



**MODEL FSD-3V-S-212 AND MODEL FSD-3V-S-232
COMBINATION FIRE/SMOKE DAMPER (WITH SLEEVE)**
U.L. 555 CLASSIFIED 1 1/2 AND 3 HOURS / U.L. 555S CLASSIFIED CLASS II
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-2X2 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.

• FSD-3V-212 is U.L. 555 and U.L.C. S112 listed and labeled as a 1-1/2 hour fire damper.
• FSD-3V-232 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 labelled as a Leakage Class II rated Smoke Damper with airflow in both directions. Class II provides for a maximum leakage of 20 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.

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 & flexible metal jamb seals.
- Linkage:** Concealed in frame. Linkage bars are .125" thick plated steel.
- Sleeve:** 16" x 20 ga. standard, other gauges and lengths available.

Heat Responsive Devices:

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

Finish: Mill galvanized.

Sizes: Minimum Size: 6"w x 6"h (203 mm x 203 mm)
Maximum UL Listed Size: Single Section: 36"w x 48"h (914 mm x 1219 mm)

Multiple Assembly:

108"w X 96"h (2743mm x 2438mm)
3 Hr. Maximum 72"w x 48"h (1829mm x 1219mm)

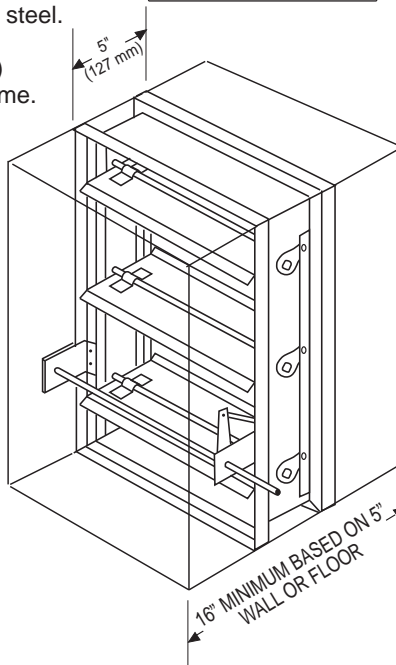
Maximum Velocity: 2000 fpm (10.2 m/s) on sizes

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.

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

Suggested Specification

Combination Fire/Smoke Dampers shall be Model: FSD-3V-S-212 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 II with leakage not to exceed 20 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.

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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FSD-3V-S-212 - 09-07

Project:

Contractor:

Location:

Address:

Architect:

P.O. Number:

Engineer:

Date:



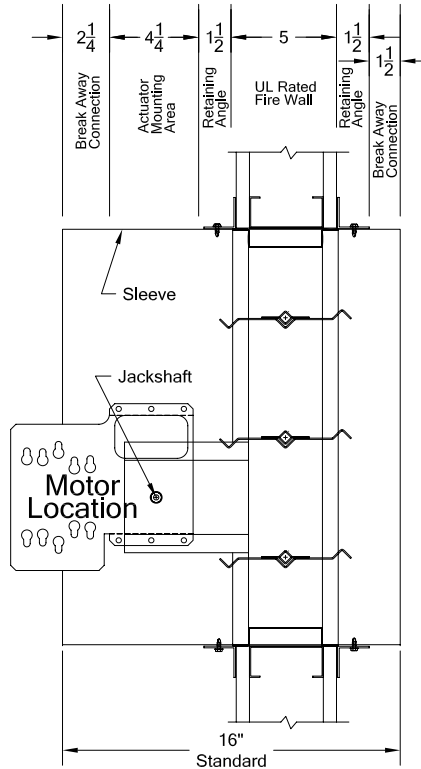
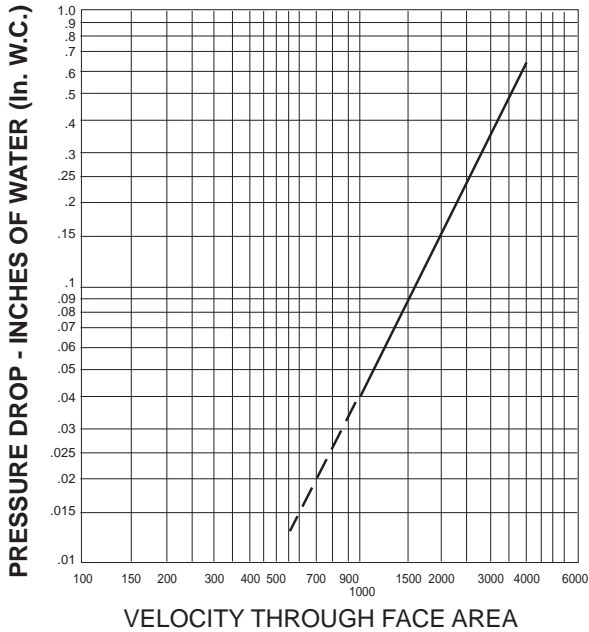
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PERFORMANCE DATA

