

Application

Model DFDAF-330 is a multi-blade fire damper with airfoil style blades for use in walls, floors, and partitions with fire resistance rating of 3 hours or more. Model DFDAF-330 may be installed vertically (with blades running horizontal) or horizontally and is rated for airflow in either directions.

This model has a manual quadrant which allows the DFDAF-330 to function as both a fire damper and a manual balancing damper.

Ratings

UL 555 Fire Resistance Rating

Fire Rating: 3 hours

Dynamic Closure Rating: Actual ratings are size dependent

Velocity: Up to 4000 fpm (20.3 m/s) on sizes up to 32 in. x 36 in. (813 mm x 914 mm); 2000 fpm (10.2 m/s) on sizes greater than 32 in. x 36 in. (813mm x 914 mm)

Pressure: Up to 8 in. wg (2 kPa)



W & H dimensions furnished approximately ¼ in. (6 mm) undersize.
(Add sleeve thickness for overall sleeved damper dimension)

Construction

Construction	Standard	Optional
Frame Material	Galvanized steel	-
Frame Material Thickness	16 ga. (1.5mm)	-
Frame Type	5 in. x 1 in. (127mm x 25mm) hat channel	-
Blade Action	Opposed	-
Blade Material	Galvanized steel	-
Blade Material Thickness	14 ga. (2mm) equivalent	-
Blade Type	Double skin airfoil	-
Linkage	Plated steel out of airstream, concealed in jamb	-
Axle Bearings	316SS	-
Axle Material	Plated steel	-
Jamb Seals	Stainless Steel	-
Closure Device	Fusible link	-
Closure Temperature	165°F (74°C)	212°F (100°C), 286°F (141°C), 350°F (177°C)
Actuator	Manual quadrant	-

Model DFDAF-330 meets the requirements for fire dampers established by:

National Fire Protection Association

NFPA Standards 80, 90A & 101

IBC International Building Codes

W x H	Minimum Size	Maximum Size		
		Single Section	Multi-Section	
			2000 fpm (10.2 m/s)	4000 fpm (20.3 m/s)
Inches	8 x 6	32 x 36 (V) or 30 x 48 (H or V)	128 x 96 (V) or 144 x 96 (H)	30 x 48
mm	203 x 152	813 x 914 or 762 x 1219	3048 x 2438 or 3658 x 2438	762 x 1219

Options & Pressure Drop Data

- Extra Fusible Links
- Factory mounted accessories
 - Quick connect breakaway connections
 - Access doors
- Flanges
- Grille Tabs
- OCI (Open Closed Indication switches): Units will be supplied with one OCI per row of damper sections
- POC retaining angles
- Security bars
- Sealed transition and sleeves
- Sleeves
- Smoke Detector
- Test Switch (GTS-4)
- Transitions (C, O, R)

Document Links



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AMCA Pressure Drop

AMCA Figure 5.2

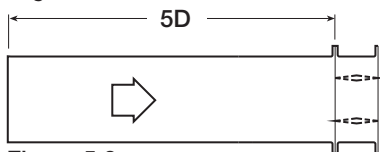


Figure 5.2

12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.26
2000	0.46
2500	0.72
3000	1.04
3500	1.41
4000	1.84

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.12
2000	0.22
2500	0.34
3000	0.49
3500	0.67
4000	0.87

36in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.12
2000	0.22
2500	0.34
3000	0.49
3500	0.67
4000	0.88

12in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.05
1500	0.12
2000	0.21
2500	0.33
3000	0.48
3500	0.65
4000	0.85

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.02
1000	0.08
1500	0.18
2000	0.33
2500	0.51
3000	0.74
3500	1.00
4000	1.31

AMCA Figure 5.3

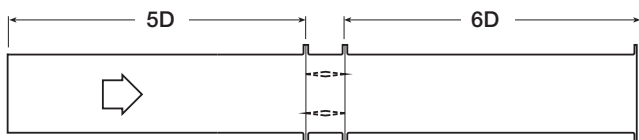


Figure 5.3

12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.13
2000	0.23
2500	0.37
3000	0.53
3500	0.73
4000	0.95

