

## SD-1250 Smoke Dampers

### Description

Johnson Controls provides a leakage-rated damper for life safety smoke management systems that meets the new Underwriters Laboratories Inc. ® (UL) leakage testing procedures and fits your size and application requirements:

- SD-1250 Class I leakage resistance aluminum frame and aluminum airfoil shaped blades

Smoke Dampers are listed under the latest Standard 555S, and carry the UL/cUL label. UL listing number is R11172.

All Smoke Dampers include actuators that have been tested and approved as a matched set, rated for 250°F or 350°F temperature degradation operation:

- National Fire Protection Association (NFPA) Standards 80, 90A, 92A, 92B and 101

Refer to the *SD-1250 and SD-1600 Series Smoke Dampers Product Bulletin (LIT-1201592)* for important product information.

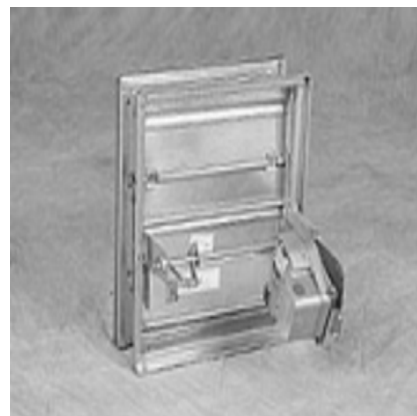
### Features

- 3-Year Warranty on Materials and Workmanship
- Fast Track Shipping - as Quick as 5 Working Days after Order Entry
- Available Factory-Installed Blade Position Switch Kit with Direct Coupling

### Application

The SD-1250 Series Smoke Dampers meet specifications requiring a Class I leakage rating at 250°F. The SD-1600 Series Smoke Dampers meet specifications requiring a Class I or Class II leakage-rating at 250°F or 350°F. SD-1250 and SD-1600 Series smoke dampers are tested according to UL Standard 555S for dampers that are used in Heating, Ventilating, and Air Conditioning (HVAC) smoke systems.

SD-1250 Series smoke dampers meet the requirements for the International Building Codes (IBC). Each SD-1250 Series smoke damper includes factory-installed actuator(s) per UL Testing. Smoke dampers up to maximum tested sizes are rated for either vertical or horizontal mounting.



SD-1250 Smoke Damper

### Sample Specification

Smoke dampers meeting or exceeding the following specifications shall be furnished and installed at locations shown on plans or as described in schedules:

- Dampers shall meet the requirements of NFPA 80, 90A, 92A, 92B, and 101 and shall be either Class I or Class II Leakage Rated Dampers for use in smoke control systems in accordance with the latest version of UL555S.
- As part of the UL qualification, smoke dampers shall have demonstrated a capacity to open and close under HVAC system operating conditions, with pressures up to 4 inches w.g. in the closed position and 2,000 fpm air velocity in the open position.
- In addition to the leakage ratings already specified herein, the dampers and their actuators shall be qualified under UL555S to an elevated temperature of 250°F or 350°F, depending upon the actuator.
- Appropriate electric/pneumatic actuators (specifier selects one) shall be installed by the damper manufacturer at the time of damper fabrication.
- Damper and actuator shall be supplied as a single entity which meets all applicable UL555S qualifications for both dampers and actuators.
- Each damper shall be rated for leakage and airflow in either direction through the damper.
- Damper and actuator assembly shall be factory cycled to ensure operation.

### Selection Charts

Use the following to select the product:

- Determine required size and type of damper.
- Select the features from the *Smoke Damper Ordering Template* that match the operation and performance required.
- Enter width and height of damper.
- Enter options required.

Smoke Dampers include 16-gauge galvanized steel blades, stainless steel bearings, and stainless steel side seals.

Example: SOESB-020x020 is an SD-1250 smoke damper that has 16-gauge blades, opposed blade operation, stainless steel bearings, high-temperature blade seals, and side seals. Its dimensions are 20 inches wide x 20 inches high, with a 250°F 24 VAC electric actuator.

Maximum size and area limitations are determined by past UL testing. Future testing may include additional actuators or expand present limits. Actual damper size is 1/4 inch less than nominal. For example, a damper ordered 24 inches wide x 32 inches high is shipped 23-3/4 inches wide x 31-3/4 inches high.

#### SD-1250 Panel Size Limits

Damper	Width x Height, in. (mm)
Maximum, 1 Panel	36 (914) x 48 (1,219)

#### Options List<sup>1</sup>

Code	Option Description
E	Exact size, no undercut
I	Factory Installed Blade Position Switch Kit <sup>2</sup>
L	20 gauge galvanized steel sleeve, 20 in. length
Q	Internal mount actuator <sup>3</sup>
V	Transition to round or oval duct <sup>4</sup>

- Dampers have a maximum of two factory-installed options.
- One kit provided per damper opening, not one kit per actuator or shipped section.
- Minimum size for an electric actuator is 012 x 021 in. Minimum size for a pneumatic actuator is 018 x 024 in.
- Minimum size is 006 x 004 in. Maximum size is 070 x 094 in.

