

#### APPLICATION

Model DFD-150X 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

Damper is galvanized steel (in gauges required by UL listing R-13317) sleeve is 20 ga. galvanized steel.

#### INSTALLATION

This model damper requires no additional sleeves but does require the use of angles and installation methods described in Greenheck Fire Damper Installation Instructions #453946, included with every damper shipment. SSC option replaces the angle requirement previously mentioned (installation instructions #455246).

Model FD-150X 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)

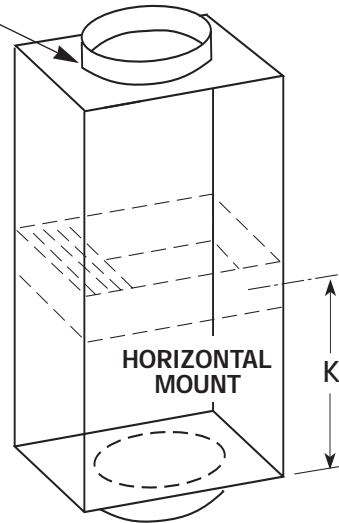
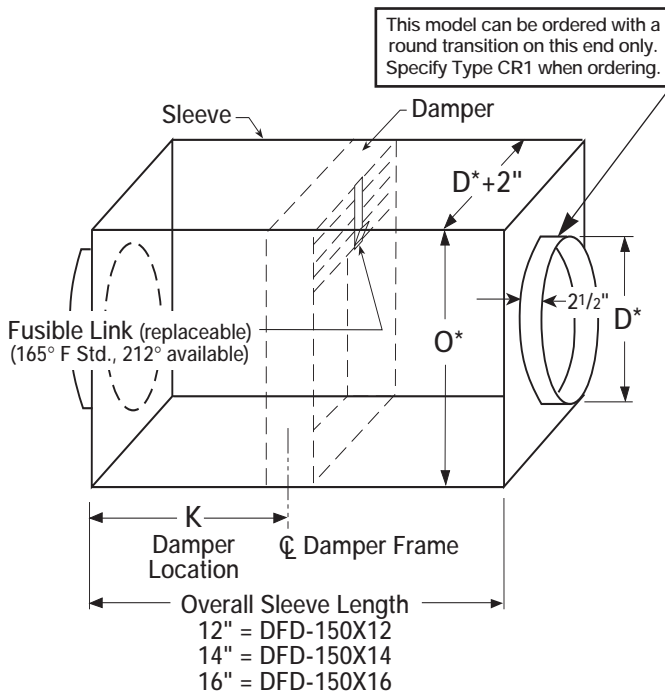
**SBCCI Standard Building Codes**

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

**California State Fire Marshall**

(Listing #3225-981:102 for use in walls)

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

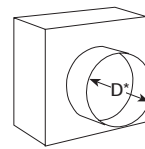


#### Features:

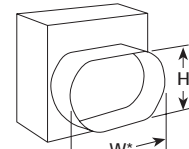
- Stainless steel closure springs
- Fusible links (165° standard, 212° available)
- Can be mounted horizontally or vertically.

\*These dimensions are furnished approximately 1/4" undersize. Round and oval dimensions furnished approximately 1/8" undersize.

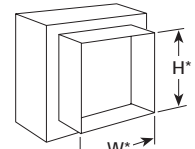
#### TRANSITION TYPES



TYPE CR



TYPE CO



TYPE C

"K" dimension specifies location of damper within the sleeve. Standard "K" dimension is one half of sleeve length (damper centered in sleeve). Optional "K" dimensions for each model are shown below:  
DFD-150X12- "K" can be specified as 4, 5, 6, 7 or 8"  
DFD-150X14- "K" can be specified as 6, 7 or 8"  
DFD-150X16- "K" is always 8"  
All dimensions and gauges are nominal

Qty.	Model	Damper Size		Fusible Link Temp (165° F std.)	Damper Location	SSC Option
	12" 14" 16"	W* D*	H*		K	

Project

Location

Contractor

Design Specifier

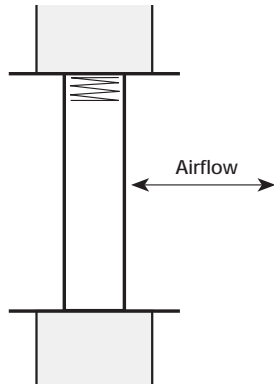
## Dynamic Rated Fire Damper Application

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 airflow velocity through a 30" x 12" Type C damper is 4332 fpm. Maximum airflow velocity through a 24" dia. Type CR damper with the same installation is 5545 fpm .

