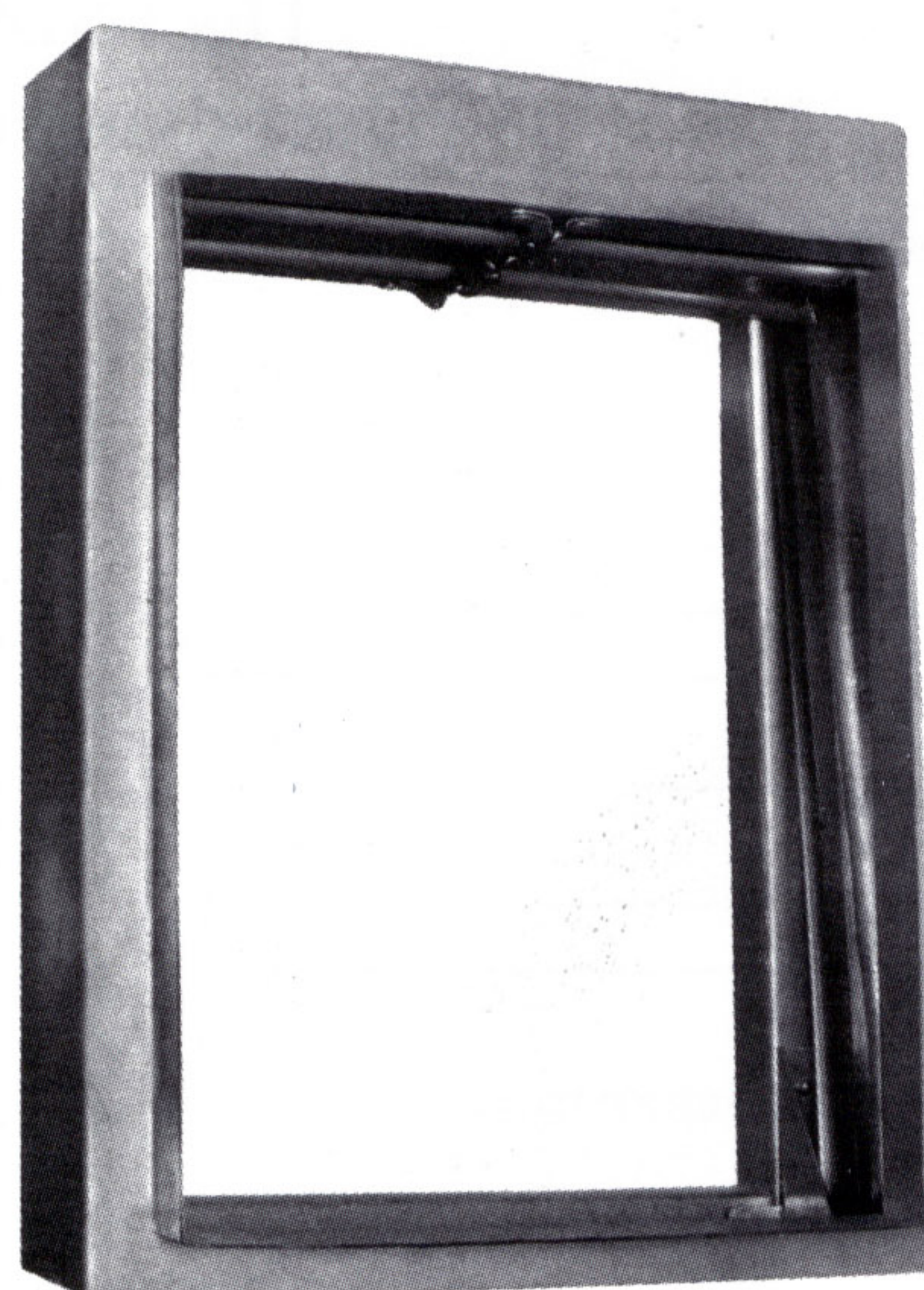


Air Quality Products

Zamzam

Engineering Industries

CURTAIN BLADED FIRE DAMPERS



CFD 20 FIRE DAMPERS

Description :

Zamam CFD 20 series of **curtain bladed fire dampers** are designed to stop the spread of fire through ducts walls and floors and meets NFPA 90 A for fire dampers. Within the units of the largest an smallest damper, there is an infinite sizing capability, so dampers can be supplied to customers exact requirements.

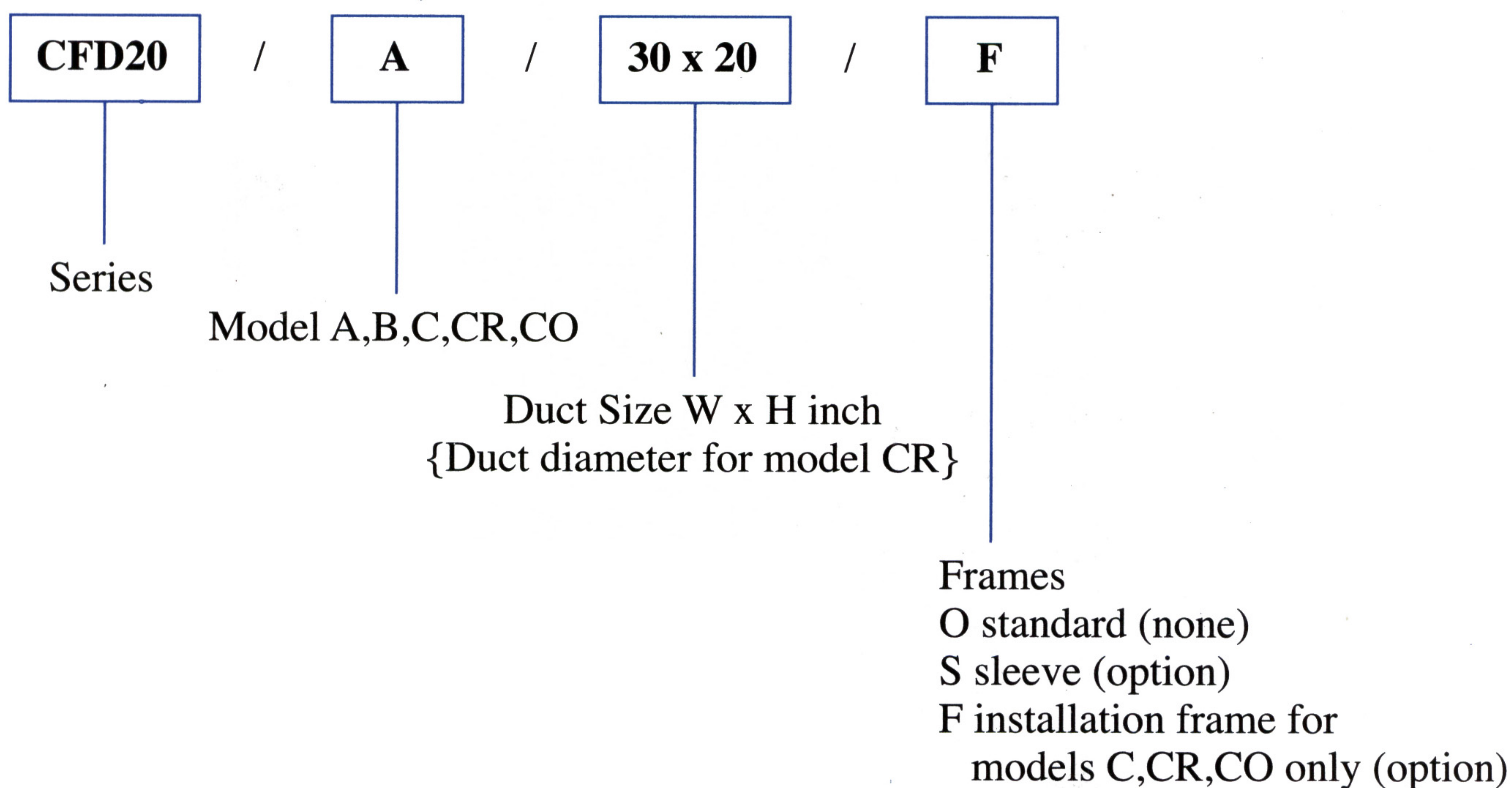
The **damper blades** are precision roll formed and then inter locked to provide a “curtain” with an angular, heat deflecting construction.

All **dampers** are supplied with two constant force stainless steel closure spring and locking ramps to ensure positive closure, All **dampers** are suitable for horizontal or vertical installation.

Damper are supplied as standard with a fusible link U.L listed to operate at 165° f unless other wise stated {other temperatures available}.

Dampers are available with arrange of spigot mounting option to meet any application.

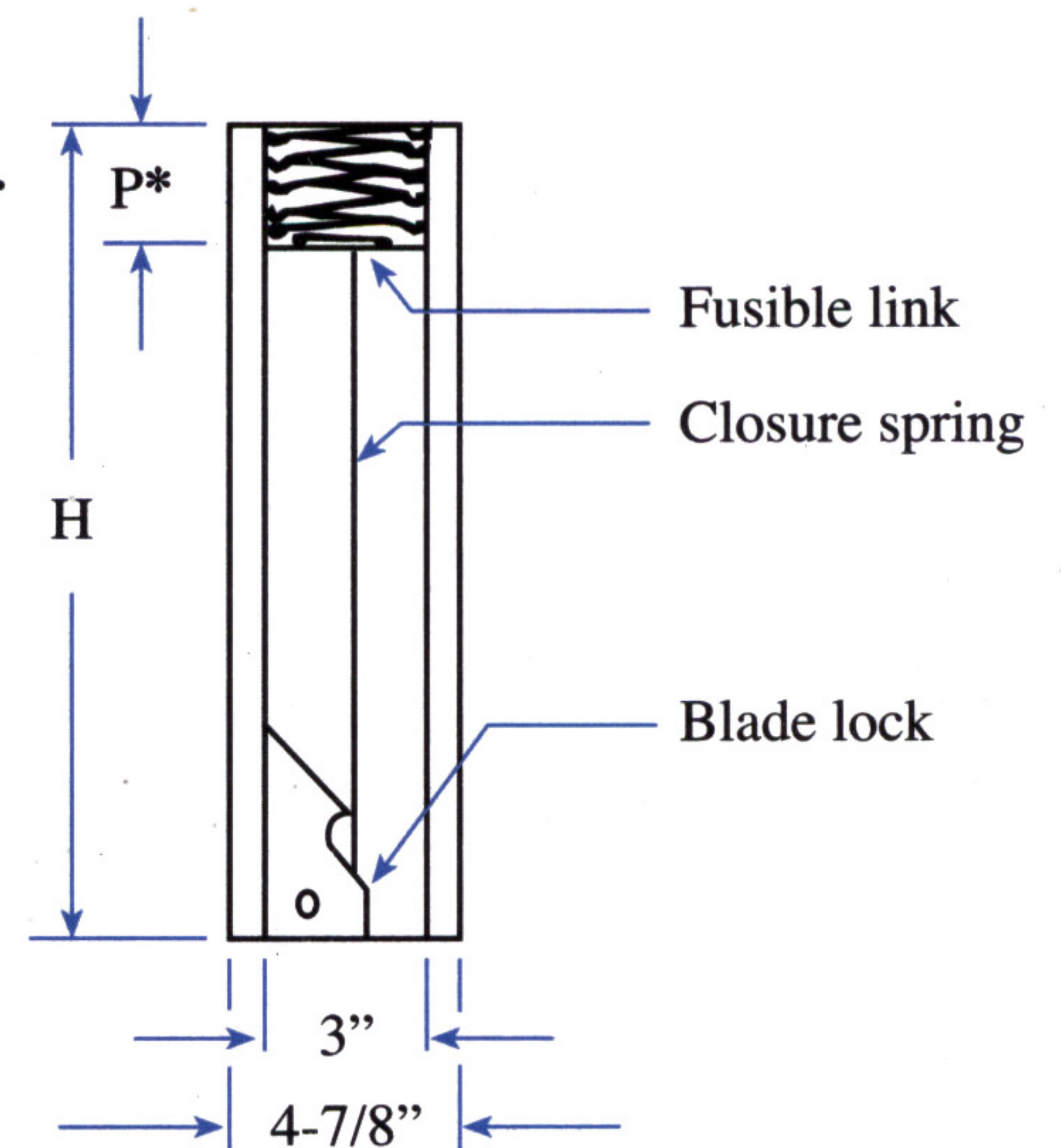
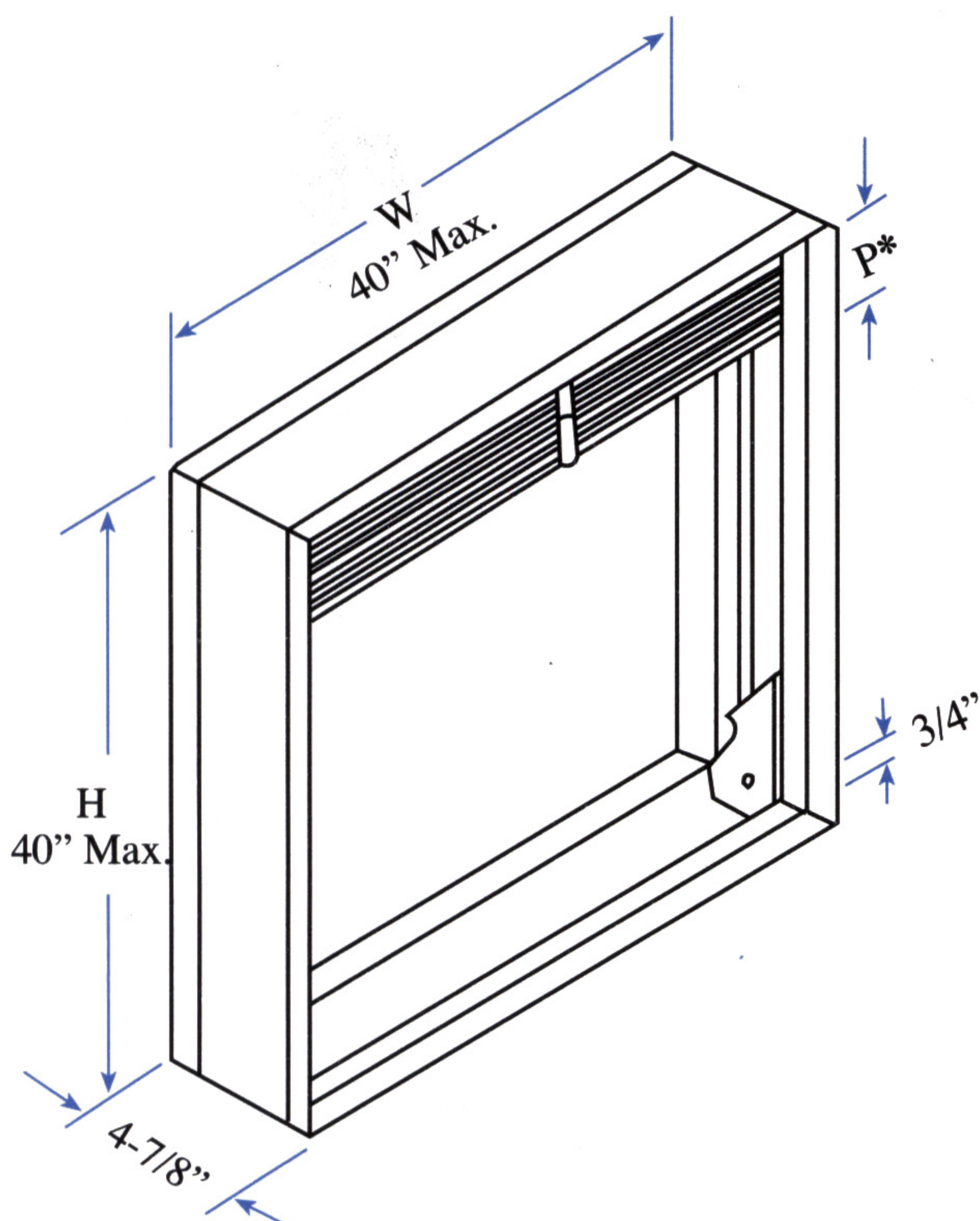
How to specify:



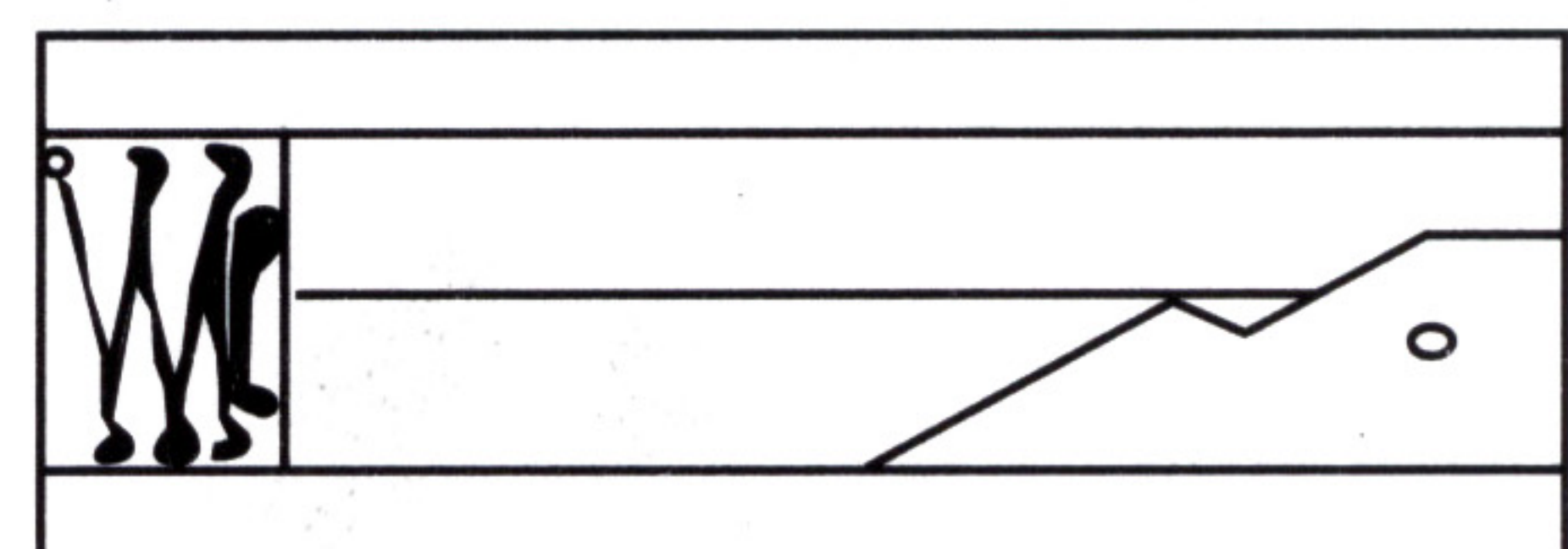
CFD20-A FIRE DAMPERS

Construction and specifications :

- **Frame.** 20 Ga (1mm) galvanized steel frame.
- **Blades.** 24 Ga (0.7mm) interlocking type galvanized steel.
- **Fusible link.** U.L Listed standard 165° F fusing temperature.
(other temperatures available on request)
- **Mounting.** Vertical & horizontal mounting positions.
- **Fire rating.** 1 1/2 hour rated for use in 1 hour or 2 hours partitions.
- **Springs.** Stainless steel constant force closure springs.
- **Sealing.** Stainless steel side seals.
- **Finish.** All steel parts with galvanized mill finish.
- **Single section.** - minimum size 6" x 6" W x H. Inch
- maximum size 40" x 40" W x H. Inch.
- **Free area.** 55-78% of Nominal
- **Recommended.** for low - medium air velocities.



Vertical Position



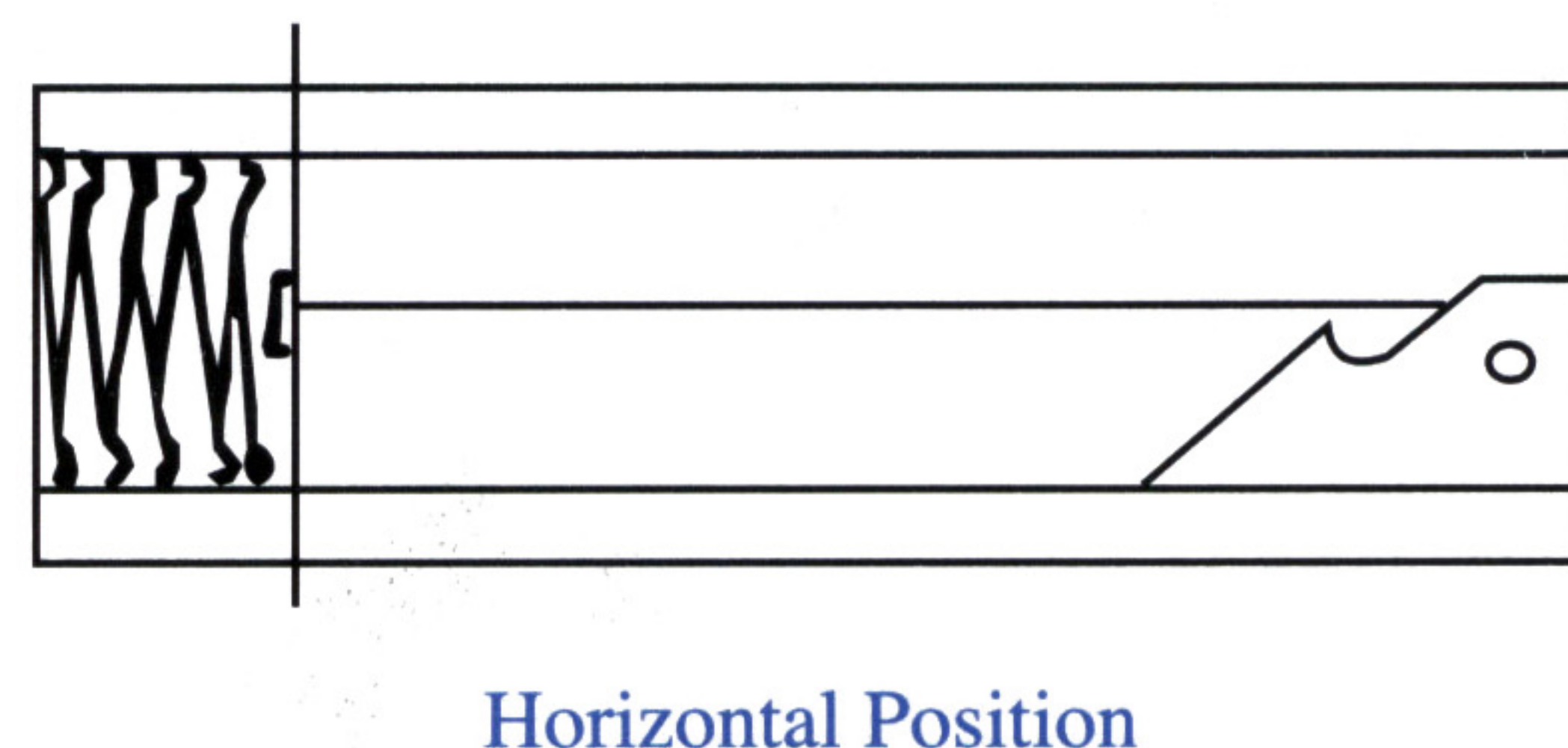
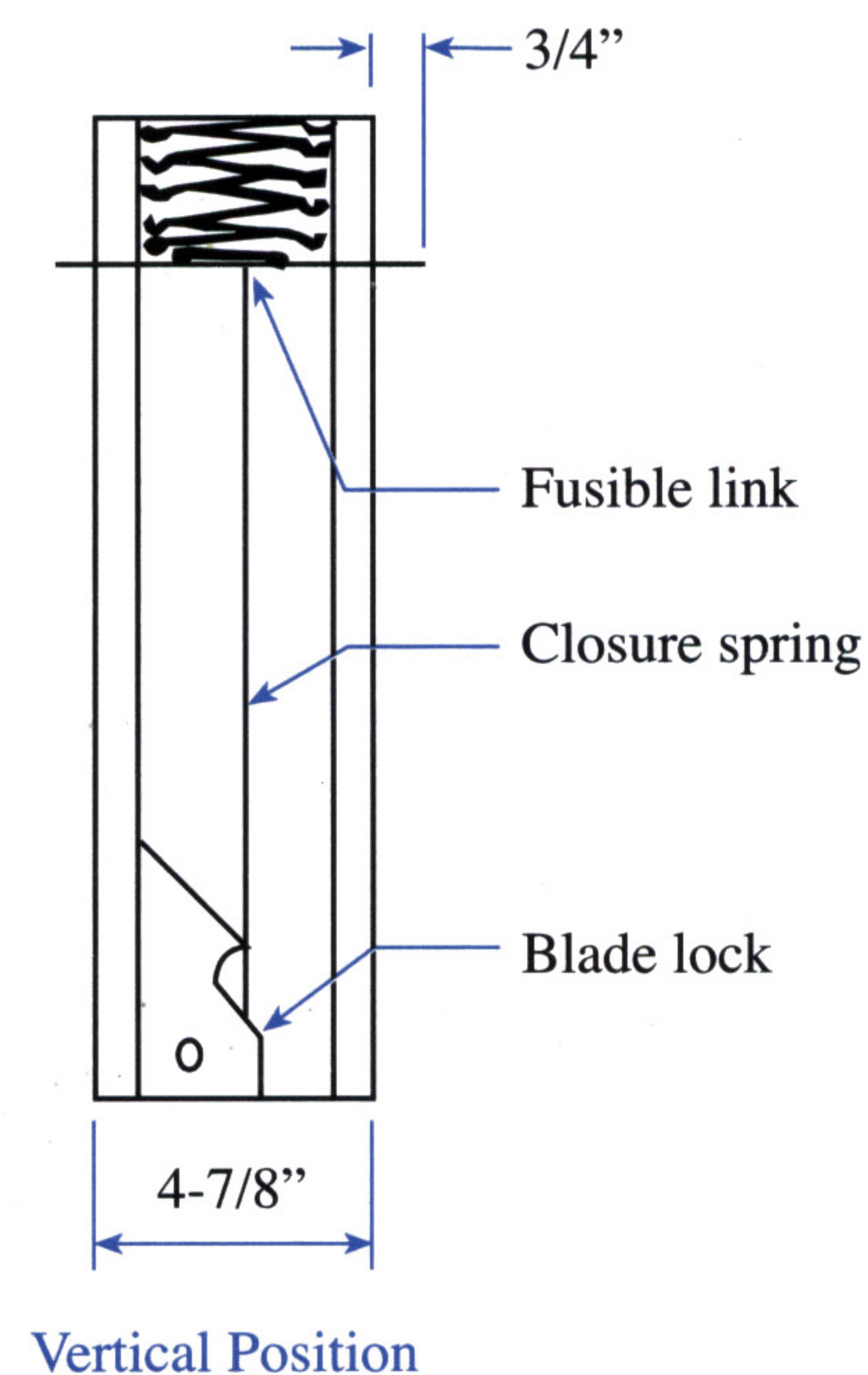
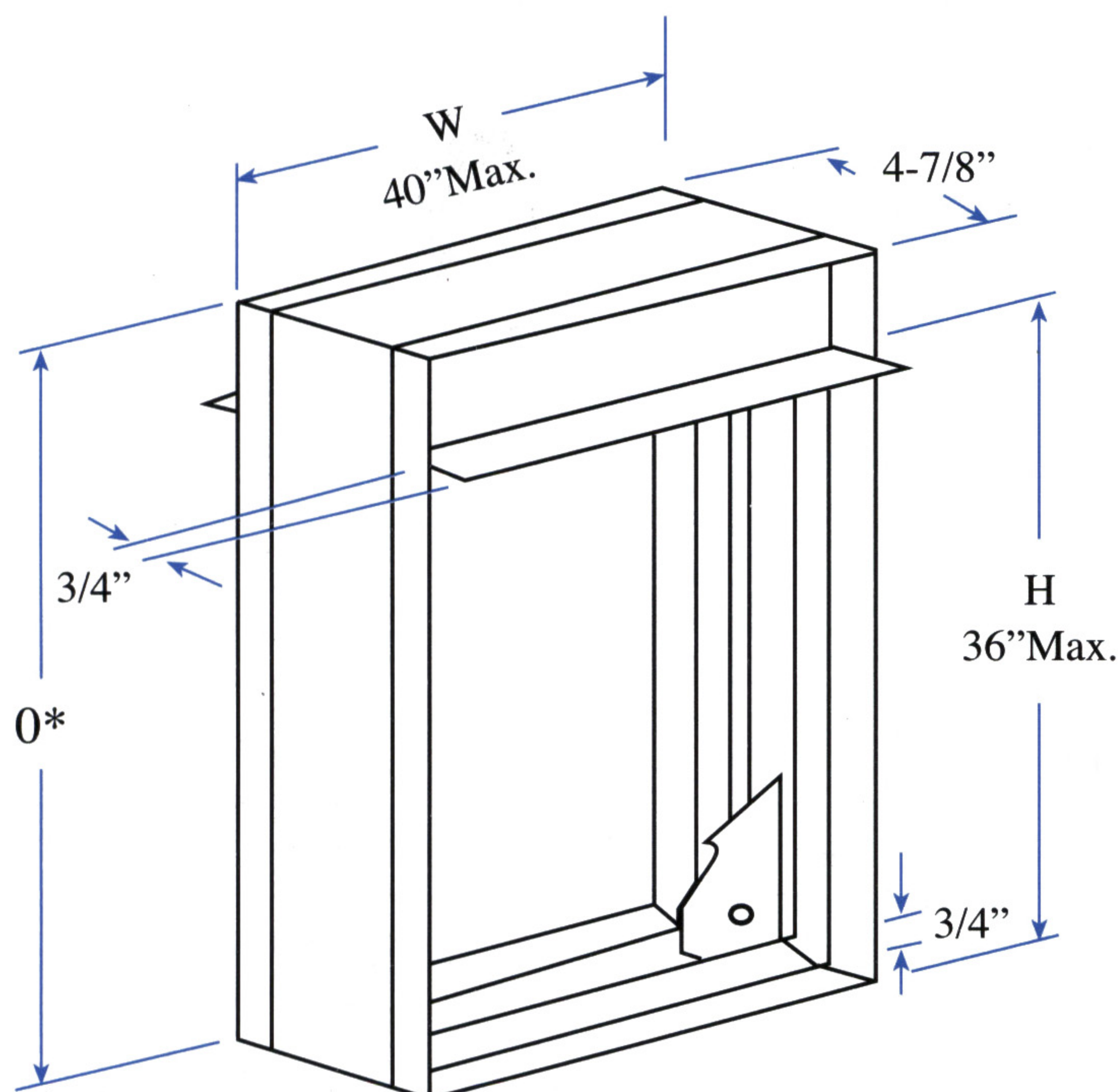
Horizontal Position

