

DFD-LP; LOW PROFILE; LOW PRESSURE DROP DYNAMIC FIRE DAMPER 1 1/2 HOUR RATING UL555 RATED FOR USE IN "DYNAMIC" OR "STATIC" SYSTEMS

APPLICATION

Ruskin DFD-LP is a 1 1/2 hour rated single, aerodynamic blade dynamic (fan on) or static (fan off) fire damper. The DFD-LP is constructed with an integral sleeve/frame and an aerodynamic shaped blade for high velocity applications and is rated for 4,000 fpm (20.32 m/s) and 4 in. w.g. (1 kPa) on all sizes. The DFD-LP is also rated for dual direction air flow and can be installed vertically in walls or horizontally in masonry floors.

STANDARD CONSTRUCTION

FRAME

Galvanized steel integral sleeve and frame (in gauges required by UL Listing R-5531)

BLADE

Galvanized steel integral sleeve and frame (in gauges required by UL Listing R-5531)

BEARINGS

Stainless Steel sleeve type, pressed into frame

FUSE LINK

165°F (74°C) standard. 212°F (100°C) and 285°F (141°C) available as options

AXLES

1/2" (13) plated steel hex

DAMPER WEIGHT

Approximately 4 lbs. per sq. ft.

DAMPER SIZES

MINIMUM SIZES

Vertical or Horizontal Installation – 6"w x 6"h (152 x 152)

MAXIMUM SIZES

Vertical or Horizontal Installation – 24"w x 14"h (610 x 356)

OPTIONS

- **PFMA Angles** for two side angle installations.
- **Longer Sleeve** - 18" (457) or 20" (508).
- **Round Transitions** - See FDR25 Model.

NOTES

1. Dimensions in inches, parentheses () indicate millimeters.



FEATURES

- **16" long integral sleeve/frame**
- **FAST** single side mounting angle
- **Easy Reset Arm** - To assist in testing to meet NFPA requirements

The DFD-LP damper meets the requirements for fire dampers established by:

- **National Fire Protection Association NFPA Standards** 90A, 92A, 92B and 101
- **ICC International Building Codes**

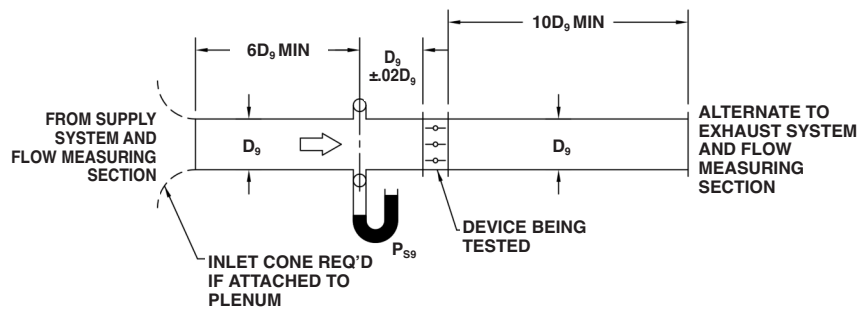


SEE COMPLETE
MARKING
ON PRODUCT

UL555 Classification R5531

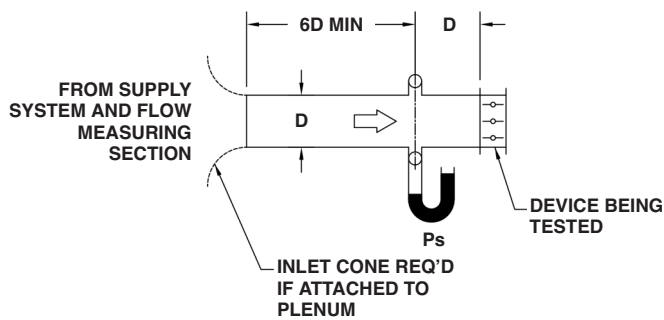
PERFORMANCE

The following pressure drop charts shows the difference between a standard curtain fire damper Style B vertical/horizontal mount curtain fire damper and the DFD-LP Fire damper.