## SD-1250 Smoke Dampers (Continued)

### Smoke Damper Ordering Template<sup>1</sup>

	Code Number	S		S	-	w	w	w	x	h	h	h	
Application	S = Smoke												
Blade Operation	O = Opposed (greater than 12 inches) P = Parallel												
Blade Type	E = Class I Aluminum Frame and Blade (SD-1250)												
Bearing/Seal	S = Standard (stainless steel/silicone)												
Actuator Type	A = 120 VAC 250°F B = 24 VAC 250°F C = 120 VAC 350°F D = 24 VAC 350°F O = Pneumatic 250°F (8-13# spring range) P = Pneumatic 350°F (8-13# spring range)												
Width Dimensions	008 to 144, 1-inch increments												
Height Dimensions	006 to 096, 1-inch increments												
Factory-installed Options	See <i>Option List</i> for selection and combinations.												

1. Standard product includes the actuator mounted outside the air stream on a 12 inch wide side plate. Only certain damper and actuator combinations have been evaluated and found suitable for volume control use. As such, only use dampers marked **Also Suitable For Use As Volume Control Damper** for volume control applications.

Smoke dampers have round or oval connections for low or medium pressure.

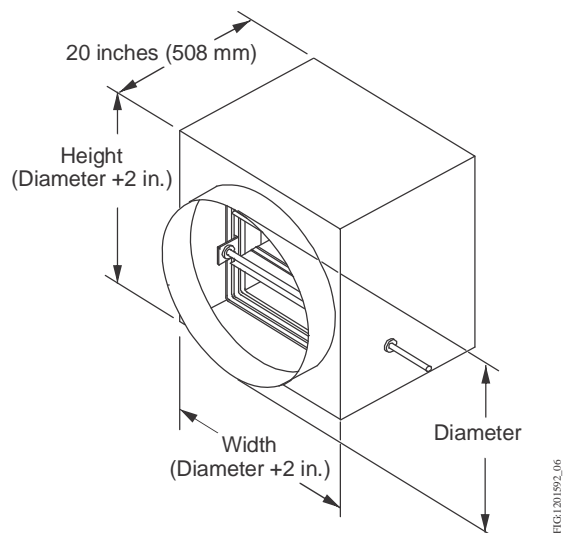
Round connections are a minimum of 4 inches (102 mm) in diameter. The rectangular size of the damper is 2 inches (51 mm) larger than the connection dimension ordered.

Smoke dampers supplied with oval connections are a minimum of 6 inches wide x 4 inches high (152 mm x 102 mm). The rectangular size of the damper is 2 inches (51 mm) larger than the width and height of the connection dimensions.

**Note:** The maximum dimension of the transition is 070 x 094 inches.

### Repair Information

If the SD-1250 Smoke Damper fails to operate within its specifications, replace the unit. For a replacement SD-1250 damper, contact the nearest Johnson Controls® representative.



Transitions

FIG 1201592\_06

## SD-1250 Smoke Dampers (Continued)

### Technical Specifications

All leakage rated smoke damper systems are cycled prior to shipping. Actuators should be field-wired together so the smoke damper assembly operates as one assembly.

Part	Construction
Frame	5 in. deep x 16-gauge galvanized steel or aluminum
Blades	SD-1250 – One-piece 6063T5 extruded aluminum, airfoil shape All blades are 6 in. nominal width and 8 in. maximum width.
Linkage	Concealed in the frame
Blade Pin	1/2 in. plated steel hex
Bearings	Stainless steel
Side Seal	Flexible metal compression, stainless steel
Blade Seal	Extruded silicone
Sleeve	20-gauge galvanized steel, 20 in. long (optional)
Side Plate	16-gauge galvanized steel

SD-1250 Smoke Dampers <sup>1 2</sup>		
Maximum Dynamic Rating	4 in. w.c. static pressure at 2,000 fpm	
Ambient Operating Temperature	-40 to 200°F (-40 to 93°C)	
Electrical – Power Input	120 VAC ±10%, 60 Hz 24 VAC +20%, -10%, 50/60 Hz	
Electrical – Power Consumption	120 V - Running: 0.18 A, 23 W, Holding: 0.13 A, 9 W maximum 24 V - Running: 23 VA, Holding: 8 VA maximum	
Modulating Control Signal	0 to 10 VDC or 4 to 20 mA	
Timing	Drive open: 15 to 25 seconds typical Spring close: 15 seconds typical	
Maximum Short Duration Operating Temperature	250 or 350°F (121 or 177°C) based on actuator selected	
Pressure Drop (inches WG) - Fully Open	1,000 fpm	2,000 fpm
24 inches x 24 inches	0.03	0.11
36 inches x 48 inches	0.02	0.10
Field Installed Accessories	None	
Field Replace Parts	SP100 position switch kit (DMPR-KC013 or DMPR-KC014) Actuators are field replaceable, refer to model number of actuator mounted on damper to order direct replacement.	
Approximate Weight	7 lb/sq. ft	

- Dampers are tested at an AMCA Certified Laboratory using instrumentation and procedures in accordance with AMCA Standard No. 500-89, Test Methods for Louvers, Dampers, and Shutters.
- All Johnson Controls Dampers are built to order, just in time, and cannot be returned due to customer ordering errors. All dampers are backed by a 3-year warranty, which covers defects in materials or workmanship when used in our defined applications. Refer to terms and conditions of sale for specifics.