Note : Dampers for larger than maximum single section sizes shown above are assembled from equal size single section dampers., W and H dimensions furnished approximately 1/4" under size.

CFD20-B FIRE DAMPERS

Construction and specifications :

- **Frame.** 20 Ga (1mm) galvanized steel frame.
- **Blades.** 24 Ga (0.7mm) interlocking type galvanized steel.
- **Fusible link.** U.L Listed standard 165° F fusing temperature.
(other temperatures available on request)
- **Mounting.** Vertical & horizontal mounting positions.
- **Fire rating.** 1 1/2 hour rated for use in 1 hour or 2 hours partitions.
- **Springs.** Stainless steel constant force closure springs.
- **Sealing.** Stainless steel side seals.
- **Finish.** All steel parts with galvanized mill finish.
- **Single section.**
 - minimum size 6" x 6" W x H. Inch
 - maximum size 40" x 36" W x H. Inch
- **Free area.** 91-95% of Nominal
- **Recommended.** for low - medium air velocities.

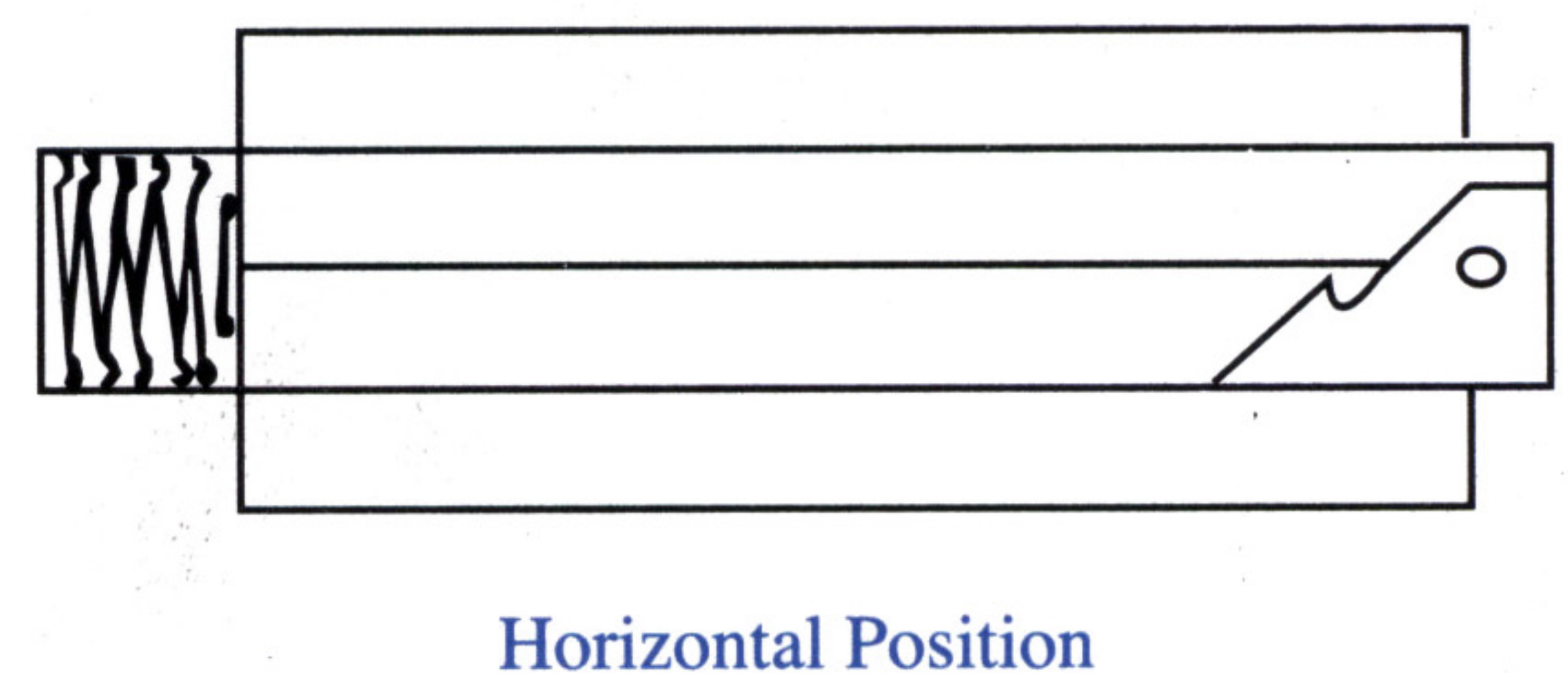
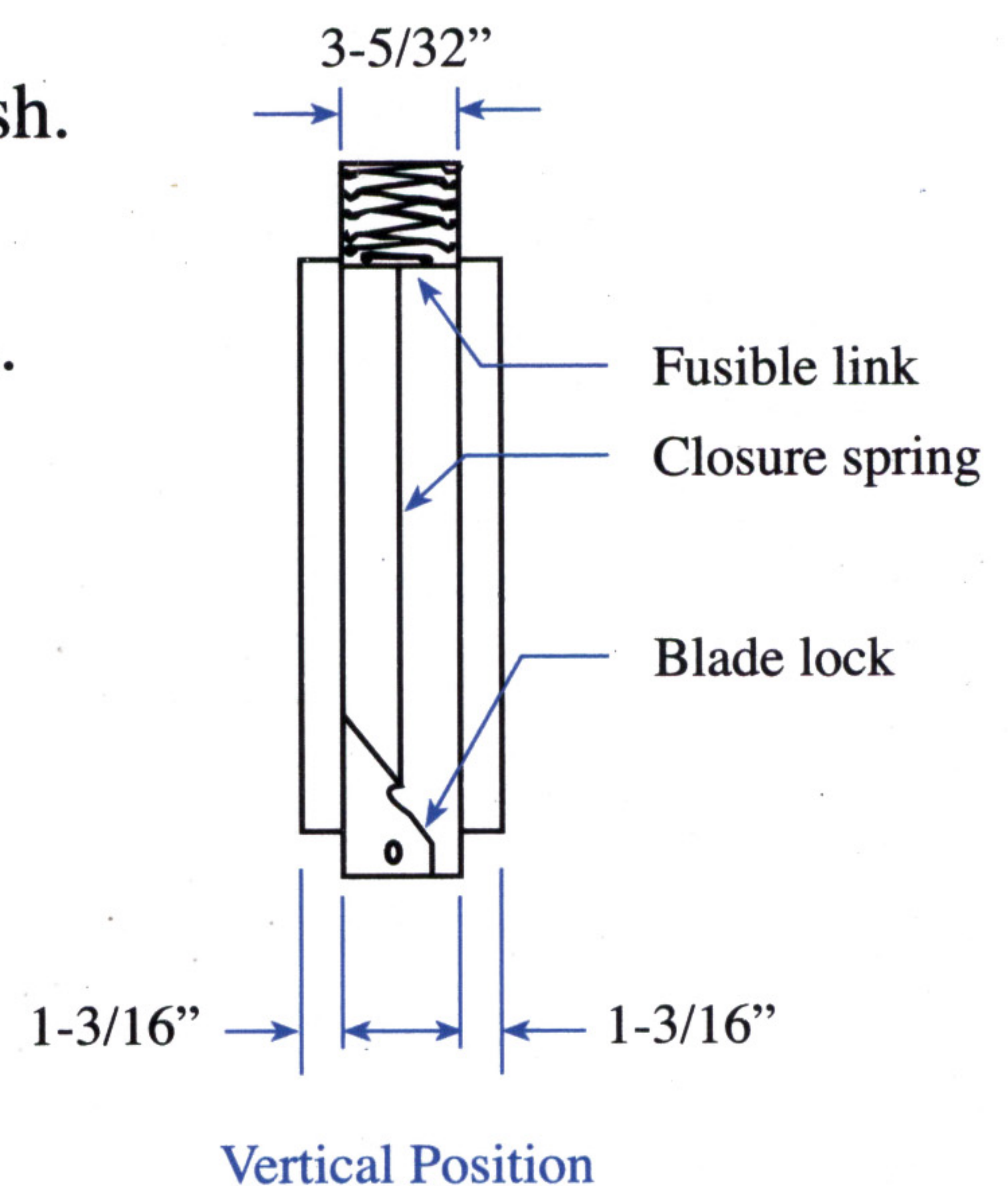
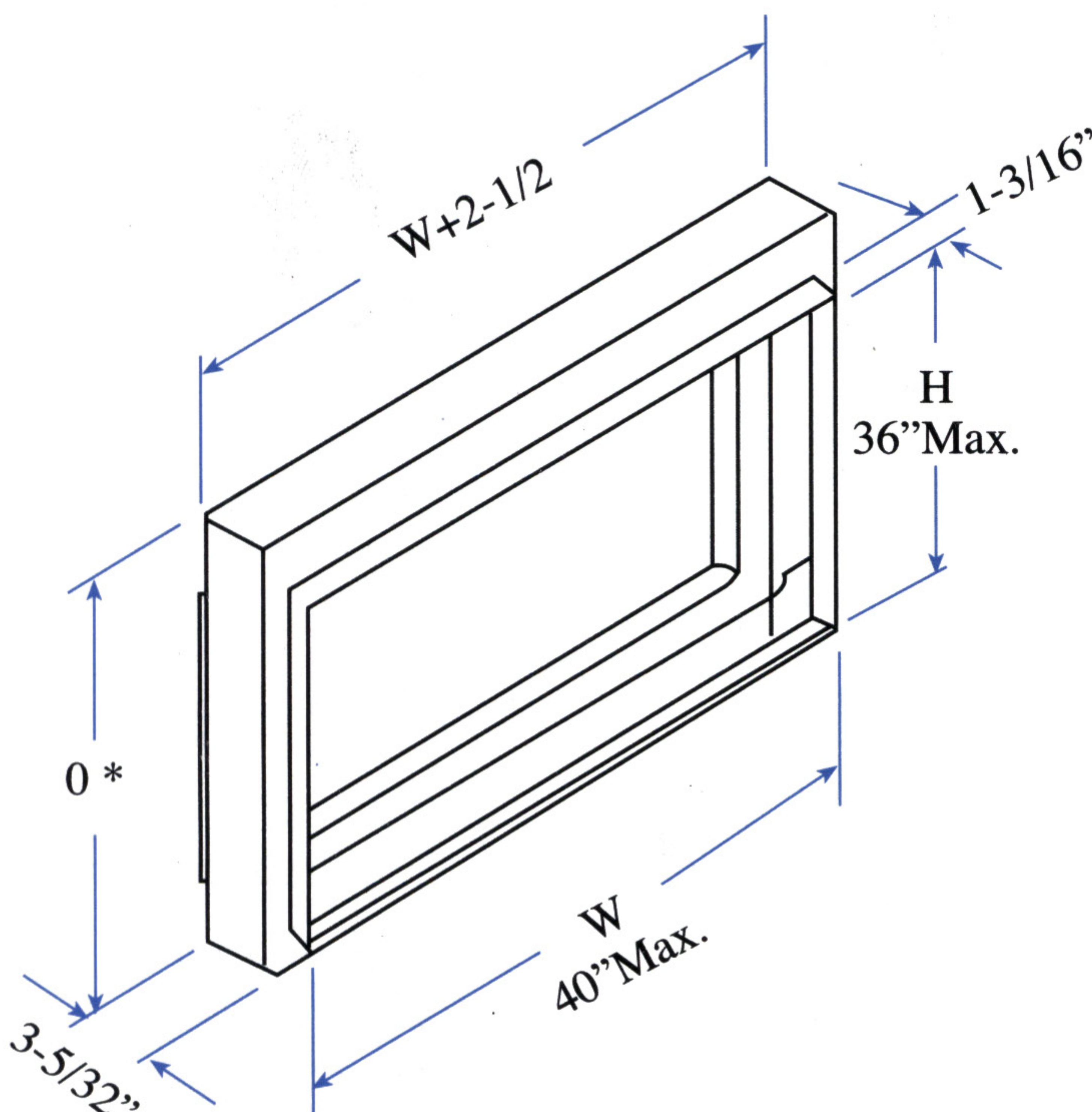


Note : Dampers for larger than maximum single section sizes shown above are assembled from equal size single section dampers., W and H dimensions furnished approximately 1/4" under size.

