

## Model DFD-150 Type B

High Free Area  
 1 1/2 Hour Fire Resistance Rating

### Application

Model DFD-150 is approved for use in walls, floors and partitions with fire resistance ratings less than 3 hours. This model carries a 1 1/2 hour UL fire damper label. UL 555 classifies dynamic rated fire dampers for use in HVAC systems that are operational in the event of fire.

### Construction

Galvanized steel (in gauges required by UL listing R-13317)

### Installation

All fire damper installations require the use of sleeves, angles and methods described in Greenheck Fire Damper Installation Instructions #452763, included with every damper shipment. Sleeves can be field fabricated or factory furnished as a complete damper/sleeve assembly. See Factory Sleeve Option below for details.

Model DFD-150 meets the requirements for fire dampers established by:

**National Fire Protection Association**  
 (NFPA Standards 90A & 101)

**BOCA National Building Codes**

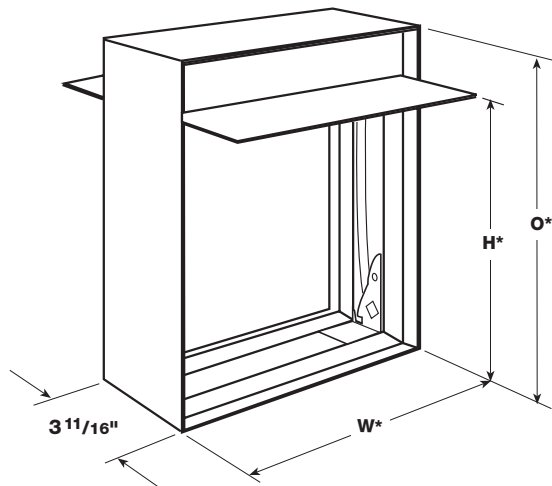
**ICBO Uniform Building Codes** (UBC Standard 43-7)

**SBCCI Standard Building Codes**

**New York City** (MEA listing #260-91-M)

**California State Fire Marshal** (Listing #3225-981:102)

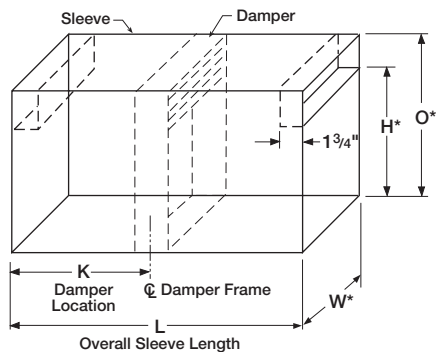
**"UL CLASSIFIED (see complete marking on product)"**  
**"UL CLASSIFIED to Canadian safety standards (see complete marking on product)"**  
 Standard 555 (Listing #R13317)



#### Features:

- Stainless steel closure springs
- Fusible links (165°F standard, 212°F & 286°F available)
- Can be mounted horizontally or vertically (see limitations on page 4)

\* These dimensions are furnished approximately 1/4" undersize. (Add sleeve thickness for overall sleeved damper dimension)



### Factory Sleeve Option

DFD-150 Fire Dampers are available in factory furnished sleeves. Sleeves are galvanized steel and are available in 10 thru 20 ga. thicknesses and lengths up to 36".

"K" dimension specifies location of damper within the sleeve. Minimum is 4", maximum is "L" less 4", which allows for mounting angle installation and duct connection at each end of sleeve. If "K" dimension is not specified, it will be provided as one half of "L" dimension (damper centered in sleeve).

Horizontally mounted dampers must be installed with the "K" dimension on the bottom side.

Qty.	Damper Size		Fusible Link Temp (165°F std.)	Factory Sleeve Option				
	W*	H*		Dimensions		Gauge	Material	
				L	K			

Project	Location
Contractor	Design Specifier

# UNDUCTED VELOCITY RATINGS

# DFD-150 TYPE B

## Dynamic Rated Fire Damper Application

Airflow ratings for dynamic fire dampers vary depending on the type of installation. UL Standard 555 provides for testing and dynamic rating of fire dampers in the six installations illustrated. Use the following steps to verify that a fire damper is properly rated for the application intended:

1. Check the maximum pressure that can occur with damper fully closed. **Model DFD dampers are rated to close against 8 in. w.g.**
2. Select the Installation and Airflow Velocity Table that approximates the installation being considered.  
For example: Ducted installation with vertical damper, horizontal airflow would use Table D.
3. Using the W x H damper dimensions (see page 1) determine the maximum velocity rating in fpm from the proper Airflow Velocity Table.  
For example: Using Table D for a ducted vertical damper installation with horizontal airflow, the maximum velocity through a 30"x12" damper is 3963 fpm.

