



MODEL FSD-3V-S-211 AND MODEL FSD-3V-S-231 COMBINATION FIRE/SMOKE DAMPER (WITH SLEEVE)

U.L. 555 CLASSIFIED 1 1/2 AND 3 HOURS / U.L. 555S CLASSIFIED CLASS I
U.L.C. S112 CLASSIFIED 1 1/2 AND 3 HOURS
VERTICAL AND HORIZONTAL MOUNTINGS

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



LISTED AND LABELLED BY:



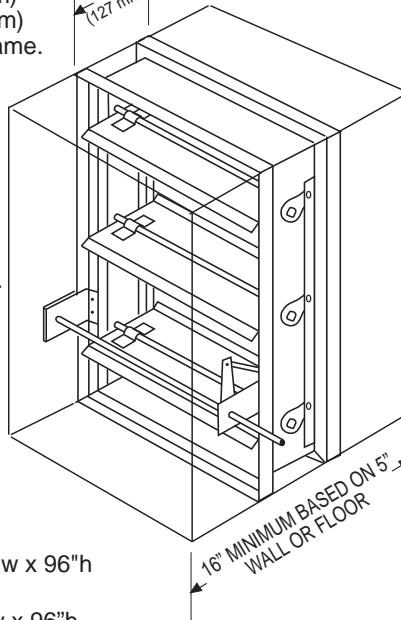
FEATURES

- The FSD-3V-S-2X1 series Combination Fire/Smoke Dampers have been designed and tested to exceed all U.L., U.L.C. and N.F.P.A. requirements for fire dampers as well as smoke dampers.

Standard Construction:

- Frame:** Roll-formed galvanized steel hat-section with staked corners with integral bracing.
- Blades:** 16 ga. Roll-formed galvanized steel.
Minimum width: 4.250" (108 mm)
Maximum width: 7.250" (184 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. Concealed in frame.
- Linkage:** Linkage bars are .125" (3.2 mm) thick plated steel.
- Sleeve:** 16" x 20 ga. standard, other gauges and lengths available.

These Dampers are
UL/ULC Approved for
Use in Dynamic and
Static Systems



PATENTED: U.S. 4,487,214
CDN. 1,165,661
U.K. 2,098,475

Heat Responsive Devices:

Snap Disk: 165°F standard, 212°F, 250 F, and 350 F available.

Finish: Mill galvanized.

Sizes: Minimum Size: 8" w x 6" h (203 mm x 152 mm)
Maximum UL 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-72" w x 96" h (1828 mm x 2438 mm)

3 Hr. Vertical: Multiple Assembly-72" w x 48" h (1828 mm x 1219 mm)

3 Hr. Horizontal: Maximum UL Listed Size:
72" w X 48" h (1828mm x 1219mm)

Maximum Velocity: 2000 fpm (10.2 m/s) on sizes

Maximum Pressure: 4" wg (1kPa)

Notes: • Sleeved dampers are furnished approx. same size as given duct dimension, unless otherwise noted.

- Not recommended with blades running vertically.

- FSD-3V-211 is U.L. 555 and U.L.C. S112 listed and labeled as a 1-1/2 hour fire damper.
- FSD-3V-231 is U.L. 555 and U.L.C. S112 listed and labeled as a 3 hour fire damper.

- U.L. and U.L.C. listed for both vertical and horizontal mountings.

- U.L. 555S / U.L.C. S112.1 listed and labeled 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.

- **The snap disk is a reusable/resettable heat response device that can be reset after visual inspection of the damper.** Also available Model STO/R (single thermostat) and DTO/R (dual 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.

- Available are options EGF (Electric Globe Fuse Link) and PFV (Pneumatic Fusible Valve). These options provide visible fuse links with a quick and economical ways to check damper operations while also providing 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-3V-S-211, by NCA Manufacturing. Fire/Smoke Dampers shall bear the Underwriters' Laboratories labels for both Fire Dampers and Smoke Dampers. U.L. 555S / U.L.C. S112.1 rating shall be Class I with leakage not to exceed 8 cfm per sq. ft. at 4.0 inches static pressure for any size. Linkage shall be of the concealed type for maximum free area.

Manufacturer's Recommendations

All moving parts of the damper must be inspected and cycled at intervals not greater than every twelve months or in accordance with the latest edition of NFPA 80, 90A, 92A, local codes and the actuator manufacturer. In addition, the damper shall be inspected for corrosion. Dry lubricants are recommended.

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Project:

Contractor:

Location:

Address:

Architect:

P.O. Number:

Engineer:

Date:

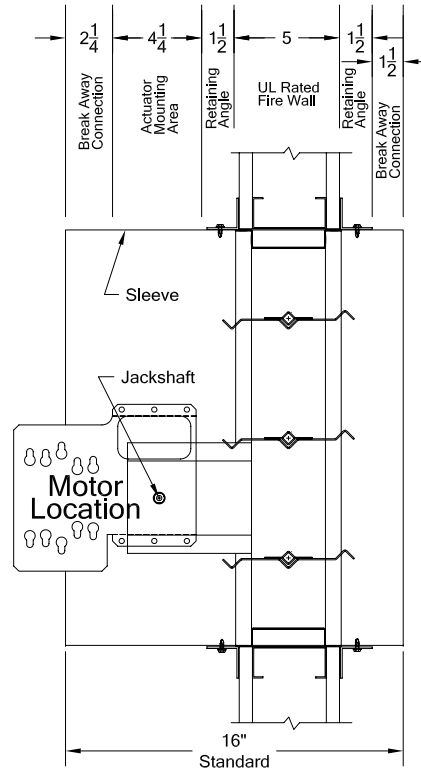
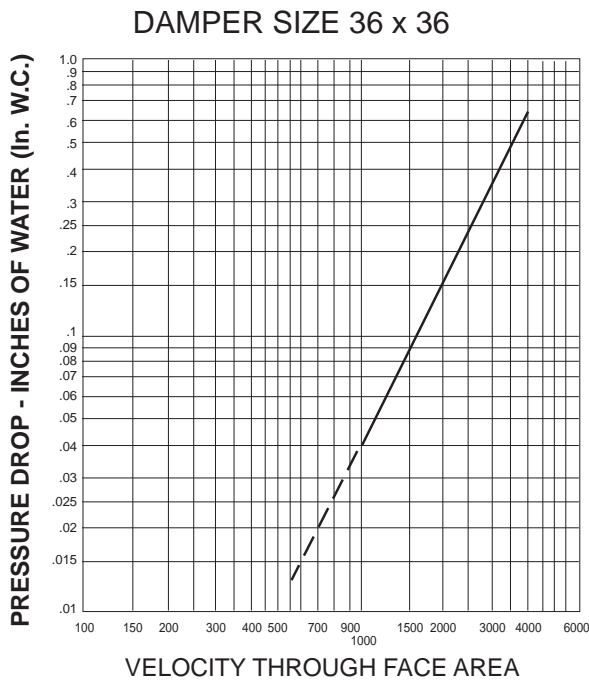


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PERFORMANCE DATA

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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.

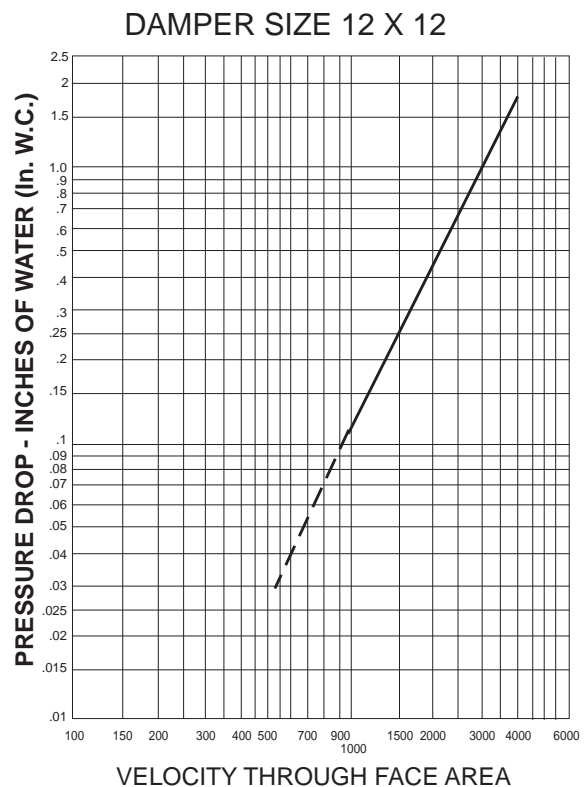
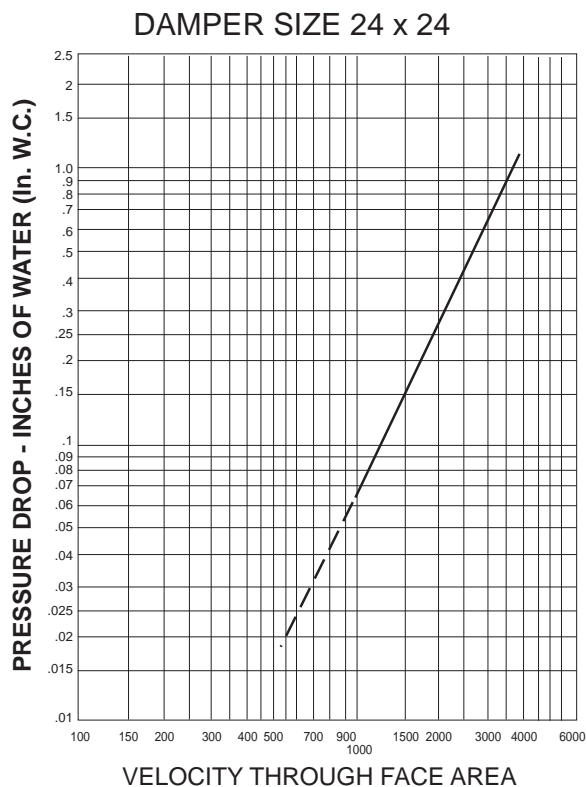


When the actuator is externally mounted and the wall thickness exceeds 5 inches, add 1 inch for each additional inch of wall thickness increased to ensure sleeve length through the penetration.

As standard the actuator is externally installed on the lower right hand half of the damper when viewed from the jack shaft side. The damper may be installed/rotate 180° such the actuator will be located on the upper left. The top of the damper is either side of the frame as long as the blades are running parallel.

When ordering internally mounted actuators, be aware there is a min. height requirement (in some cases the sleeve can be increased to allow for internally mounting).

The entire damper frame does not have to be installed in the plane of the wall or floor. The rule of thumb is with the damper in the closed position, the blade plane should be within the plane of the UL rated wall or floor.



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