CFD20-C FIRE DAMPERS

Construction and specifications :

- **Frame.** 18 Ga (1.25mm) galvanized steel frame (all welded).
- **Blades.** 24 Ga (0.7mm) interlocking type galvanized steel.
- **Fusible link.** U.L Listed standard 165° F fusing temperature.
(other temperatures available on request)
- **Mounting.** Vertical & horizontal mounting positions.
- **Fire rating.** 1 1/2 hour rated for use in 1 hour or 2 hours partitions.
- **Springs.** Stainless steel constant force closure springs.
- **Sealing.** Stainless steel side seals.
- **Finish.** All steel parts with galvanized mill finish.
- **Single section.**
 - minimum size 6" x 6" W x H. Inch
 - maximum size 40" x 36" W x H. Inch.
- **Free area.** 100% of Nominal
- **Recommended.** for low - medium - high air velocities.



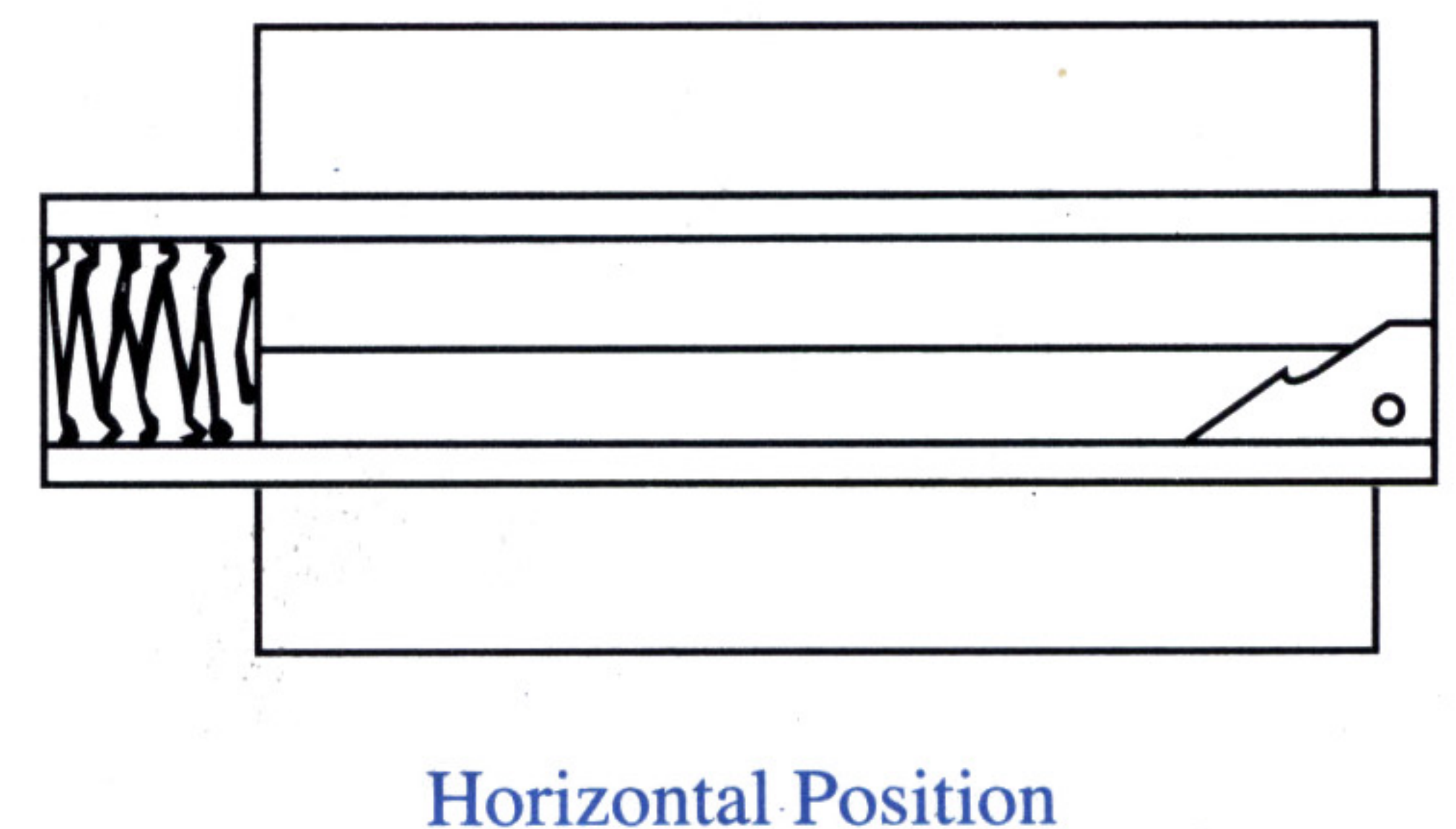
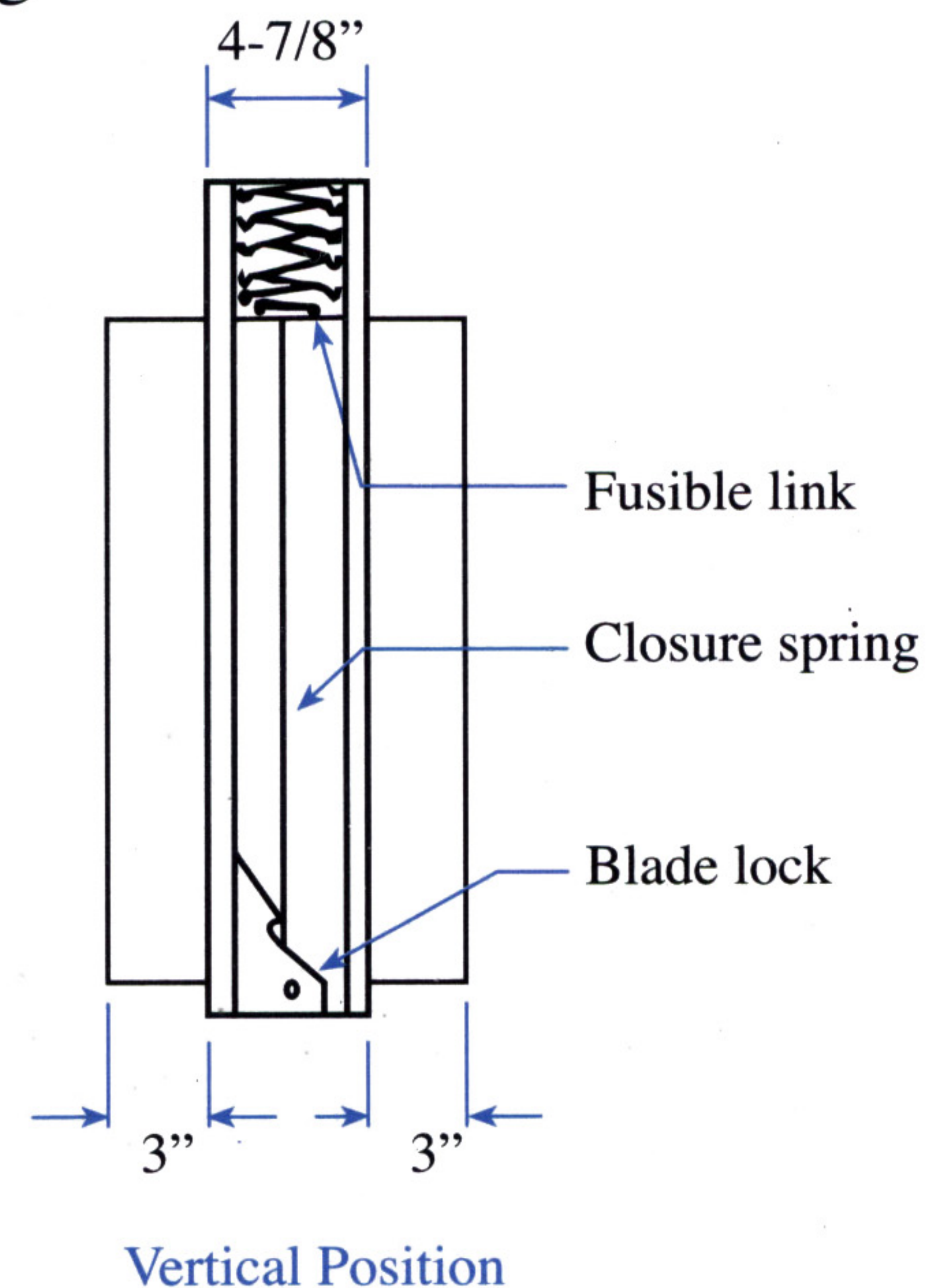
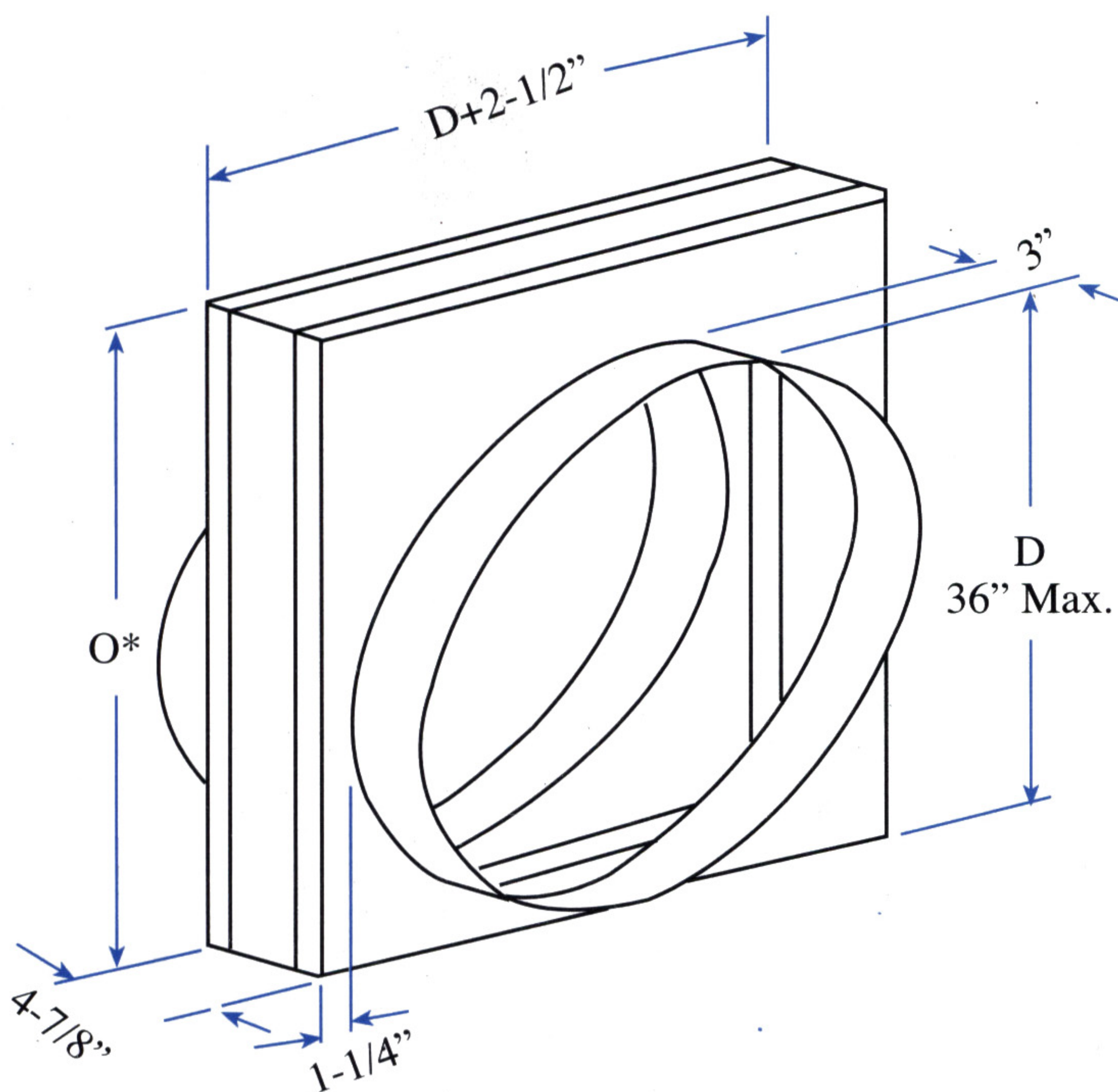
Note : Dampers for larger than maximum single section sizes shown above are assembled from equal size single section dampers., W and H dimensions furnished approximately 1/4" under size.



CFD20-CR FIRE DAMPERS

Construction and specifications :

- **Frame.** 18 Ga (1.25mm) galvanized steel frame (all welded).
- **Blades.** 24 Ga (0.7mm) interlocking type galvanized steel.
- **Fusible link.** U.L Listed standard 165° F fusing temperature.
(other temperatures available on request)
- **Mounting.** Vertical & horizontal mounting positions.
- **Fire rating.** 1 1/2 hour rated for use in 1 hour or 2 hours partitions.
- **Springs.** Stainless steel constant force closure springs.
- **Sealing.** Stainless steel side seals.
- **Finish.** All steel parts with galvanized mill finish.
- **Single section.** - minimum size 6" D Inch
- maximum size 36" D Inch.
- **Free area.** 100% of Nominal
- **Recommended.** for low - medium - high air velocities.