## Maximum Airflow Velocity Ratings (FPM) for *Unducted* Installations

### Vertical Damper Installation Horizontal Airflow

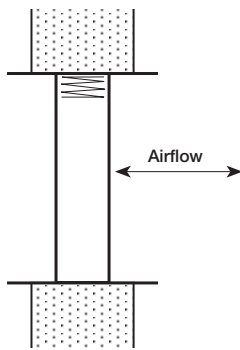


Table A

Damper Height (H) inches	Damper Width (W) inches								
	12	24	36	48	72	108	120		
10	8118 1 section								
21	6872 1 section			3436 2 sections		1800 3 sections	1350 4 sections		
32	5401 1 section			2700 2 sections					36
45	3206 2 sections	2560 2 sections	1603 4 sections	1280 4 sections		865 6 sections	648 8 sections		40
		24	36	48	72	96	108	120	

### Horizontal Damper Installation Airflow Down

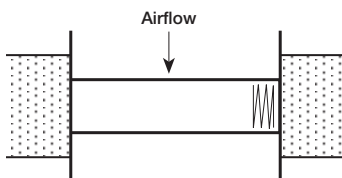


Table B

Damper Height (H) inches	Damper Width (W) inches								
	12	24	36	48	72	108	120		
10	8314 1 section								
21	4176 1 section			2088 2 sections		559 3 sections	419 4 sections		
32	1679 1 section			839 2 sections					36
45	1949 2 sections	796 2 sections	974 4 sections	398 4 sections		269 6 sections	201 8 sections		40
		24	36	48	72	96	108	120	

### Horizontal Damper Installation Airflow Up

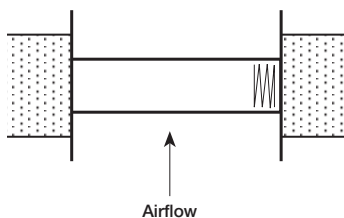


Table C

Damper Height (H) inches	Damper Width (W) inches								
	12	24	36	48	72	108	120		
10	8565 1 section								
21	5772 1 section			2886 2 sections		814 3 sections	611 4 sections		
32	2444 1 section			1222 2 sections					36
45	2693 2 sections	1158 2 sections	1346 4 sections	579 4 sections		391 6 sections	293 8 sections		40
		24	36	48	72	96	108	120	

# DUCTED VELOCITY RATINGS

# DFD-150 TYPE B

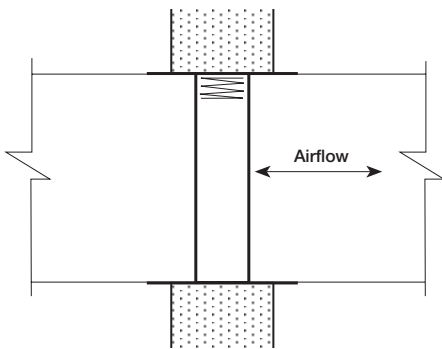
## Dynamic Ratings for Multi-Section Damper Assemblies

Dampers larger than maximum single section size are supplied in 2 or more sections of equal size (see pg.4). In the event of fire it must be assumed that each damper section will close at a slightly different time and that the last damper section remaining open will be handling the entire airflow volume. Airflow ratings in Tables A-F for dampers larger than single section are based on this assumption. These tables also show the number of sections in a multi-section damper assembly.

Consult factory for velocity limitations on dampers over 45" in height.

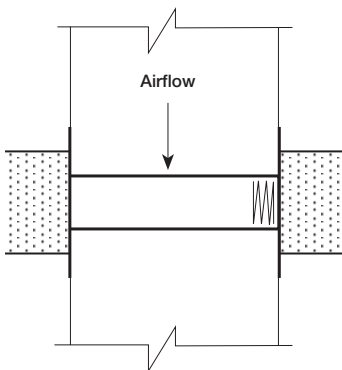
## Maximum Airflow Velocity Ratings (FPM) for Ducted Installations

**Vertical Damper Installation  
Horizontal Airflow** Table D



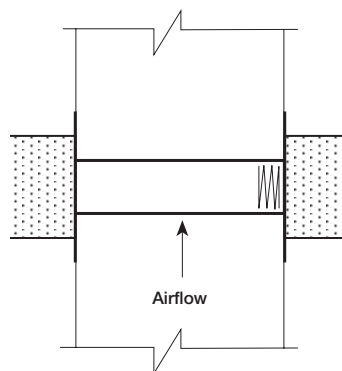
Damper Height (H) inches	Damper Width (W) inches							
	12	24	36	48	72	108	120	
10	6044 1 section							
21	4576 1 section			2288 2 sections		1321 3 sections		990 4 sections
32	3963 1 section			1981 2 sections				36
45	2135 2 sections		1879 2 sections	1067 4 sections	939 4 sections	634 6 sections		476 8 sections
		24	36	48	72	96	108	120

**Horizontal Damper Installation  
Airflow Down** Table E



Damper Height (H) inches	Damper Width (W) inches							
	12	24	36	48	72	108	120	
10	6994 1 section							
21	2909 1 section			1454 2 sections		376 3 sections		282 4 sections
32	1129 1 section			564 2 sections				36
45	1357 2 sections		535 2 sections	678 4 sections	267 4 sections	180 6 sections		135 8 sections
		24	36	48	72	96	108	120

**Horizontal Damper Installation  
Airflow Up** Table F



Damper Height (H) inches	Damper Width (W) inches							
	12	24	36	48	72	108	120	
10	5186 1 section							
21	3473 1 section			1736 2 sections		469 3 sections		352 4 sections
32	1409 1 section			704 2 sections				36
45	1620 2 sections		668 2 sections	810 4 sections	334 4 sections	225 6 sections		169 8 sections
		24	36	48	72	96	108	120