## Maximum Airflow Velocity Ratings (FPM) for *Unducted* Installations Model DFD-150X Type CR, CO, C

**Vertical Damper Installation  
Horizontal Airflow**

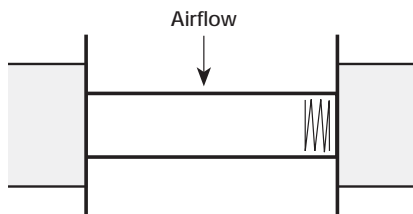


**Table A**

Type CR	
Dia.	FPM
3"-9"	14036
>9-20	10105
>20-31	7556

Damper (H) inches	Damper Width (W) inches		
	10	22	34
9	C-10824 CO-13414 1 section		
20	C-7871 CO-9225 1 section		
31	C-5903 CO-6976 1 section		

**Horizontal Damper Installation  
Airflow Down**

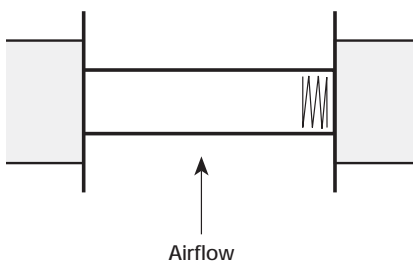


**Table B**

Type CR	
Dia.	FPM
3"-9"	14377
>9-20	6142
>20-31	2349

Damper (H) inches	Damper Width (W) inches		
	10	22	34
9	C-11086 CO-13740 1 section		
20	C-4784 CO-5607 1 section		
31	C-1835 CO-2169 1 section		

**Horizontal Damper Installation  
Airflow Up**



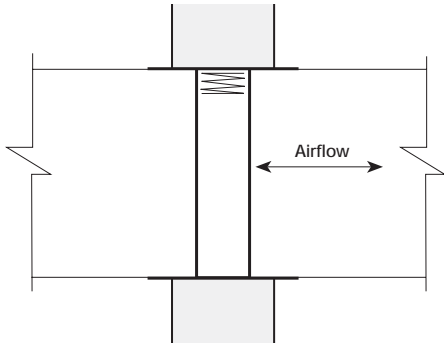
**Table C**

Type CR	
Dia.	FPM
3"-9"	14810
>9-20	8488
>20-31	3419

Damper (H) inches	Damper Width (W) inches		
	10	22	34
9	C-11420 CO-14154 1 section		
20	C-6611 CO-7748 1 section		
31	C-2671 CO-3157 1 section		

## Maximum Airflow Velocity Ratings (FPM) for *Ducted* Installations Model DFD-150X Type CR, CO, C

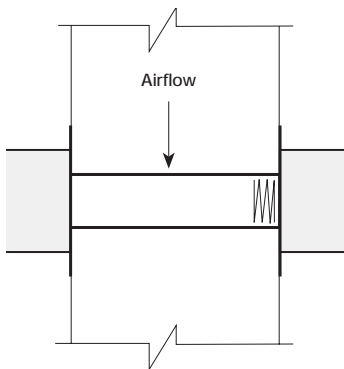
**Vertical Damper Installation  
Horizontal Airflow**      **Table D**



Type CR	
Dia.	FPM
3"-9"	10451
>9-20	6730
>20-31	5545

Damper (H) inches	Damper Width (W) inches		
	10	22	34
9	C-8059 CO-9988 1 section		
20		C-5242 CO-6144 1 section	
31			C-4332 CO-5120 1 section

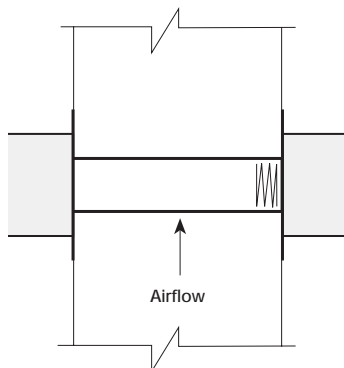
**Horizontal Damper Installation  
Airflow Down**      **Table E**



Type CR	
Dia.	FPM
3"-9"	12094
>9-20	4278
>20-31	1580

Damper (H) inches	Damper Width (W) inches		
	10	22	34
9	C-9326 CO-11558 1 section		
20		C-3332 CO-3905 1 section	
31			C-1234 CO-1458 1 section

**Horizontal Damper Installation  
Airflow Up**      **Table F**



Type CR	
Dia.	FPM
3"-9"	8967
>9-20	5107
>20-31	1972

Damper (H) inches	Damper Width (W) inches		
	10	22	34
9	C-6915 CO-8570 1 section		
20		C-3978 CO-4662 1 section	
31			C-1540 CO-1821 1 section

# DFD-150X Types CR, CO & C

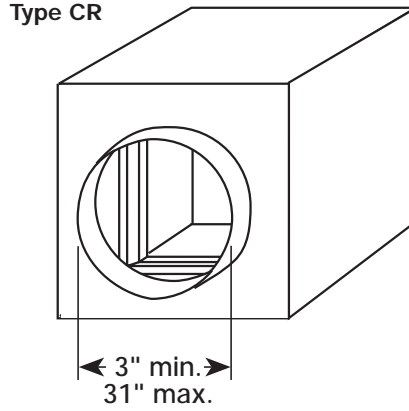
Factory sleeved DFD-150X dampers are available only as single section dampers.