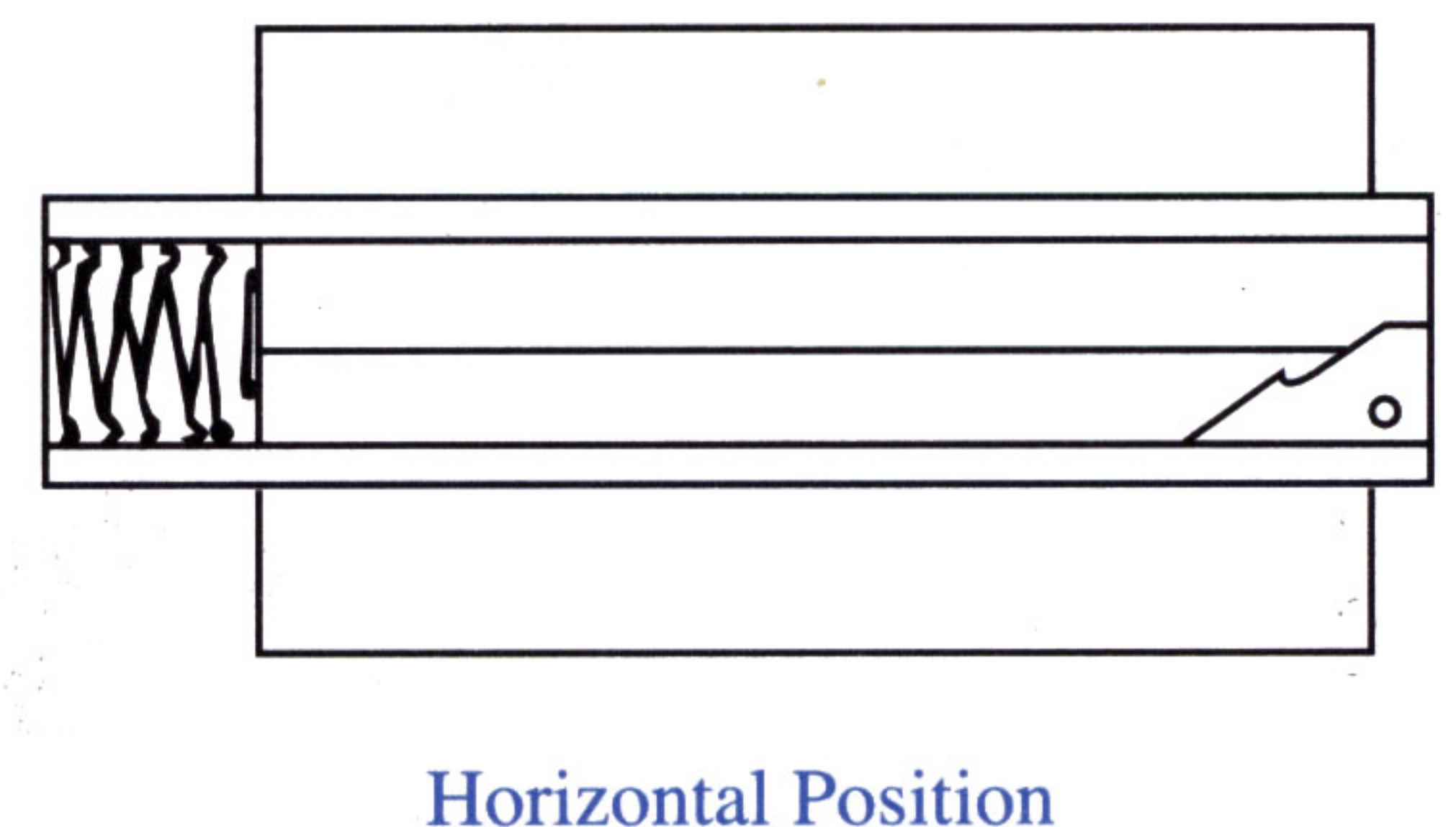
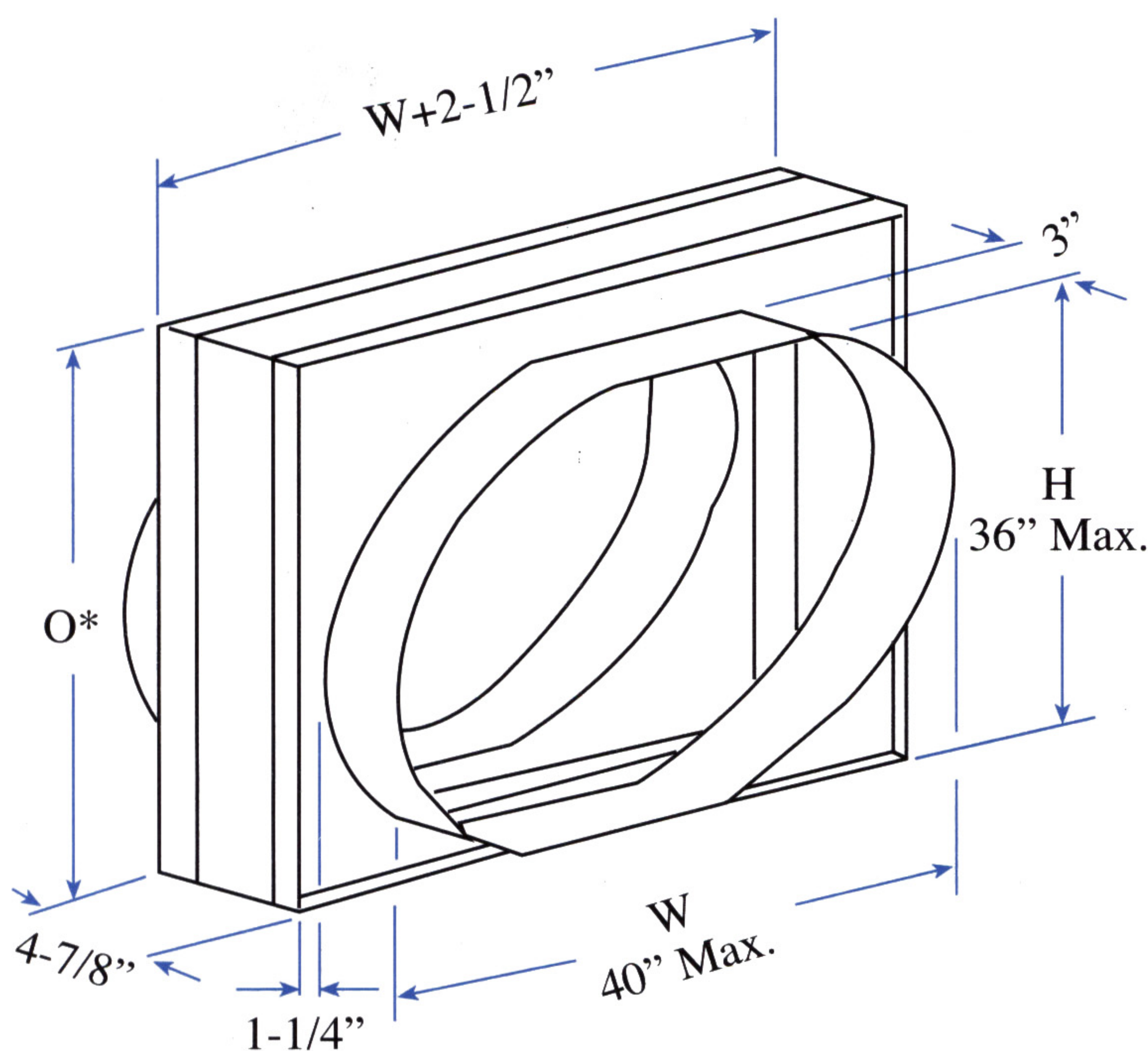
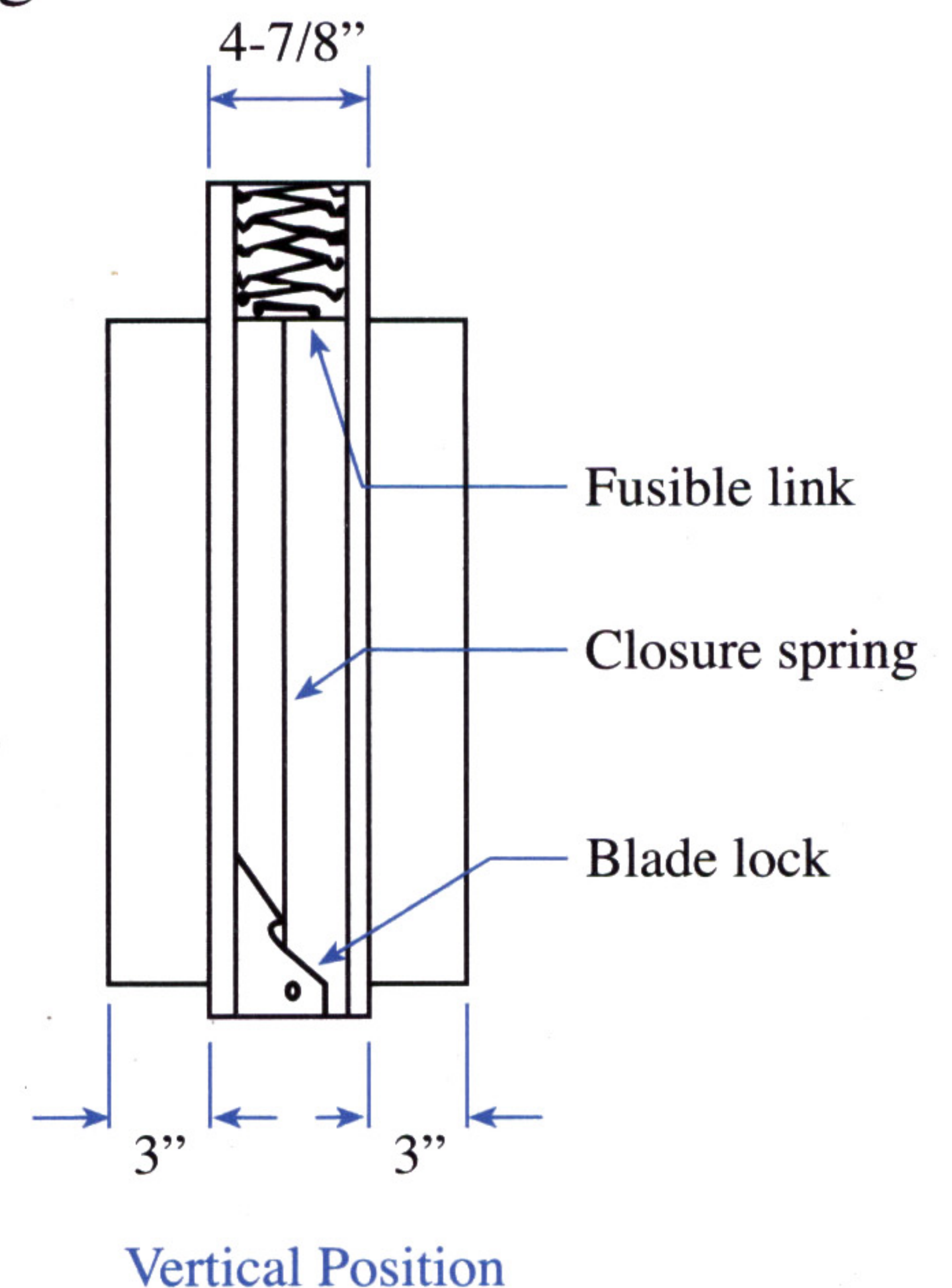


Note : Dampers for larger than maximum single section sizes shown above are assembled from equal size single section dampers., W and H dimensions furnished approximately 1/4" under size.

CFD20-CO FIRE DAMPERS

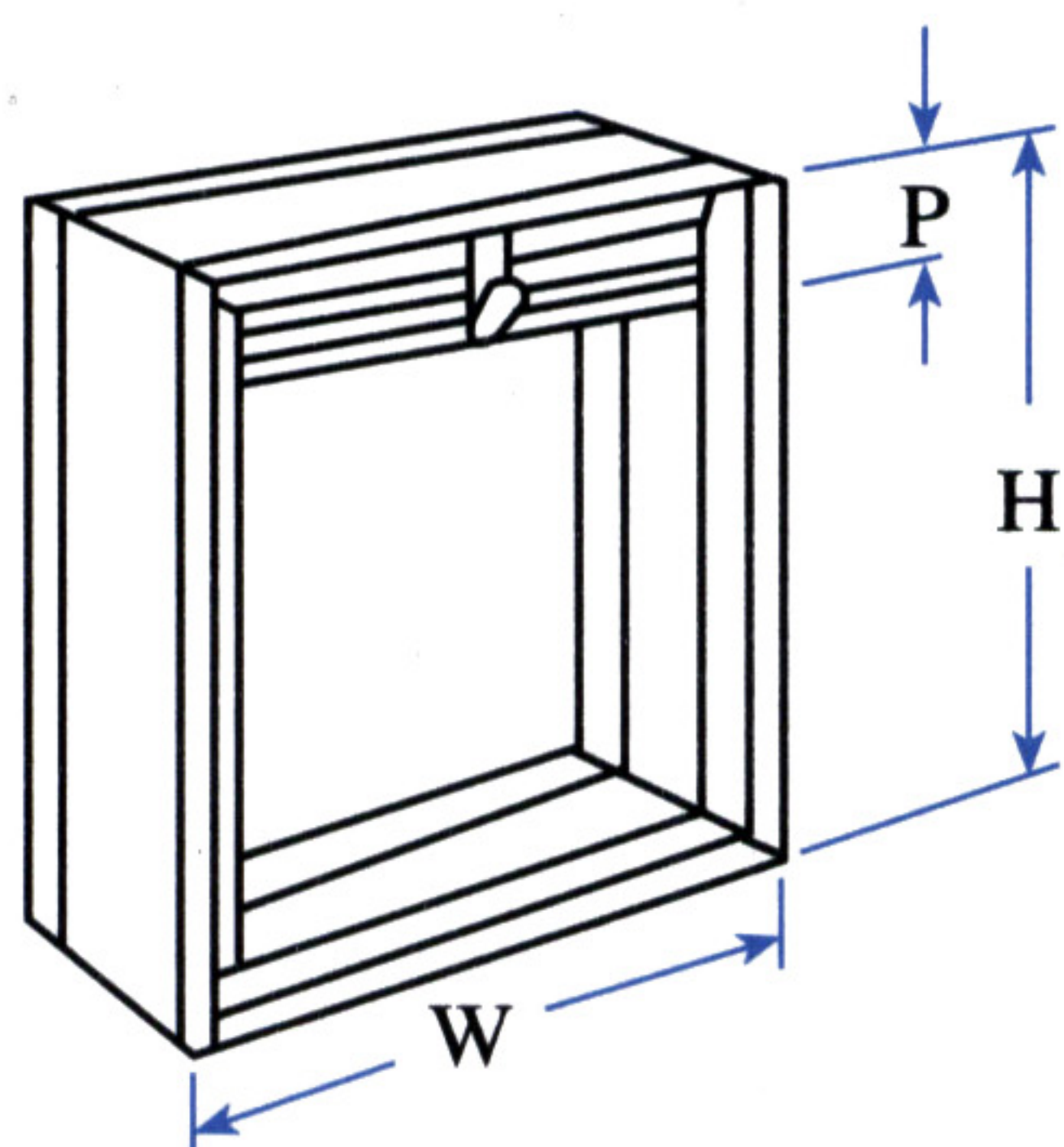
Construction and specifications :

- **Frame.** 18 Ga (1.25mm) galvanized steel frame (all welded).
- **Blades.** 24 Ga (0.7mm) interlocking type galvanized steel.
- **Fusible link.** U.L Listed standard 165° F fusing temperature.
(other temperatures available on request)
- **Mounting.** Vertical & horizontal mounting positions.
- **Fire rating.** 1 1/2 hour rated for use in 1 hour or 2 hours partitions.
- **Springs.** Stainless steel constant force closure springs.
- **Sealing.** Stainless steel side seals.
- **Finish.** All steel parts with galvanized mill finish.
- **Single section.** - minimum size 6" x 6" W x H. Inch
- maximum size 40" x 36" W x H. Inch.
- **Free area.** 100% of Nominal
- **Recommended.** for low - medium - high air velocities.

