Other temperatures available on request.

Springs:
Stainless steel closure springs.

Fire Rating:
Up to 4 hours fire rating.

Minimum Size:
100 mm diameter

Maximum Size:
1000 mm diameter, as single section.

For details of multiple sections consult SAFID.

SSA-1-R-110
General construction as type SSA-1-R-100 damper but blades in stainless steel (Grade 304).

SSA-1-R-120
General construction as type SSA-1-R-100 damper but frame, blades and catchplates all from stainless steel (Grade 304).

Dimensions

<table>
<thead>
<tr>
<th>SSA-1-R-100</th>
<th>SSA-1-R-110</th>
<th>SSA-1-R-120</th>
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</thead>
<tbody>
<tr>
<td>Flow: 30 m³/s</td>
<td>Flow: 30 m³/s</td>
<td>Flow: 30 m³/s</td>
</tr>
<tr>
<td>Static Pressure: 250 Pa</td>
<td>Static Pressure: 250 Pa</td>
<td>Static Pressure: 250 Pa</td>
</tr>
<tr>
<td>Dynamic Pressure: 1000 Pa</td>
<td>Dynamic Pressure: 1000 Pa</td>
<td>Dynamic Pressure: 1000 Pa</td>
</tr>
</tbody>
</table>

Round Type Damper with Spigot

Vertical Mounting

<table>
<thead>
<tr>
<th>Duct Height 'H'</th>
<th>Overall Damper Height (H + Y - 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>170</td>
</tr>
<tr>
<td>150</td>
<td>250</td>
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<tr>
<td>200</td>
<td>285</td>
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<tr>
<td>250</td>
<td>340</td>
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<tr>
<td>300</td>
<td>395</td>
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<td>350</td>
<td>455</td>
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<td>400</td>
<td>515</td>
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<tr>
<td>950</td>
<td>1145</td>
</tr>
<tr>
<td>1000</td>
<td>1200</td>
</tr>
</tbody>
</table>

Horizontal Mounting
CURTAIN TYPE FIRE DAMPER
WITH OVAL SPIGOT

**CURTAIN TYPE FIRE DAMPER WITH OVAL SPIGOT**

**SSA - 1 Series**

**Type O**

**Description**

Shutter type fire dampers provide an automatic means of localizing areas of fire in ventilation systems.

The SSA range of curtain bladed fire dampers are suitable for installation in walls and ceilings made from concrete or brickwork, and will stop the spread of fire through duct, walls or floors.

There is a wide choice of sizes available for low, medium and high velocity applications and include rectangular, square, circular and flat oval connections.

The dampers are fitted with standard release 74 °C fusible links (UL listed) unless otherwise specified.

**SSA-1-R-100 Standard Construction**

- **Frame:** Built of 18 gauge (1.2mm) galvanized steel.
- **Blades:** Built of 20 gauge (0.93mm) galvanized steel.
- **Finish:** Mill galvanized.
- **Fusible Link:** Standard release 74 °C (165 °F) UL listed. Other temperatures available upon request.
- **Springs:** Stainless steel closure springs.
- **Fire Rating:** Up to 4 hours fire rating.
- **Minimum Size:** 200 x 100 mm (W x H)

**SSA-1-O-100 General Construction**

General construction as type SSA-1-O-100 damper but blades in stainless steel (Grade 304).

**SSA-1-O-120 General Construction**

General construction as type SSA-1-O-100 damper but frame, blades and catchplates all from stainless steel (Grade 304).

**Dimensions**

**SSA-1-O-100, SSA-1-O-110, SSA-1-O-120**

**Horizontal Mounting**

**Duct Height ‘H’** | **Y** | **Overall Damper Height ‘H + Y’**
--- | --- | ---
100 | 40 | 140
150 | 50 | 200
200 | 55 | 255
250 | 60 | 310
300 | 65 | 365
350 | 70 | 420
400 | 85 | 485
450 | 95 | 545
500 | 100 | 600
550 | 105 | 655
600 | 110 | 710
650 | 120 | 770
700 | 125 | 825
750 | 130 | 880
800 | 135 | 935
850 | 140 | 990
900 | 155 | 1045

