

# SDRS25

Galvanized Round Two Position Smoke Damper  
UL555S Leakage Class I Classified



## APPLICATION

The SDRS25 is a true round single bladed UL555S Leakage Class 1 smoke damper for use in ducts that penetrate smoke rated barriers. It is designed for use in systems with airflow in either direction and rated for maximum velocity up to 4000 fpm (20.3 m/s) and 4" w.g. (1 kPa). The SDRS25 may be installed vertically (with blades running horizontal) or horizontally and is rated for airflow and leakage in either direction. When installing the SDRS25 the center line on the blades can be installed up to 24" (610) away from the smoke partition and may be installed with the axle up to 30° from the horizontal plane. The SDRS25 can be operated with either electric or pneumatic actuator that power the damper open and spring closed (Fail Closed) operation.

## STANDARD CONSTRUCTION

Frame	6" (152) long, 20 (.9) gauge galvanized steel with reinforcement beads rolled into the frame
Blades	Two-piece 14 (1.9) gauge equivalent thickness galvanized steel
Bearings	Stainless steel sleeve type, pressed into frame
Axle	1/2" (12) diameter plated steel
Blade Seals	Silicone rubber mechanically fastened to damper blades and fully encompasses blade edge
Fail Position	Power Open/Spring Close

## DAMPER SIZES

Minimum size	5" (127) diameter
Maximum size	24" (610) diameter

## MAXIMUM OPERATIONAL RATINGS

UL555S Leakage Rating	Class I
Maximum Velocity	4000 FPM (10.2 m/s)
Maximum Pressure	4 in. wg (1kPa)
Temperature	350 deg.



## OPTIONS

**ADC105** Addressable monitoring and test relay for Simplex ES fire alarm system

**Stainless steel** construction (See model SDRS25SS)

**DSDF Flow Duct Smoke Detector**

**SP100 Switch Package** to allow remote indication damper or damper blade position

**DTS-SD (Damper Test Switch)** - Push Button test switch

**MCP** control panels for test purposes or smoke management systems. Shipped loose

**Actuators** 120/24V electric or pneumatic

**Model SDRS25 meets the requirements for smoke dampers established by:**

- ▶ **National Fire Protection Association NFPA** Standards 80, 90A, 92A, 92B, 101 and 105
- ▶ **ICC International Building Codes**
- ▶ **CSFM California State Fire Marshal** Smoke Damper Listing (#3230-0245:0108)



SEE COMPLETE  
MARKING  
ON PRODUCT

UL555S Classification R5531

### NOTE:

1. Dampers furnished approximately 1/8" (3) smaller than given opening diameter.
2. Dimensions shown in ( ) indicate millimeters.

## PERFORMANCE DATA

This pressure drop testing was conducted in accordance with AMCA Standard 500-D using the three configurations shown. All data has been corrected to represent standard air at a density of .075 lb/ft<sup>3</sup> (1.201 kg/m<sup>3</sup>).

Actual pressure drop found in any HVAC system is a combination of many factors. This pressure drop information along with an analysis of other system influences should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

## AMCA TEST FIGURE

**Figure 5.3** Illustrates a fully ducted damper. This configuration has the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.

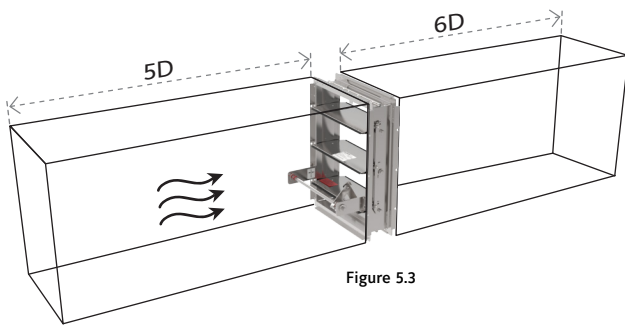
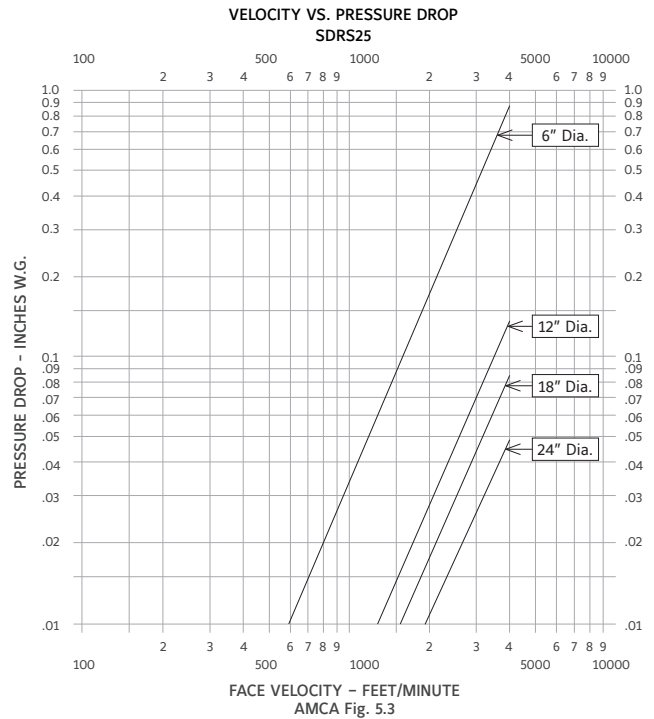