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.06
2000	0.10
2500	0.16
3000	0.23
3500	0.32
4000	0.42

36in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.05
2000	0.09
2500	0.14
3000	0.21
3500	0.29
4000	0.38

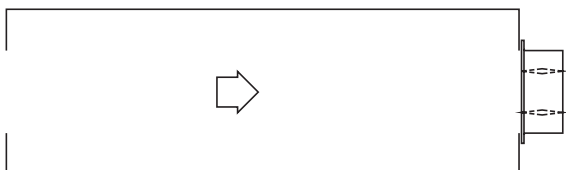
12in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.06
2000	0.10
2500	0.16
3000	0.24
3500	0.33
4000	0.43

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.04
1500	0.10
2000	0.18
2500	0.29
3000	0.42
3500	0.57
4000	0.74

AMCA Figure 5.5



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.04
1000	0.18
1500	0.42
2000	0.75
2500	1.17
3000	1.68
3500	2.29
4000	2.99

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.13
1500	0.29
2000	0.52
2500	0.81
3000	1.17
3500	1.60
4000	2.14

36in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.27
2000	0.48
2500	0.75
3000	1.08
3500	1.48
4000	1.93

12in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.27
2000	0.49
2500	0.77
3000	1.11
3500	1.51
4000	1.97

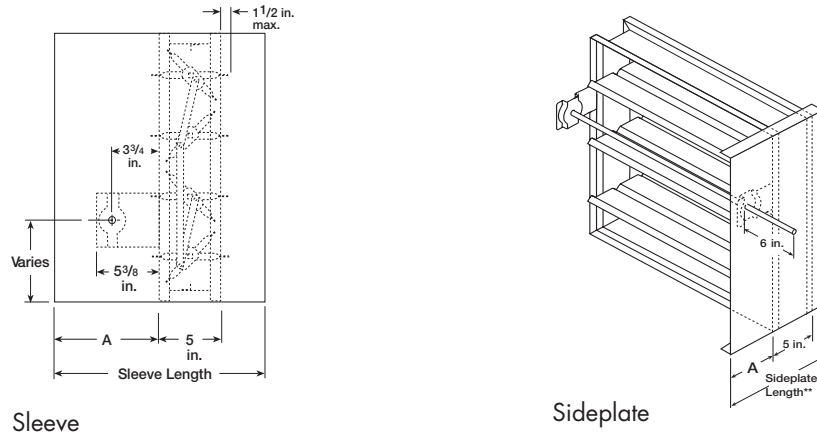
48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.14
1500	0.32
2000	0.57
2500	0.89
3000	1.28
3500	1.75
4000	2.29

Sleeve and Sideplate Dimensions

The drawings below and corresponding table show the position of the DFDAF-330 damper when mounted in a factory sleeve ("A" dimension). The standard mounting locations provide enough space for the mounting of manual quadrant(s) and allow space for installation of retaining angles and duct connections. The following options may affect the range of available mounting locations: transitions, security bars, grille tabs.

The standard location of a damper mounted in a factory sleeve ("A" dimension) is shown below. The damper can be positioned at other locations within a range of 7 3/16 in. (183mm) to 16 in. (406mm) for the "A" dimension.

