RS-2000 True Round Class I Smoke Damper

Johnson Controls provides top quality, true round smoke dampers for use in Heating, Ventilating, and Air Conditioning (HVAC) systems that fit your size and application requirements.

This model meets the requirements for the fire dampers established by:

- **Underwriter's Laboratories®, Inc. (UL)** Classified Listing R11172
- **National Fire Protection Association (NFPA)** Standards 90A, 92A, 92B and 101
- **New York City Board of Standards and Appeals (BSA)** Listing #3230-245:110

These UL/cUL leakage-rated RS-2000 smoke dampers are listed under UL Standard 555S, second edition, dated June 1999.

Figure 1: Round Smoke Damper

Features and Benefits		
q	**Fast Track Shipping - as Little as Three Working Days After Order Entry**	Faster response for projects, at a cost premium.
q	**Formed Shroud**	Inserts easily into round ductwork.
q	**One-Piece Construction**	Increases rigidity and strength.

Application

The RS-2000 is a true round single bladed UL555S Class I smoke damper is the perfect choice for use in ducts that penetrate smoke rated barriers.

The RS-2000 is ideal for applications that require low pressure drop. It is rated for maximum velocity of 2,000 fpm and 4 in. Water Column (W.C.) static pressure.

The RS-2000 may be installed vertically within 24 in. (610 mm) of walls and horizontally within 24 in. (610 mm) above or below floors.

The RS-2000 smoke damper must be installed in accordance with *NFPA-90A* and Sheet Metal and Air Conditioning Contractors' National Association *SMACNA Fire Damper Guide*, at the point where a duct passes through a required smoke barrier.

The RF-2000 also meets the requirements for the following building codes:

- Building Officials Code Administrators (BOCA)
- International Conference of Building Officials (ICBO)
- Southern Building Code Congress International (SBCCI)
- International Code Council (ICC)

The standard RS-2000 smoke damper includes a factory-installed actuator.

Sample Specification

Furnish and install Johnson Controls® true round smoke dampers at locations shown on plans or as described in schedules.

Damper shrouds are to be constructed of formed 20-gauge galvanized sheet steel.

Damper blades are to be constructed with 1-piece 14-gauge galvanized steel minimum.

Damper performance shall meet the requirements of NFPA90A, 92A and 92B and shall be classified as Leakage Rated Dampers for use in smoke control systems in accordance with the latest version of UL555S. The leakage rating under UL555S shall be leakage Class I (4 cfm/sq. ft. at 1 in. W.C.).

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 (121°C) or 350°F (177°C) depending upon the actuator. The damper manufacturer shall install appropriate electric/pneumatic actuators (specifier selects one) at the time of damper fabrication.

Damper sizing shall be by the designer in accordance with accepted industry practices to ensure proper system performance.

Construction

Table 1: Materials

Shroud	20-gauge galvanized sheet steel, 14 in. integral sleeve.
Blade	Single skin 14-gauge equivalent thickness galvanized steel
Shaft	4 in. to 8 in. long, 5/16 in. (8 mm) diameter steel
Bearing	Stainless steel sleeve pressed into frame

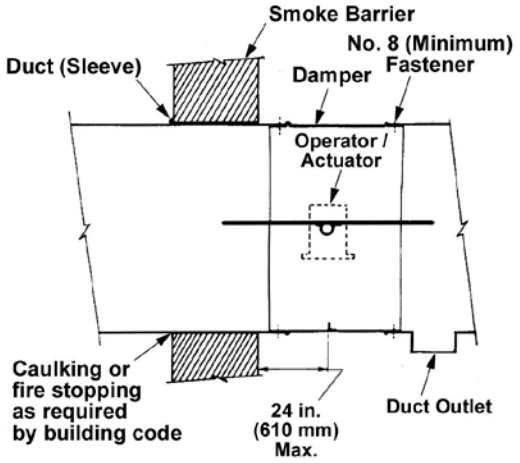

Figure 2: Round Smoke Damper Components

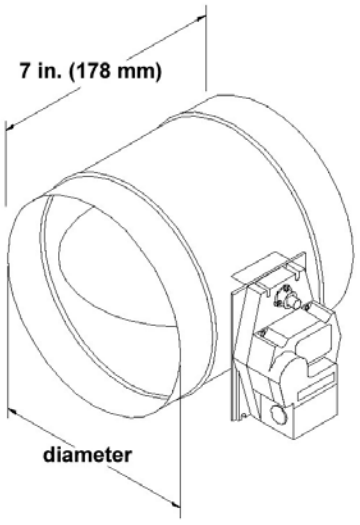

Figure 3: RS-2000 Dimensions

Actuators

All actuators are factory mounted and tested with the damper prior to shipment.