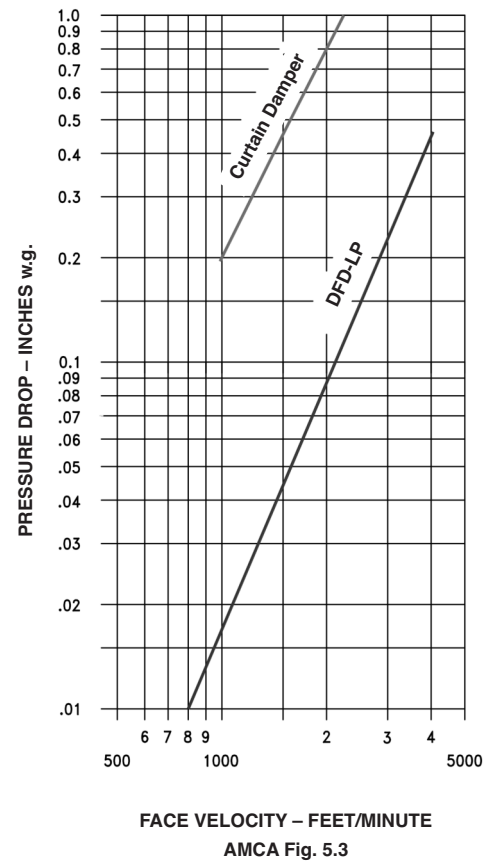
**FIG. 5.3 TEST SETUP
TEST DEVICE WITH INLET AND OUTLET DUCT**

The pressure drop to the right shows the pressure drop, in accordance with AMCA Standard 500 Figure 5, is a damper inserted loss under ideal conditions: Fully developed airflow upstream and length for static regain downstream of the damper. The test data are based upon the difference between a "duct with damper" pressure drop less the "duct" pressure drop at a given airflow.

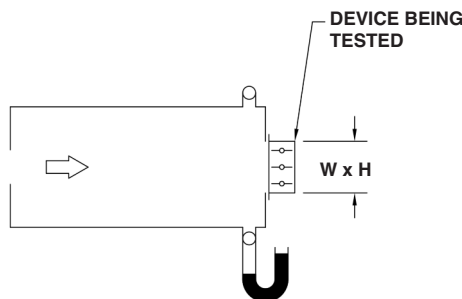
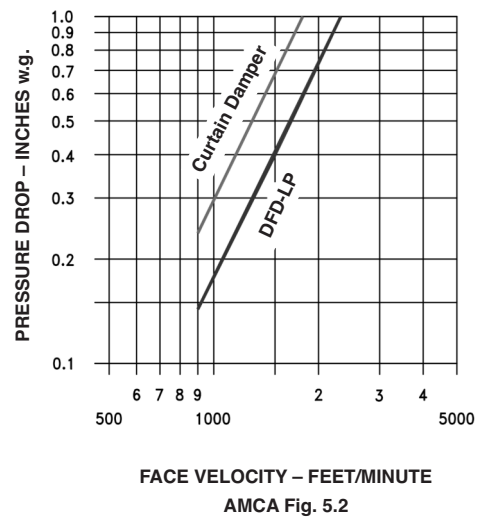


**AMCA STANDARD 500 FIGURE 5.2 DAMPER TEST
SETUP TEST DEVICE WITH INLET DUCT**

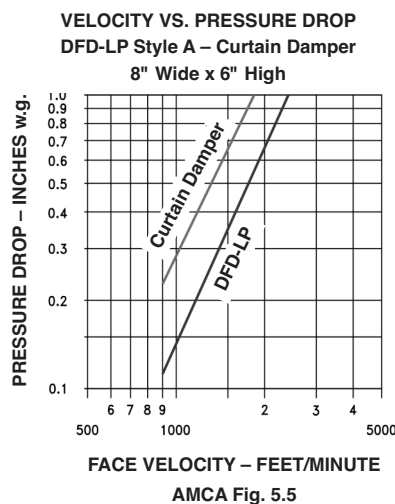
**VELOCITY VS. PRESSURE DROP
DFD-LP Style A – Curtain Damper
8" Wide x 6" High**



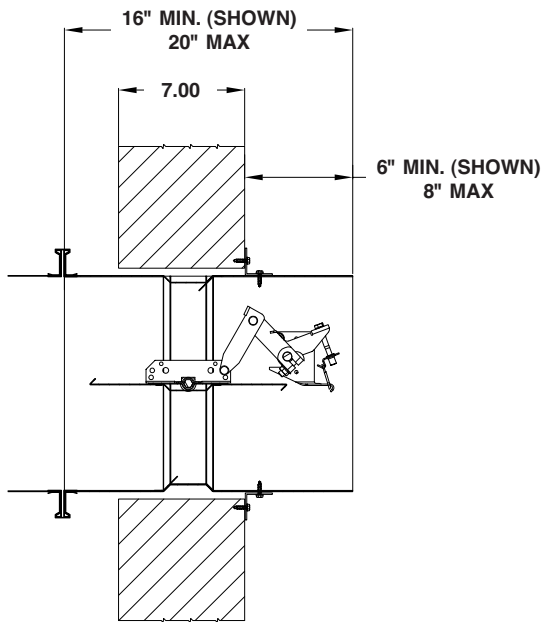
**VELOCITY VS. PRESSURE DROP
DFD-LP Style A – Curtain Damper
8" Wide x 6" High**