## SIZE LIMITATIONS (CR)

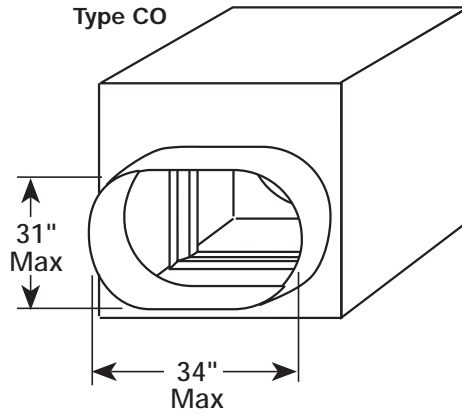
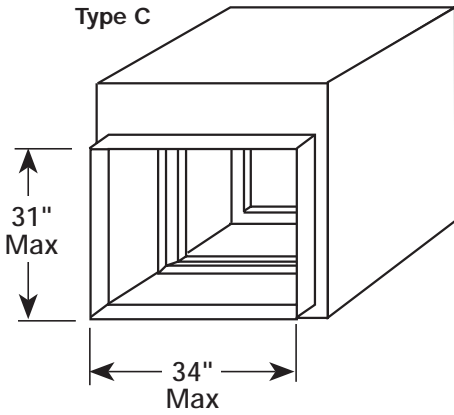
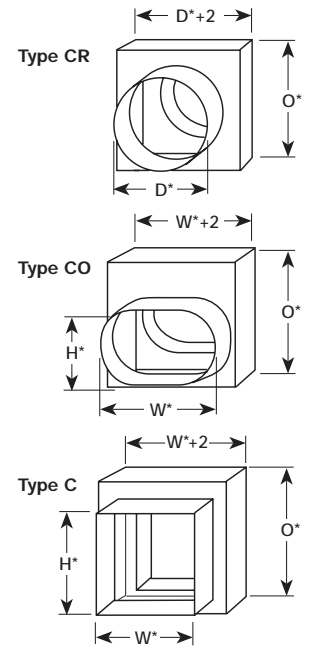
Type	Vertical or Horizontal	
CR	Minimum	3" dia.
	Maximum	31" dia.

## SIZE LIMITATIONS (C and CO)

Type	Vertical or Horizontal	
CO&C	Minimum	3"x3"
	Maximum	34"x31"



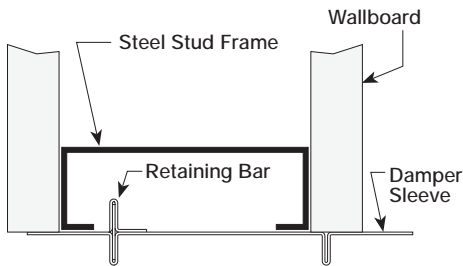
## Overall Damper Dimensions



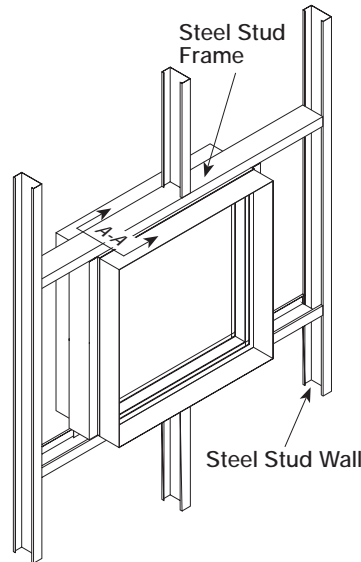
H* or D*	O*
3"	6"
4	7
5	8
6	9
7	10
8	11
9	12
10	13
11	14
12	15
13	16
14	17
15	19
16	20
17	21
18	22
19	23
20	24
21	25
22	27
23	28
24	29
25	30
26	31
27	32
28	33
29	34
30	35
31	36

## Steel Stud Connection (SSC) Option

The Steel Stud Connection (SSC) Option allows fastening of the damper sleeve (up to 34" W x 31" H for Type C & CO; up to 31" diameter for Type CR) directly to the wall's steel stud framing. This option replaces the angles that were previously required for wall installations.



Cross-Section A-A



\* These dimensions are furnished approximately 1/4" undersize, except round and oval dimensions which are approximately 1/8" undersize.