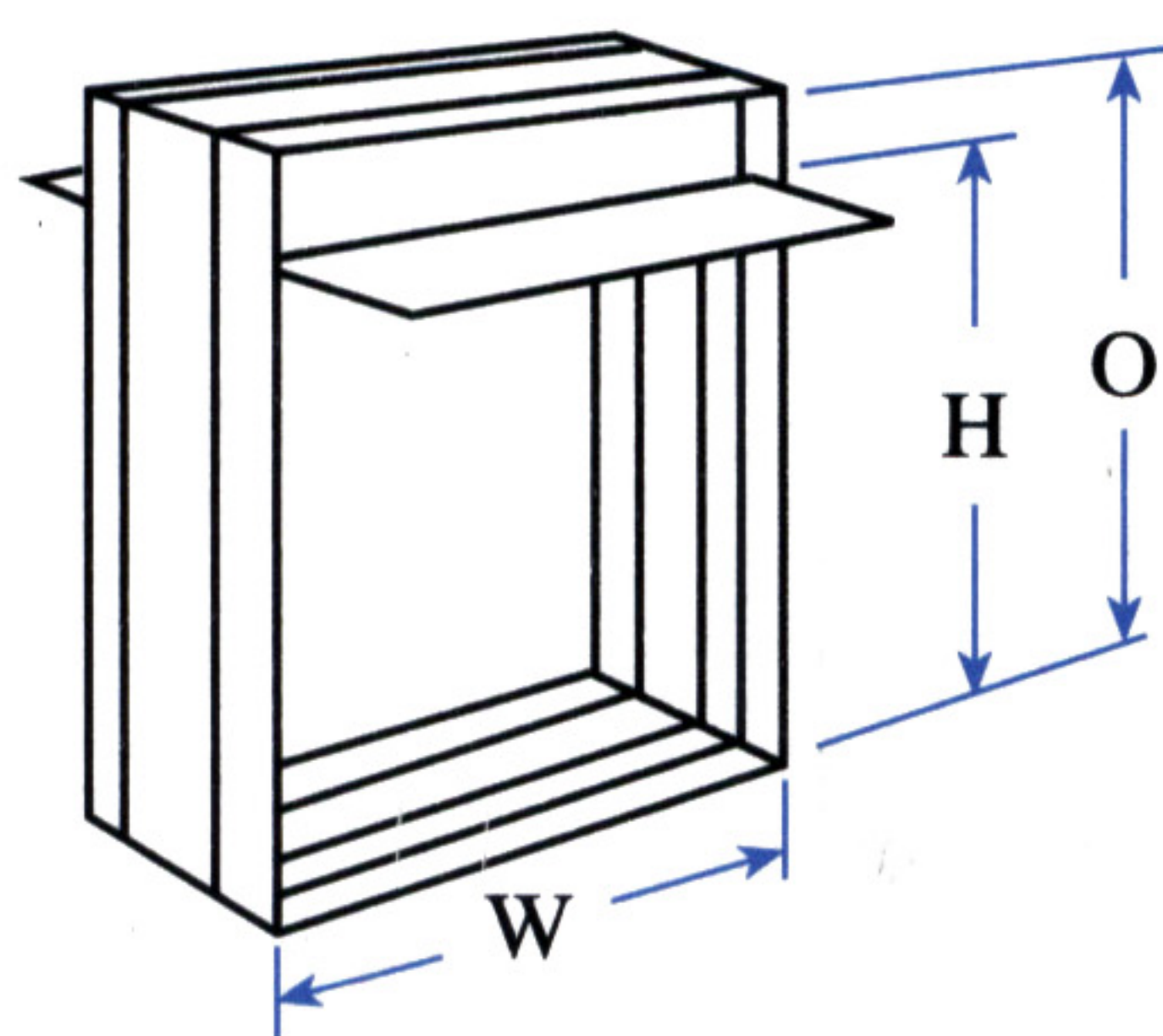


Note : Dampers for larger than maximum single section sizes shown above are assembled from equal size single section dampers., W and H dimensions furnished approximately 1/4" under size.