# SIZING DATA

# DFD-150 TYPE B

Dampers larger than maximum single section size are supplied in 2 or more sections of equal size. If ordered with a factory sleeve, multi-section dampers are factory assembled ready for installation. If ordered without a factory sleeve, multi-section dampers require field assembly. (See Greenheck Fire Damper Installation Instructions #452763)

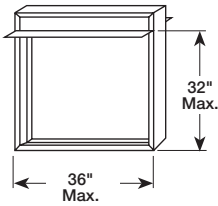
The following chart and illustrations show minimum and maximum damper section size and assembly configurations for multi-section dampers.

## Size Limitations

	Vertical or Horizontal		Vertical Only
	Single Section	Multi-Section	Multi-Section
Minimum	4"x4"	NA	NA
Maximum	① 36" x 32"	② 96" x 45" or ③ 120" x 37"	④ 74" x 71"

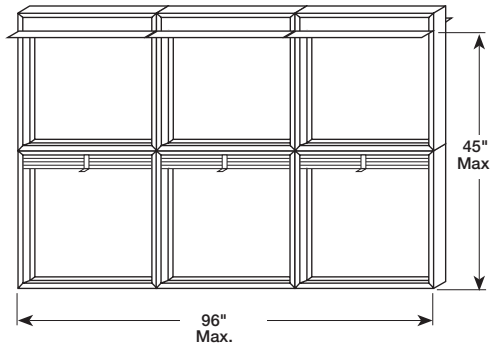
Installation of sizes larger than the maximums shown requires approval of the authority having jurisdiction.

① Maximum Single Section Dimensions



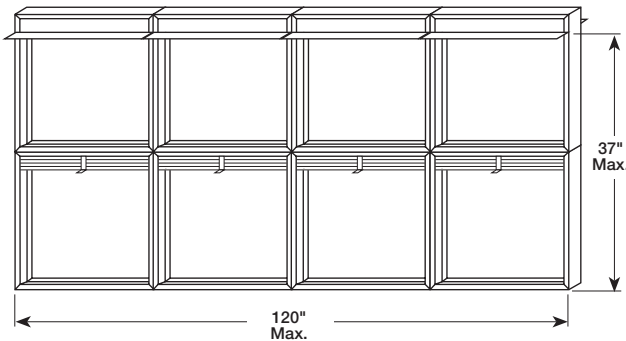
② Multi Section Limitations

Maximum damper height is 45" when combination width is 96" or less.



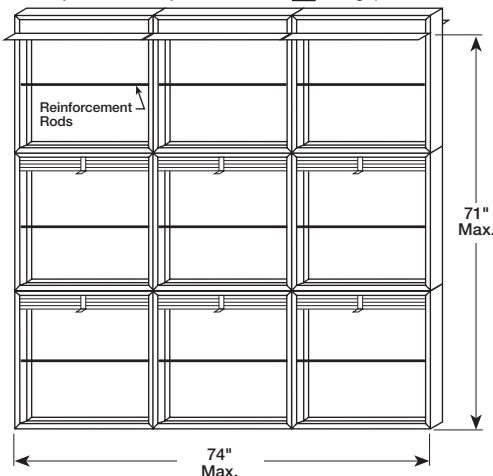
③ Multi Section Limitations

Maximum damper height is 37" when combination width is greater than 96" and less than or equal to 120".

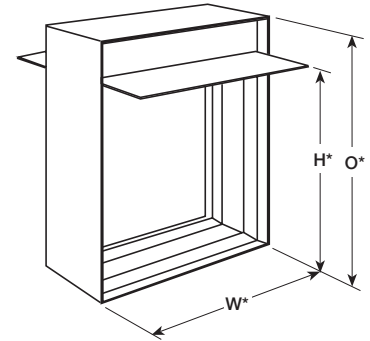


④ Multi Section Limitations

Maximum damper height is 71" when combination width is 74" or less. (Vertical mullion provided on dampers over 36" wide and 45" high.)



## Overall Damper Dimensions



H*	O*	H*	O*
3"	5"	46"	50"
4	6	47	51
5	7	48	52
6	8	49	53
7	9	50	54
8	10	51	55
9	11	52	56
10	12	53	57
11	13	54	58
12	14	55	59
13	15	56	60
14	16	57	61
15	18	58	62
16	19	59	63
17	20	60	64
18	21	61	65
19	22	62	66
20	23	63	67
21	24	64	68
22	26	65	69
23	27	66/68	71
24	28	67/69	72
25	29	70	73
26	30	71	74
27	31		
28	32		
29	33		
30	34		
31	35		
32	36		
33	36		
34	37		
35	38		
36	39		
37	40		
38	41		
39	42		
40	43		
41	44		
42	45		
43	46		
44	47		
45	48		

\* These dimensions are furnished approximately 1/4" undersize. (All 'H' dimensions larger than 32" are two or three sections high. The top section is a Type B and the bottom sections are Type A.)