



MODEL FSD-AF-S-211 AND MODEL FSD-AF-S-231
COMBINATION FIRE/SMOKE DAMPER (WITH SLEEVE)
U.L. 555 CLASSIFIED 1 1/2 AND 3 HOURS / U.L. 555S CLASSIFIED CLASS I
LOW PRESSURE DROP AIRFOIL BLADE PER AMCA STANDARD 500-D

Standard Construction:

- Frame:** Roll-formed galvanized steel hat-section with staked corners with integral bracing.
- Blades:** Airfoil-shaped, double skin galvanized steel of roll-formed construction. Mechanically joined to form construction equivalent to 14 ga. steel.
Minimum width 5" (127 mm)
Maximum width 7" (178 mm)
- Bearings:** Bronze Oilite, press-fit into frame.
- Axles:** Square, plated steel.
- Seals:** Pressure sensitive 450°F silicone blade edge seals and flexible metal jamb seals.
- Linkage:** Concealed in frame. Linkage bars are .125" (3.2 mm) thick plated steel.

Heat Responsive Devices:

Fusible Links, 165° F and 212° F

Snap Disc, 250° F and 350° F

Finish: Mill galvanized.

Spring: Stainless steel.

Sizes: Minimum Size: 8"w x 8"h

(203 mm x 203 mm)

Maximum UL/ULC Listed Size:

Single Section: 36"w x 48"h

(914 mm x 1219 mm)

1-1/2 Hr. Vertical: Multiple Assembly-108"w x 96"h
(2743 mm x 2438 mm)

1-1/2 Hr. Horizontal: Multiple Assembly-36"w x 48"h
(914 mm x 1219 mm)

3 Hr. Vertical: Multiple Assembly-72"w x 96"h
(1828 mm x 2438 mm)

3 Hr. Horizontal: Maximum UL/ULC Listed Size:
36"w X 48"h (914mm x 1219mm)

- Notes:**
- Dampers are furnished approximately 1/4" smaller than given duct dimensions.
 - Not recommended with blades running vertically.

PATENT APPLIED FOR

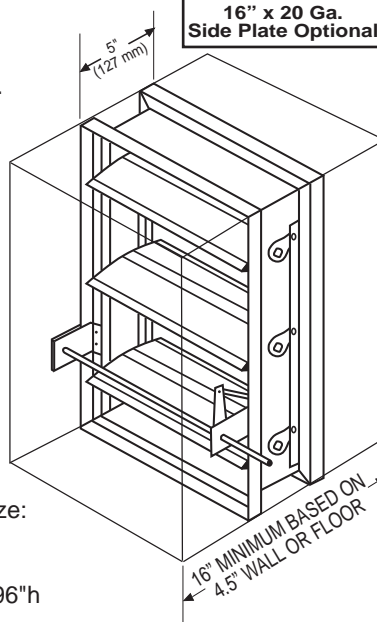


LISTED AND LABELLED BY:



U.L. 555S CLASSIFIED
AT 250°F OR 350°F
DEPENDENT UPON
MOTOR/OPERATOR
*SEE MOTOR/OPERATOR SCHEDULE

16" x 20 Ga.
Side Plate Optional



Features

- The FSD-AF-S-2X1 series Combination Fire/Smoke Dampers have been designed and tested to provide a complete range of performance features when used in engineered smoke control systems.
- FSD-AF-211 is U.L. 555 and U.L.C. S112 listed and labeled as a 1-1/2 hour fire damper.
- FSD-AF-231 is U.L. 555 and U.L.C. S112 listed and labeled as a 3 hour fire damper.
- U.L. 555S and U.L.C. S112.1 listed and labelled as a Leakage Class I rated Smoke Damper with airflow in both directions. Class I provides for a maximum leakage of 8 cfm per sq. ft. at 4.0 inches static pressure. As we are constantly expanding our U.L./U.L.C. listings, we suggest you contact the factory for current information.
- Streamlined "airfoil" blades to provide low pressure drop and reduced air turbulence for quiet operation.
- Fusible link/actuator provides an automatic override system to close and latch damper in the fire mode. **Also available with automatic resettable/override release options: Model STO/R (single thermostat) or DTO/R (double thermostat) to provide the fire fighter with complete discretionary control of smoke functions during a fire/smoke emergency. (See STO/R and DTO/R submittal drawings for complete details).** Spring return type damper motor controlled by a smoke detector is recommended to provide proper operation in the smoke mode.
- Also available are options EFL (Electric Fusible Link) and PFV (Pneumatic Fusible Valve). These options provide quick and economical ways to check damper operations and also provide a Systematic Closure Control. Option PFV allows damper operation without the need/cost for an E-P valve and electrical connection at the damper.
- Available optional 3/4" flanged sleeve for grille mounting (see fig.9 of installation instructions). If actuator is to be externally mounted, it is suggested to order flange to be field installed.