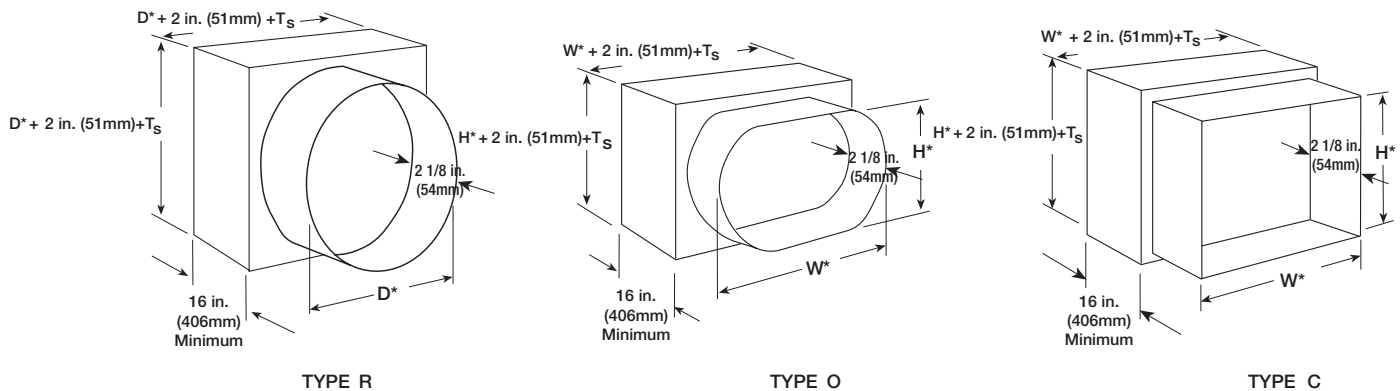


in. (mm)	"A" Dimension		
	Sleeve Std	Sleeve Max	Sideplate
Dampers with no OCI	7 3/16 in. (183)	16 (406)	6 3/16 (157)
<12 in. (305) with OCI	12 (305)	16 (406)	12 (305)
≥12 in. (305) with OCI	7 3/16 in. (183)	16 (406)	12 (305)

NOTE: Entire damper frame is not required to be installed within the wall. The damper blades, when closed should be contained within the wall.

Transitioned Damper Dimensions

When a fire damper is being used in conjunction with round or oval ductwork, the DFDAF-330 can be supplied in a factory sleeve with round or oval transitions on both ends of the sleeve. Dampers should be ordered to the duct dimensions. Drawings below show overall damper size.

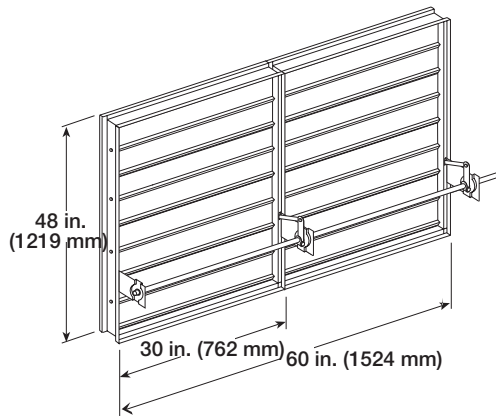


*These dimensions are furnished approximately 1/4 in. (6mm) undersize, except round and oval dimensions which are approximately 1/8 in. (3mm) undersize.

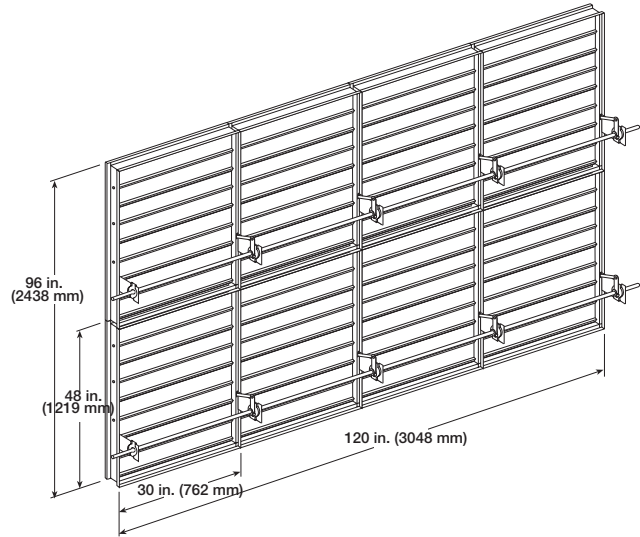
Ts = (2)(Sleeve Thickness)

Multiple Section Dampers

Dampers larger than maximum single section size are supplied as a factory assembly of two or more sections of equal size. The following figures show maximum damper section size and assembly configurations for multi-section dampers. Larger damper sizes may ship in multiple sections.



Two Section



**4 sections wide
2 sections high**

NOTE: Entire damper frame is not required to be installed within the wall. The damper blades, when closed should be contained within the wall.