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

DAMPER SIZE 36 x 36



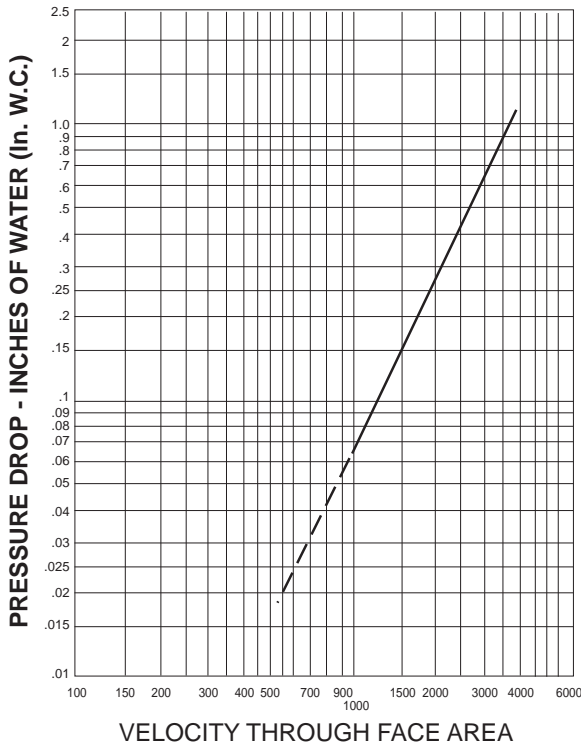
When the actuator is externally mounted and the wall thickness exceeds 5 inches, add 1 inch for each additional inch of wall thickness increased to ensure sleeve length through the penetration.

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.

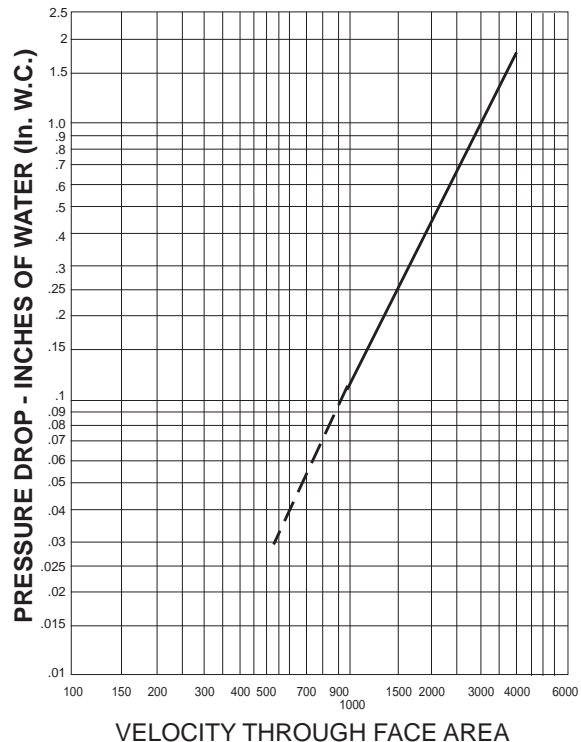
When ordering internally mounted actuators, be aware there is a min. height requirement (in some cases the sleeve can be increased to allow for internally mounting).

The entire damper frame does not have to be installed in the plane of the wall of 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.

DAMPER SIZE 24 x 24



DAMPER SIZE 12 X 12



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