Suggested Specification

Combination Fire/Smoke Dampers shall be Model: FSD-AF-S-211 by NCA Manufacturing. Damper blades shall be of double-skinned streamlined ("airfoil") construction for minimum pressure drop. Both blade edge and jamb seals shall be of the pressure sensitive type for low leakage. Dampers shall be rated for both Fire Damper (U.L. 555S/U.L.C. S112) and Smoke Damper (U.L. 555S/U.L.C. S112.1) operation. Leakage shall not exceed 8 cfm per sq. ft. at 4.0" static pressure. Linkage shall be of the concealed type for maximum free area. Dampers shall bear the Underwriters' Laboratories labels.

Manufacturer's Recommendations

All moving parts of the damper must be inspected and cycled at intervals not greater than every six months and in accordance with the latest edition of NFPA 90A, 92A, local codes and the actuator manufacturer. In addition, fuse links shall be removed and inspected for corrosion. Dry lubricants are recommended.

Specifications are correct at time of printing. However, as part of our 'continuous improvement program,' we reserve the right to make further improvements without notice.

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Project:

Contractor:

Location:

Address:

Architect:

P.O. Number:

Engineer:

Date:



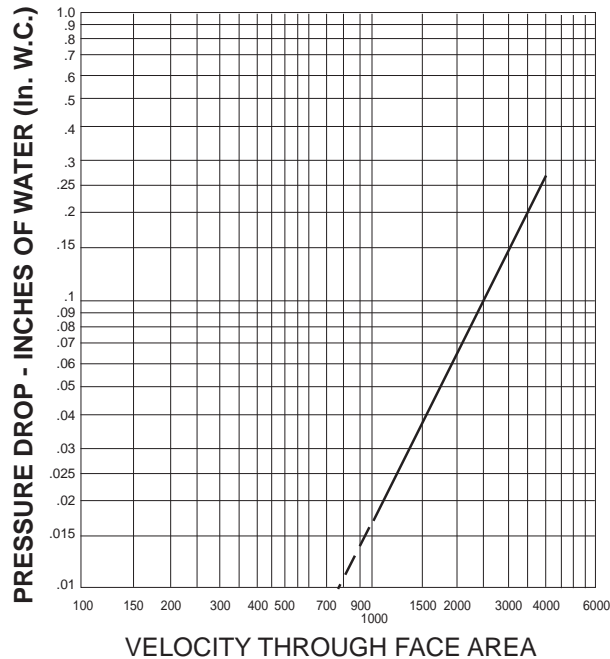
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PERFORMANCE DATA

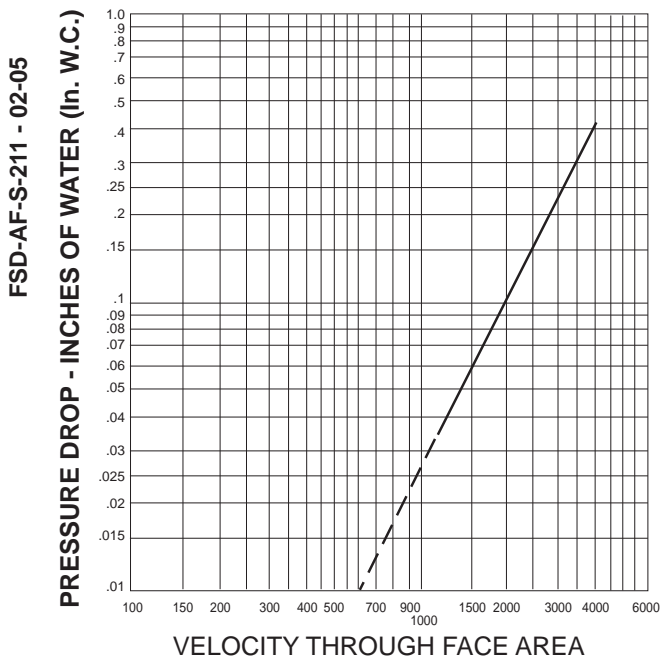
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Pressure drop testing was done by an independent laboratory to the AMCA Standard 500-D, Fig. 5.3 ductwork upstream & downstream.

DAMPER SIZE 36 x 36



DAMPER SIZE 24 x 24



DAMPER SIZE 12 x 12