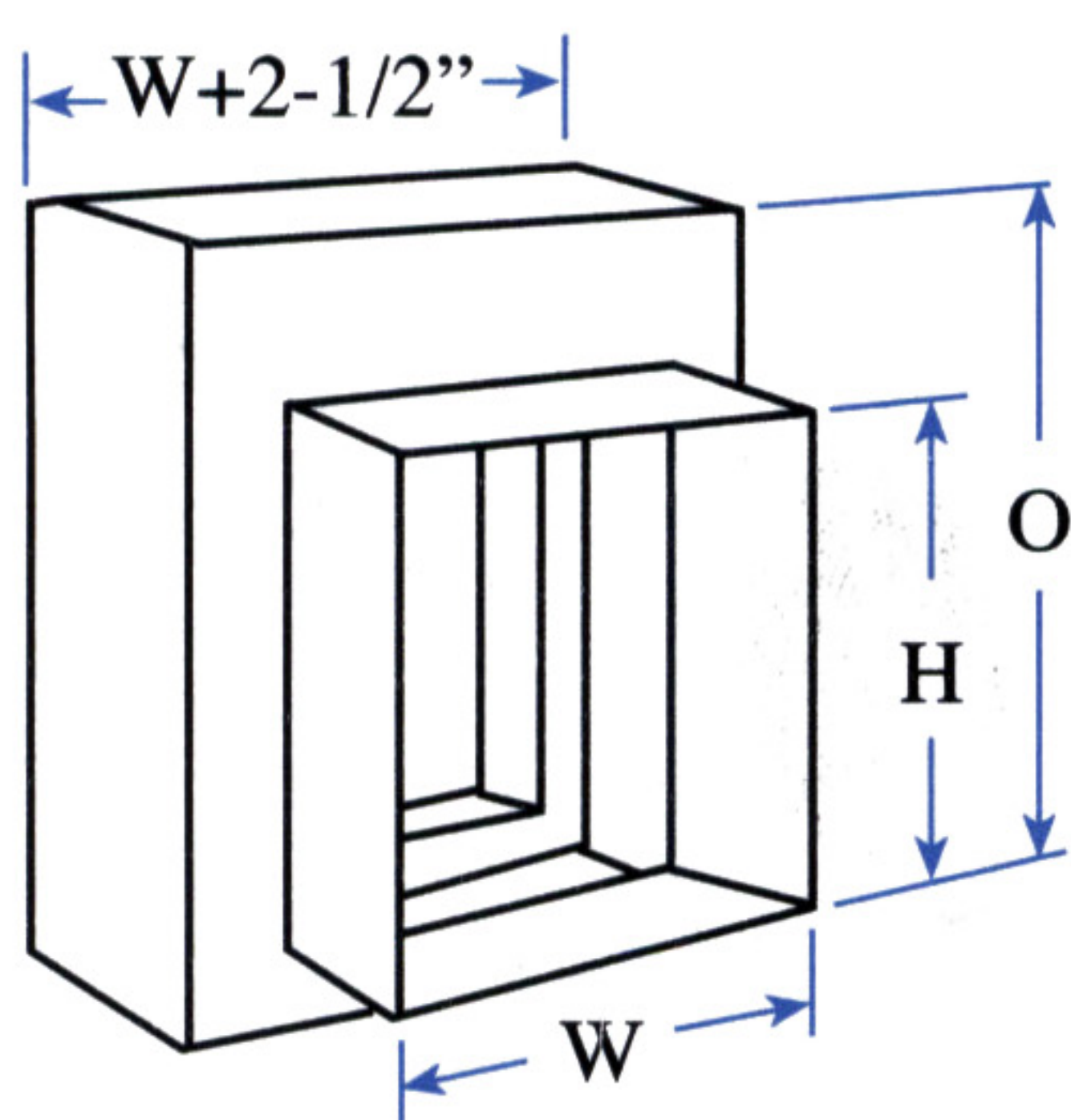
CFD20 SERIES FIRE DAMPER SIZING CHART



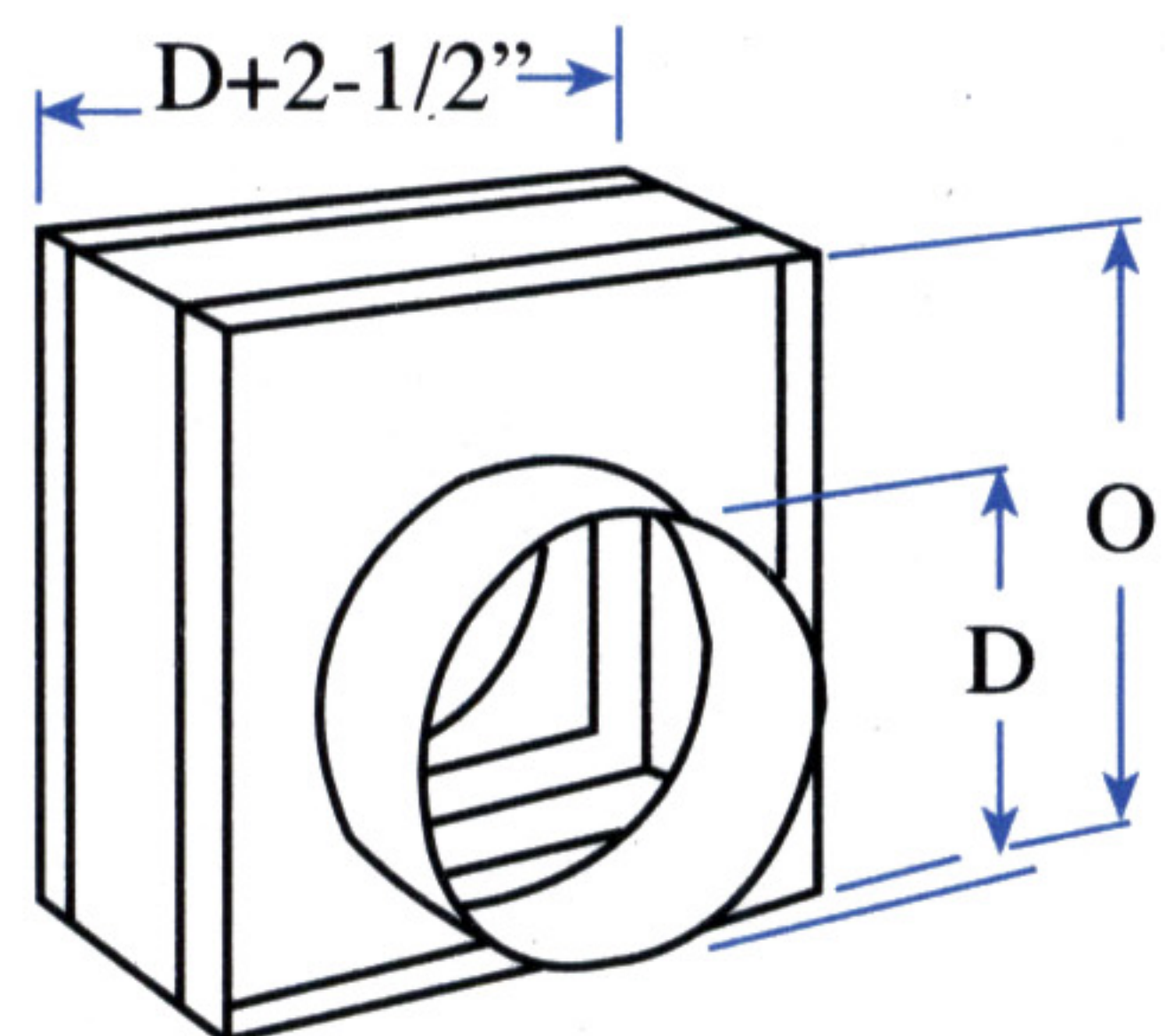
CFD20-A



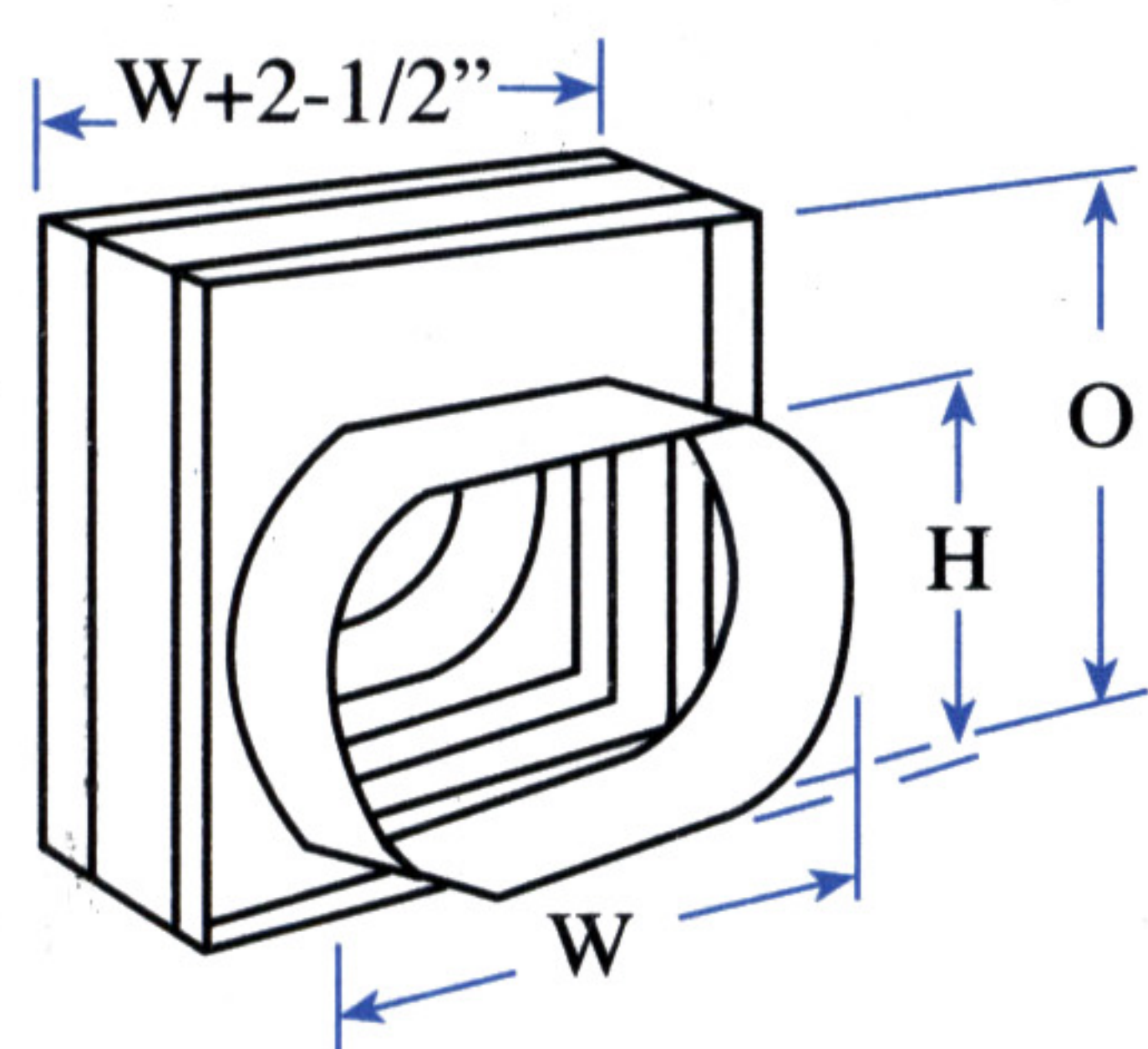
CFD20-B



CFD20-C



CFD20-CR

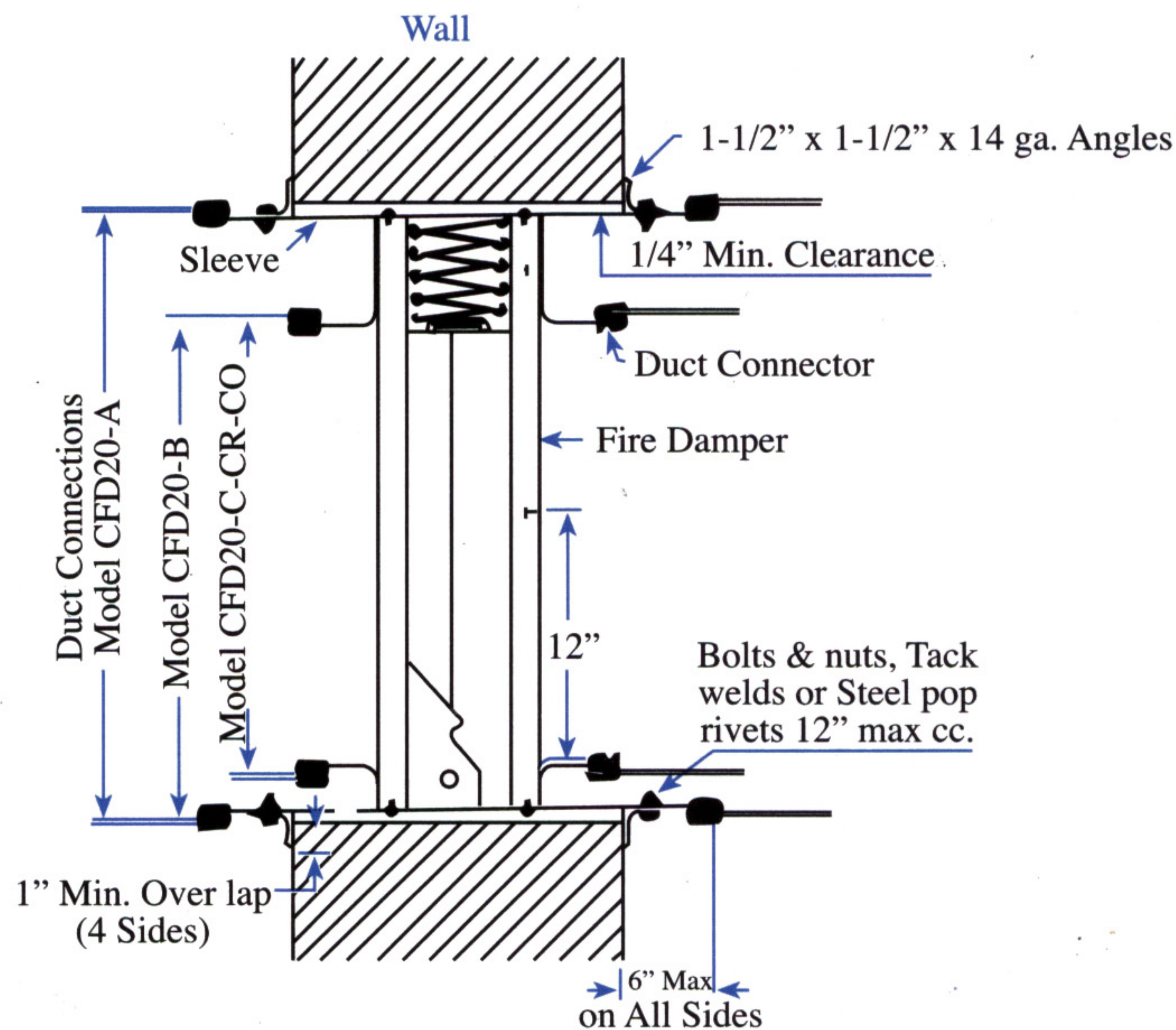


CFD20-CO

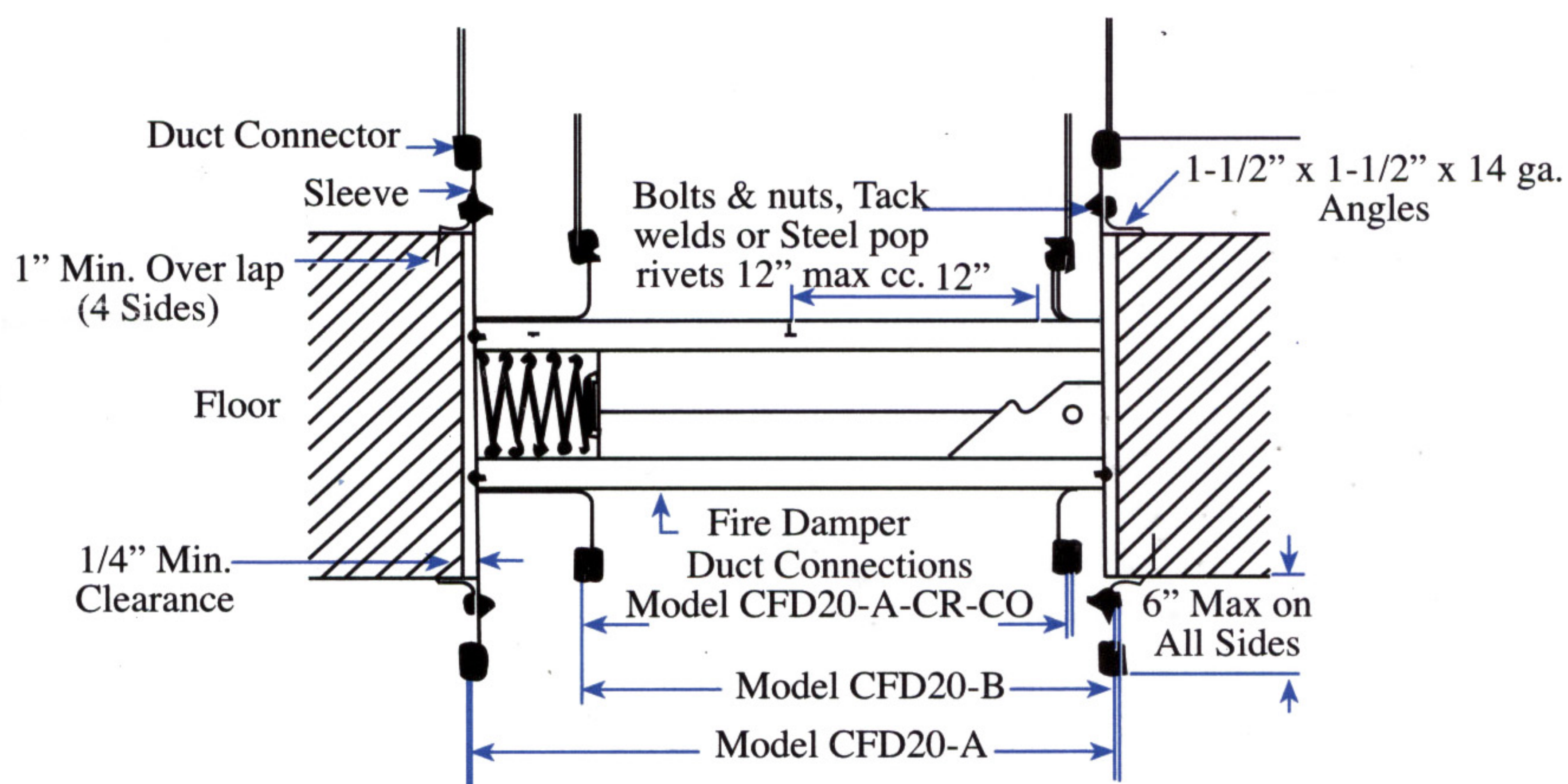
H or D Dimension (In.)	CFD20 Models		
	CFD20-A P (in.)	CFD20-B O (in.)	CFD20-C O (in.)
6	1	7-7/16	8-5/8
7	1-1/4	8-5/8	9-3/4
8	1-1/4	9-5/8	10-3/4
9	1-1/2	10-7/8	12-3/64
10	1-1/2	11-7/8	13-1/32
11	1-3/4	13-1/8	14-5/16
12	1-3/4	14-1/8	15-5/16
13	1-3/4	15-1/8	16-9/32
14	2	16-3/8	17-9/16
15	2	17-3/8	18-9/16
16	2	18-3/8	19-9/16
17	2-1/4	19-5/8	20-3/4
18	2-1/4	20-5/8	21-3/4
19	2-1/2	21-7/8	23-1/32
20	2-1/2	22-7/8	24-1/64
21	2-3/4	24-3/32	25-9/32
22	2-3/4	25-3/32	26-1/4
23	2-3/4	26-3/32	27-9/32
24	3	27-3/8	28-9/16
25	3	28-3/8	29-9/16
26	3	29-3/8	30-1/2
27	3-7/32	30-5/8	31-3/4
28	3-7/32	31-5/8	32-3/4
29	3-1/2	32-7/8	34-1/64
30	3-1/2	33-7/8	35
31	3-1/2	34-7/8	36-1/64
32	3-3/4	36-1/16	37-1/4
33	3-3/4	37-5/64	38-1/4
34	4	38-3/8	39-1/2
35	4	39-3/8	40-1/2
36	4	40-5/16	41-1/2
37	4-1/4		
38	4-1/4		
39	4-1/4		
40	4-1/2		