Electric

RS-2000 smoke dampers are available with a 120 VAC actuator standard. 24 VAC actuator options are available.

For more detailed information on the electric actuators, refer to the *High Torque Electric Smoke Damper Actuator Submittal Sheet (LIT-1201599).*

Pneumatic

RS-2000 smoke dampers are available with UL Component Recognized pneumatic actuators.

For more detailed information on the pneumatic actuators, refer to the *Low Force Pneumatic Smoke Damper Actuator Submittal Sheet (LIT-1201600).*

Maintenance

All smoke dampers will be tested at least twice a year in accordance with local fire safety codes. It is up to the owner or authorized representative to perform and document all tests. Testing should include cycling the damper at least three full strokes. Documentation of all tests shall be available for inspection by local authorities when requested.

Ordering Information

Table 2: Round Smoke Damper Selector

	Code Number	**R**	**S**	**G**	**d**	**d**	**N**	**N**	**C**
Product Family	R = Round Dampers								
Application	S = Smoke								
Shroud type	G = Galvanized								
Diameter	6 in. to 24 in. (1°in. increments)								
Actuation	N = None								
Actuator	C = 120 VAC 350°F D = 24 VAC 350°F P = Pneumatic 350°F								
Operations	NC = Normally Closed								
Options	I = Indicator Switch, Blade Position								

Example: An 8 in. smoke damper with a 120 V, 350°F electric actuator is RSG08NCNC.

Damper Performance

Table 3: Performance Data

Temperature Limits	350°F (177°C) based on actuator		
Approximate Weight	Diameter	With Electric Actuator	With Pneumatic Actuator
	4 in. (102 mm)	8 lbs. (3.63 kg)	7 lbs. (3.18 kg)
	8 in. (203 mm)	10 lbs. (4.54 kg)	9 lbs. (4.08 kg)
	12 in. (305 mm)	13 lbs. (5.90 kg)	12 lbs. (5.44 kg)
	16 in. (406 mm)	15 lbs. (6.80 kg)	14 lbs. (6.35 kg)
	20 in. (508 mm)	19 lbs. (8.62 kg)	18 lbs. (8.16 kg)
	22 in. (559 mm)	21 lbs. (9.53 kg)	20 lbs. (9.07 kg)

Note: Dampers are tested using instrumentation and procedures in accordance with AMCA Standard No. 500, *Test Methods for Louvers, Dampers, and Shutters*.

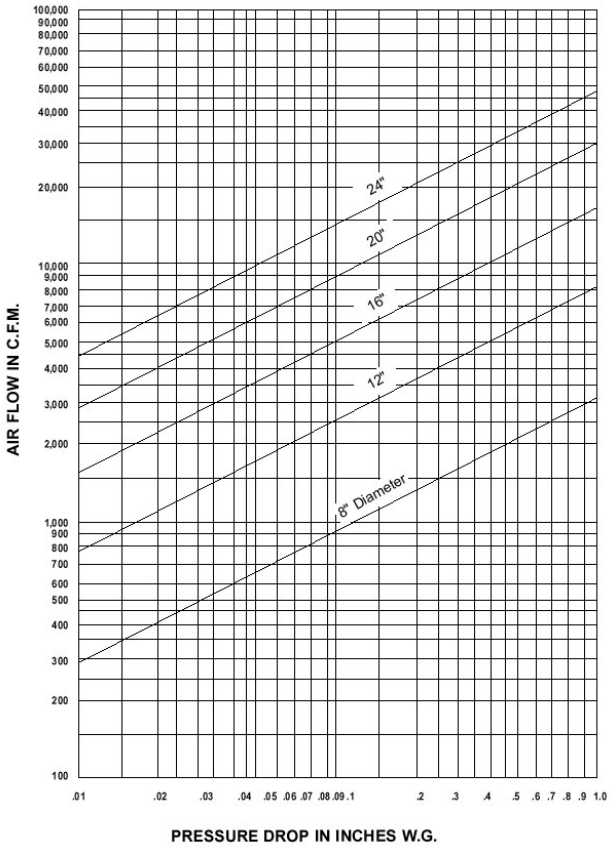

Figure 4: Pressure Drop

Return Policy

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. Refer to terms and conditions of sale for specifics.

Environmental Statement

At Johnson Controls, delivering environmentally sound products and services is part of our corporate-wide commitment to continuous improvement. We do this by reducing raw material consumption, recycling, eliminating the use of toxins, and conserving and preserving natural resources. We believe that what is good for the environment and the safety and health of all people is good for Johnson Controls. And we never forget that clean water, air, and land are everyone's business.

For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

Johnson Controls

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