Figure 5.3



**Figure 5.2** Illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than Figure 5.5 because entrance losses are minimized by a straight duct run upstream of the damper.

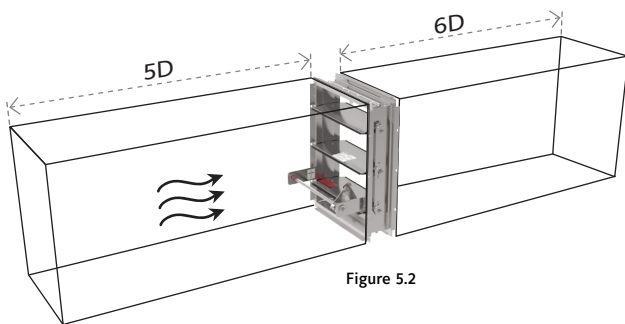
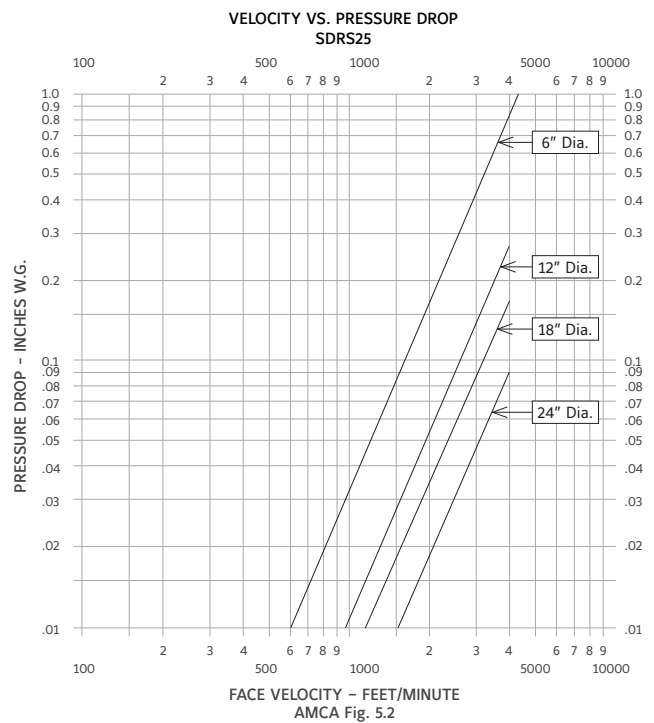


Figure 5.2



## PERFORMANCE DATA

**Figure 5.5** Illustrates a plenum mounted damper. This configuration has the highest pressure drop because of extremely high entrance and exit losses due to the sudden changes of area in the system.