**FIG. 5.5 TEST SETUP APPARATUS
TEST DEVICE WITH INLET CHAMBER**



DAMPER DIMENSIONAL DATA



Sleeve Length

The standard DFD-LP assembly is supplied with a 16" long sleeve and is designed to be installed in walls or masonry floors up to 7" (203) in depth. For walls or masonry floors greater than 7" (203), increase the sleeve length by 1" (25) for every 1" (25) in depth the wall or floor is greater than 7" (203). Maximum sleeve length allowed is 20".

FUSE LINK ADJUSTMENT

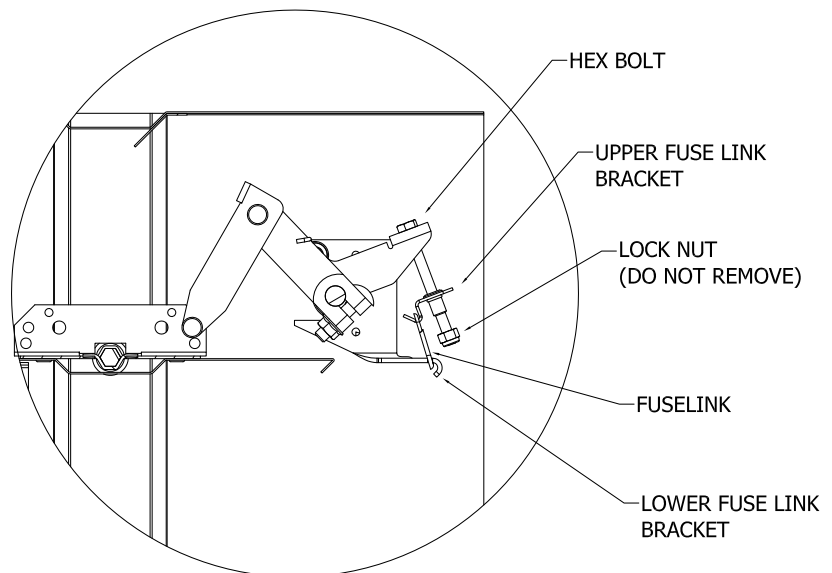
To Test or Replace the Fuse Link

1. Loosen hex bolt to relieve tension on fuselink. (Do not remove the locknut)
2. Remove the fuse link from the upper and lower fuselink brackets.
3. Cycle the damper full open to full close positions, making sure the damper operates freely.
The damper should be able to spring closed in any position.
4. Re-attach fuselink to brackets and adjust hex bolt as required to obtain original blade position.

Note: The damper can be adjusted along to length of the hex bolt for volume control operation.

CAUTION

Damper assembly is under spring tension. Care should be taken to avoid bodily injury or damage to the damper assembly.



SUGGESTED SPECIFICATION

Fire dampers meeting or exceeding the following specifications shall be furnished and installed at locations shown on plans or as described in schedules. Fire dampers shall be produced in an ISO 9001 certified factory and shall be warranted to be free from defects in material and workmanship for a period of 5 years after date of shipment. Dampers shall meet the requirements of NFPA80, 90A, 92A and 92B and shall have a fire rating of 11/2 hours in accordance with the latest edition of UL555.

Damper frame shall be constructed using Integral sleeve and frame single piece galvanized steel in gauges required by UL listing R-5531 and shall be Low Profile (LP) design to maximize the free area. Damper blade shall be low profile aerodynamic shape, double skin galvanized steel in gauges required by UL listing R-5531. Bearings shall be stainless steel, permanently lubricated sleeve type turning in an extruded hole in the frame for maximum life.

Fire dampers shall be approved for vertical or horizontal mounting as required by the location shown and shall be installed using steel sleeves, angles and other materials and practice required to provide an installation in accordance with the damper manufacturer's installation instructions. Submittal information shall include the fire protection, maximum velocity and pressure ratings and the manufacturer's UL installation instructions. In addition, the fire dampers shall be AMCA licensed for air performance.

Each fire damper shall be labeled for use in dynamic systems. Static only damper labels are not permissible. The damper shall be rated for dynamic closure up to 4000 fpm (20.3 m/s) and 4 in. w.g. (1 kPa) static pressure and shall be tested and rated to close with airflow in either direction. Dynamic fire dampers shall be Ruskin model DFD-LP.

(Consult www.ruskin.com for electronic version of this "Quick" spec as well as for complete 3-part CSI MasterFormat Specifications)

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