**Vertical Mounting**

**Oval Type Damper with Spigot**

_SSA-1-O-100, SSA-1-O-110, SSA-1-O-120_
<table>
<thead>
<tr>
<th>Construction Variants</th>
<th>Description</th>
<th>Mounting Mode</th>
<th>Velocity Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Blades in airstream, square, round or rectangular spigot, fitted with closing springs and catchplates.</td>
<td>Vertical/Horizontal Mounting</td>
<td>Low, Medium, High</td>
</tr>
<tr>
<td>A1</td>
<td>As code A but includes side seals.</td>
<td>Vertical/Horizontal Mounting</td>
<td>Low, Medium</td>
</tr>
<tr>
<td>A2</td>
<td>As code A but excludes closing springs and catchplates.</td>
<td>Vertical Mounting Only</td>
<td>Low, Medium</td>
</tr>
<tr>
<td>B</td>
<td>Variable height top case section to contain blades out of airstream. Fitted with closing springs and catchplates. Can be supplied with square or rectangular, circular or oval duct connections.</td>
<td>Vertical/Horizontal Mounting</td>
<td>Low, Medium</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1</td>
<td>As code B, C series but includes side seals</td>
<td>Vertical / Horizontal Mounting</td>
<td>High</td>
</tr>
<tr>
<td>C1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O1</td>
<td></td>
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</tbody>
</table>

Accessories
Please see page 117 of this chapter.

### Construction or Construction Variants

<table>
<thead>
<tr>
<th>Combined With</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Holder with Fuse Link (Standard Construction)</td>
<td>-</td>
</tr>
</tbody>
</table>

### Electrical Micro-Switch (Indicates Blades Closed)

- **To provide “remote” indication of whether the blade is “open or closed”. The microswitch can also be connected to any warning device or into the control circuit of a ventilation system to isolate the plant in event of fire.**

### Visual Indicator (Indicates Blades Closed)

- Mechanical device to indicate blade closure visible externally from the damper.

### Micro-switch with Visual Indicator

- Mechanical device to indicate blade closure visible externally from the damper.

### Electro-Magnet-A.C and D.C Voltage

- **Interruption of electrical current to activate closure of the curtain blade pack.**
- As an alternative to the solenoid for systems that require normally “ENERGISED” actuators that automatically operate in the event of an interruption of electrical supply. (Voltage 24V, 110V & 240V). Standard fuse temperature 74˚C.

### Solenoid - A.C. Voltage

- Electrically energized to activate closure of the curtain blade pack.
- Normally “DE-ENERGISED” activated by an electrical impulse from either/via a detector or control panel. The solenoid can be fitted for standard “direct link” operation.
- For maintenance/servicing the solenoid can be manually overridden for testing purposes.
INSTALLATION DETAILS

TYPE A: INSTALLATION DETAILS

SSA-1-A

Damper Installed to Duct

Damper Installed to Wall

TYPE B: INSTALLATION DETAILS

SSA-1-B

Damper Installed to Duct

Damper Installed to Wall
FIRE RESISTANCE TEST UTILIZING THE HEATING CONDITIONS OF (BRITISH STANDARDS 476 PART 20 1987)

Warres 49800, Fire Resistance up to 1 hr

Warres 49800, Fire Resistance up to 2 hrs

Warres 49800, Fire Resistance up to 3 hrs

Warres 49800, Fire Resistance up to 4 hrs

The fire dampers shown have been tested by an independent authority (Warrington Research Centre) according to British Standards 476 Part 20: 1987 for a period of 4 hours.

The time / temperature curve required by this test procedure is shown below, after 4 hours test the SSA retained its integrity with no significant openings being formed.

Fire Test BS 476 Part 20: 1987

Specified laminate temperature

Actual laminate temperature
**ORDER REFERENCE DETAILS**

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Type</th>
<th>SSA-1</th>
<th>B</th>
<th>100</th>
<th>V</th>
<th>500 x 500</th>
<th>S01</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSA  -  1   -     B      -      100      -      V        /   500 x 500   /   S01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Accessories**
(See Page 117)

**Duct Size**
- Square or rectangular Dimensions ‘W’ x ‘H’ mm.
- Circular ‘D’ mm dia.
- Flat oval ‘W’ x ‘Y’ mm.
- All damper spigots are manufactured down and duct size to fit inside ductwork connections.

**Specifications**

Square or rectangular shutter type fire dampers for the isolation of fire zones in air conditioning systems.
Design and fabricated to maintain integrity and stability for 4 hours when tested to BS 476 Part 20; 1987.
The SSA fire dampers consists of perimeter frame case and interlocking shutter type blades. As standard the case is complete with catchplates and constant tension closure springs. Suitable for either rectangular, circular or flat oval ducting and available in high or low pressure/velocity construction. Standard release 74°C fusible link.

**Order Example**

Standard
Make : SAFID
Type : SSA-1-A-100-500 x 500
Qty : 1

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