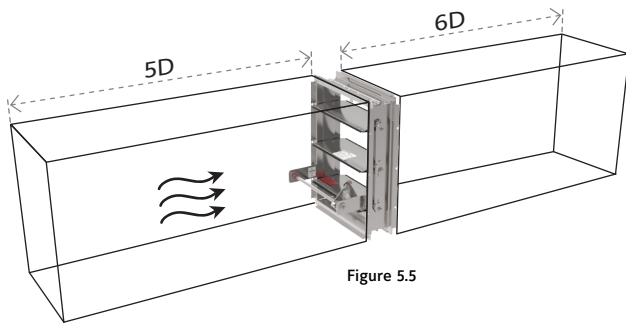
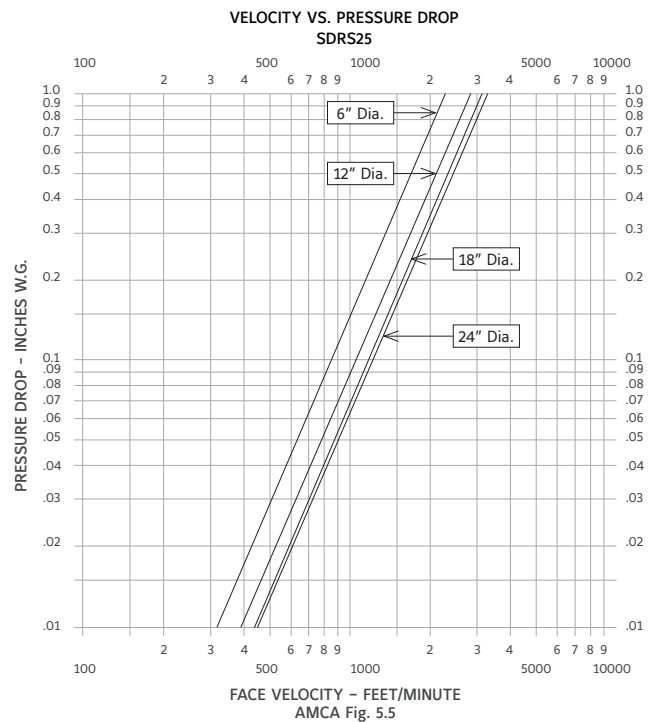
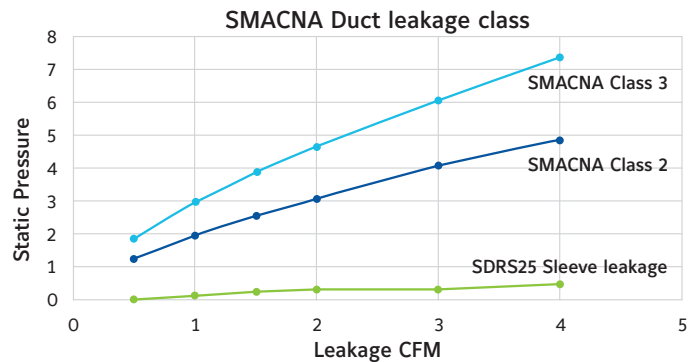


Figure 5.5



## DAMPER LEAKAGE TO ATMOSPHERE

When Ruskin's Smoke Dampers are supplied with a factory installed damper sleeve, the sealed sleeve meets the lowest duct leakage requirements set fourth by SMACNA. See Details Below



## SUGGESTED SPECIFICATION

Smoke dampers meeting or exceeding the following specifications shall be furnished and installed at locations shown on plans or as described in schedules. Smoke dampers shall meet the requirements of NFPA80, 90A, 92A and 92B and shall be classified as Smoke Dampers in accordance with the latest version of UL555S. The leakage rating under UL555S shall be Leakage Class 1. Smoke dampers shall be produced in an ISO 9001 certified factory.

Damper frame shall be a minimum of 20 (.9) gage galvanized steel and blade shall be two piece 14 (19) gage equivalent thickness galvanized. Bearings shall be stainless steel, permanently lubricated sleeve type pressed in the frame. Damper seals shall be silicone rubber mechanically fastened between damper blades.

Smoke dampers and their actuators shall be qualified in accordance with UL555S to an elevated temperature of 250°F (121°C) or 350°F (177°C) depending upon the actuator. Appropriate electric or pneumatic actuators (specifier select one) shall be installed by the damper manufacturer at time of damper fabrication. Electric actuators, factory installed on dampers, shall have been tested for prolonged periods of holding (minimum 1 year) with no evidence of reduced spring return performance. Each damper shall be rated for leakage and airflow in either direction through the damper. In addition to the leakage ratings already specified, the dampers shall be AMCA licensed for Air Performance.

Smoke dampers shall be Ruskin model SDRS25.

(Consult [www.Ruskin.com](http://www.Ruskin.com) for electronic version of this "Quick" spec as well as for complete 3-part CSI *MasterFormat* Specifications).

### **i** LINKS TO IMPORTANT DOCUMENTS

Document Number	Document Title
II-SD-118	Smoke Damper Installation
FSD O & M-0120	Operation and Maintenance Instructions



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