CFD20-FIRE DAMPERS INSTALLATION INSTRUCTIONS

Vertical Installation



Horizontal Installation



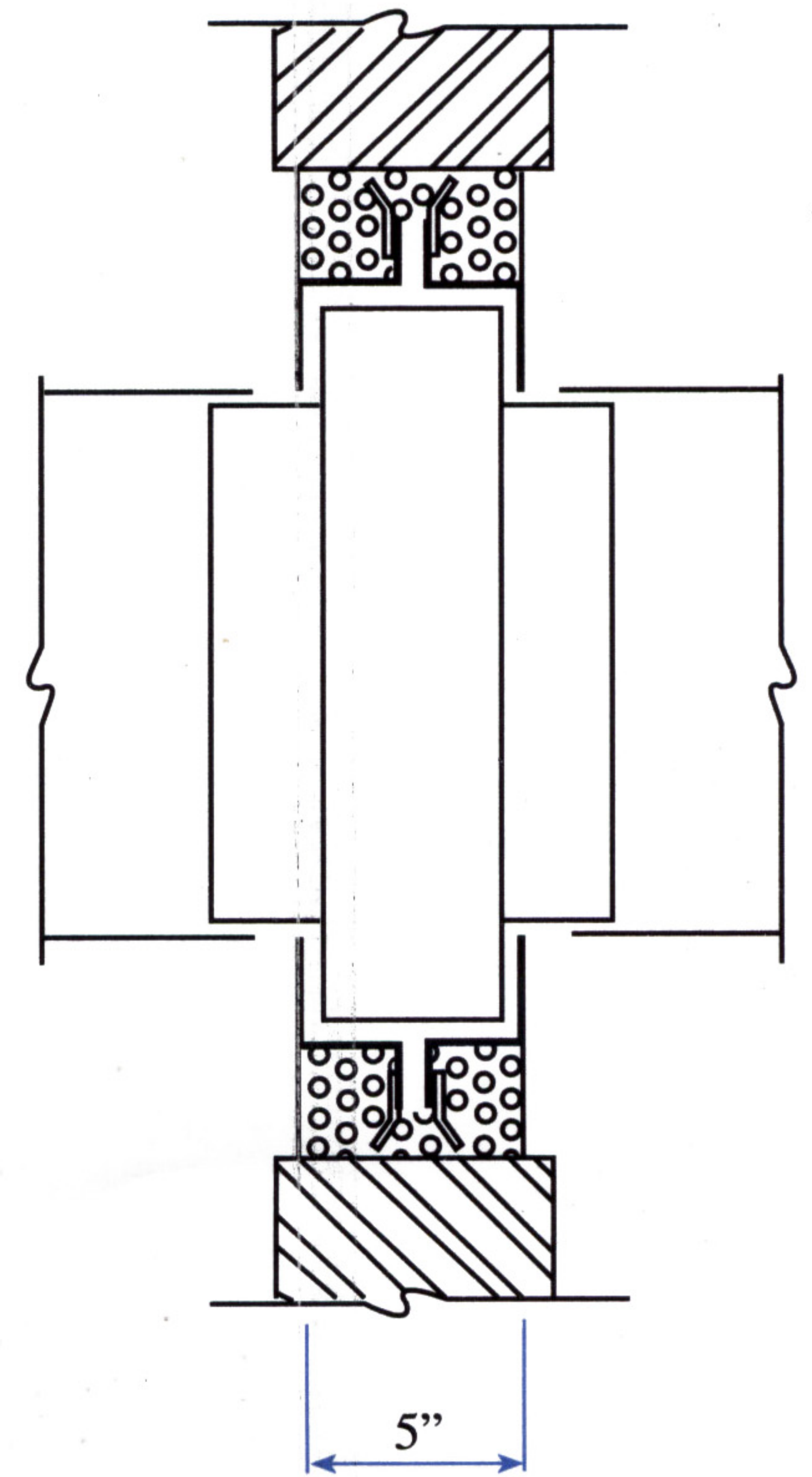
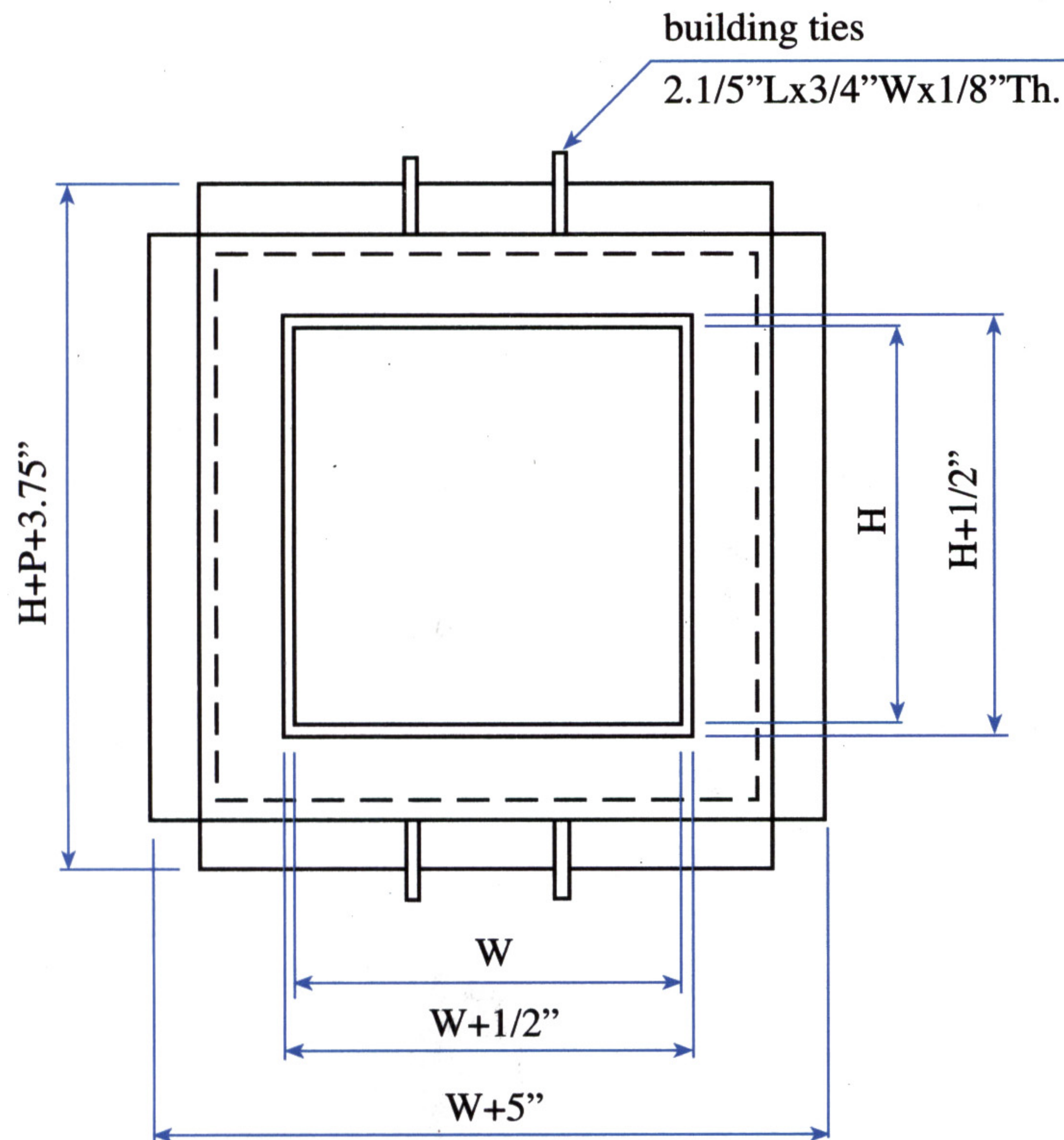
Note : Figures show the vertical and horizontal installation details for specific requirements for installation.

- 1- Minimum clearance of $\frac{1}{4}$ " shall be provided between the sleeve and wall or floor openings.
- 2- Sleeve shall be of the same or heavier gauge as the duct to which is attached. Gauges shall conform to SMACNA or ASHRAE duct standards. Sleeve shall be extended approximately 6" maximum on either side of wall or floor to facilitate the joining of the sleeve to the duct.
- 3- The following duct sleeve connection may be used on all systems. I. Inside slip, II. Plain "S" slip, III. Hemmed "S" Slip, IV. Alternate bar slip (standard slip), V. Reinforced standing "S" Slip, VI. Single Slip, VII. Double "S" Slip, VIII. Cup slip, IX. Drive Slip, X. Pocket Lock.
- 4- Mounting angles shall be minimum of $1\frac{1}{2}$ " x $1\frac{1}{2}$ " x 14 ga. Fasten to sleeve only, with $\frac{1}{4}$ " dia. Nuts and bolts, tack welds or pop rivets at 12" maximum spacing with a minimum of two connections on each side, top and bottom. Mounting angles shall overlap wall a minimum of 1" on all four sides.
- 5- Damper shall be bolted, tack welded or screwed to sleeve on same spacing as angles.



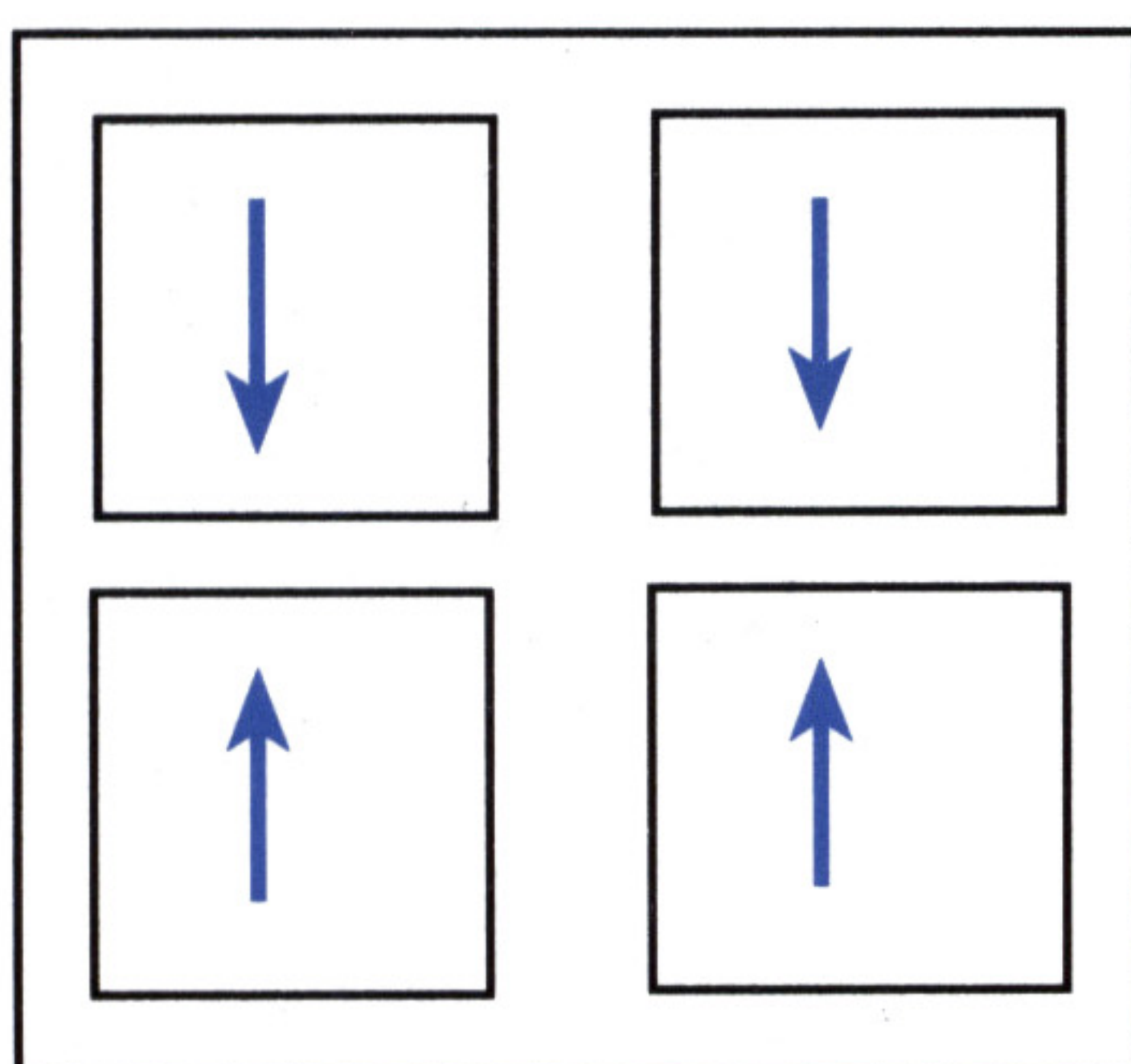
CFD20-C,CR,CO INSTALLATION FRAME

The **installation frame** is designed to be factory assembled on to a fire damper. The frame will, under fire conditions, allow the damper to expand without distortion. Up stand flange webs with fixing tabs built into the surrounding structure ensure that the complete assembly will be retained within the structural opening.

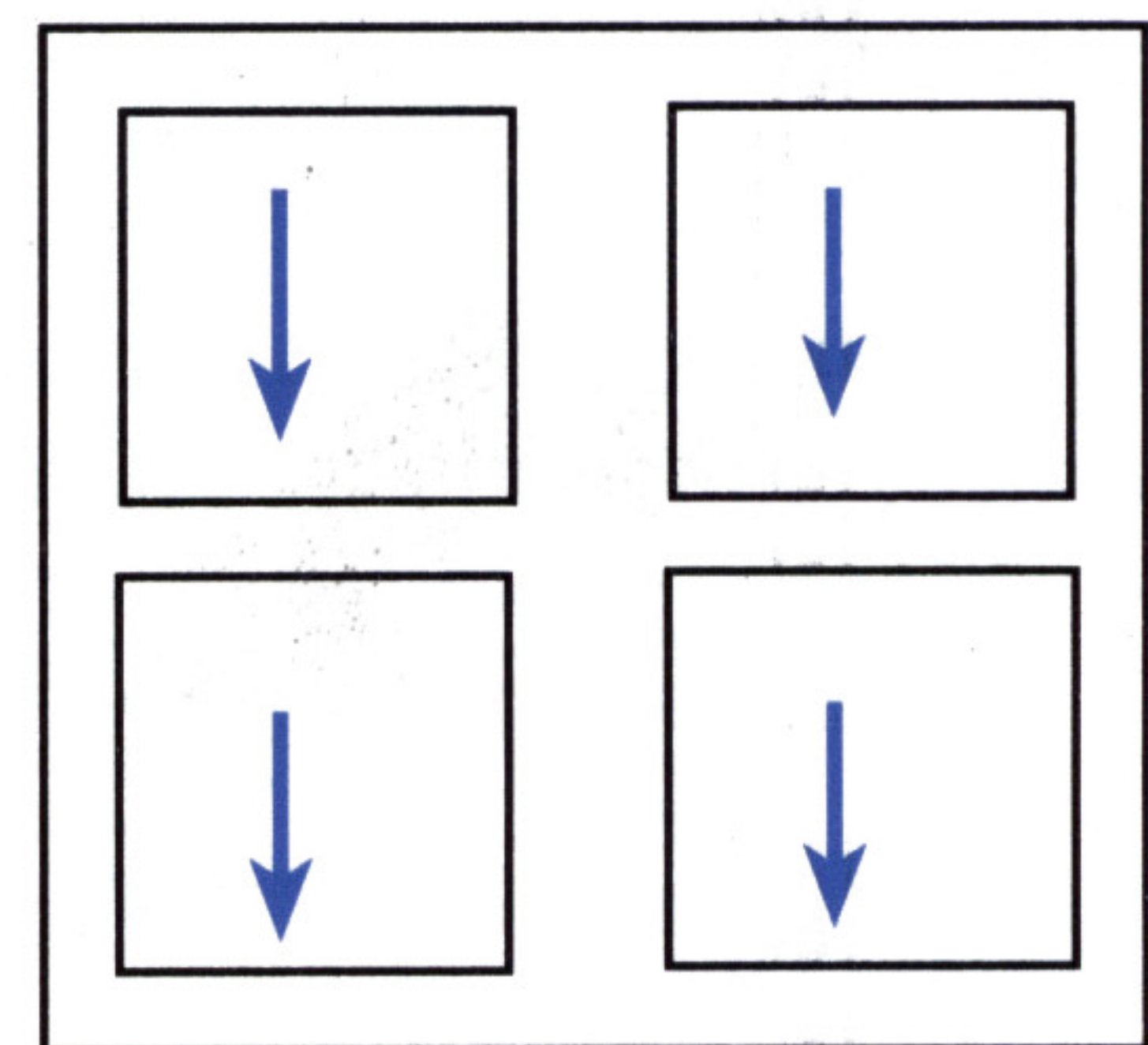


Multiple Assemblies

Two or more units can be arranged in a complete multiple assembly where required. Blade closed position are indicated by arrows.



Horizontal Mounting

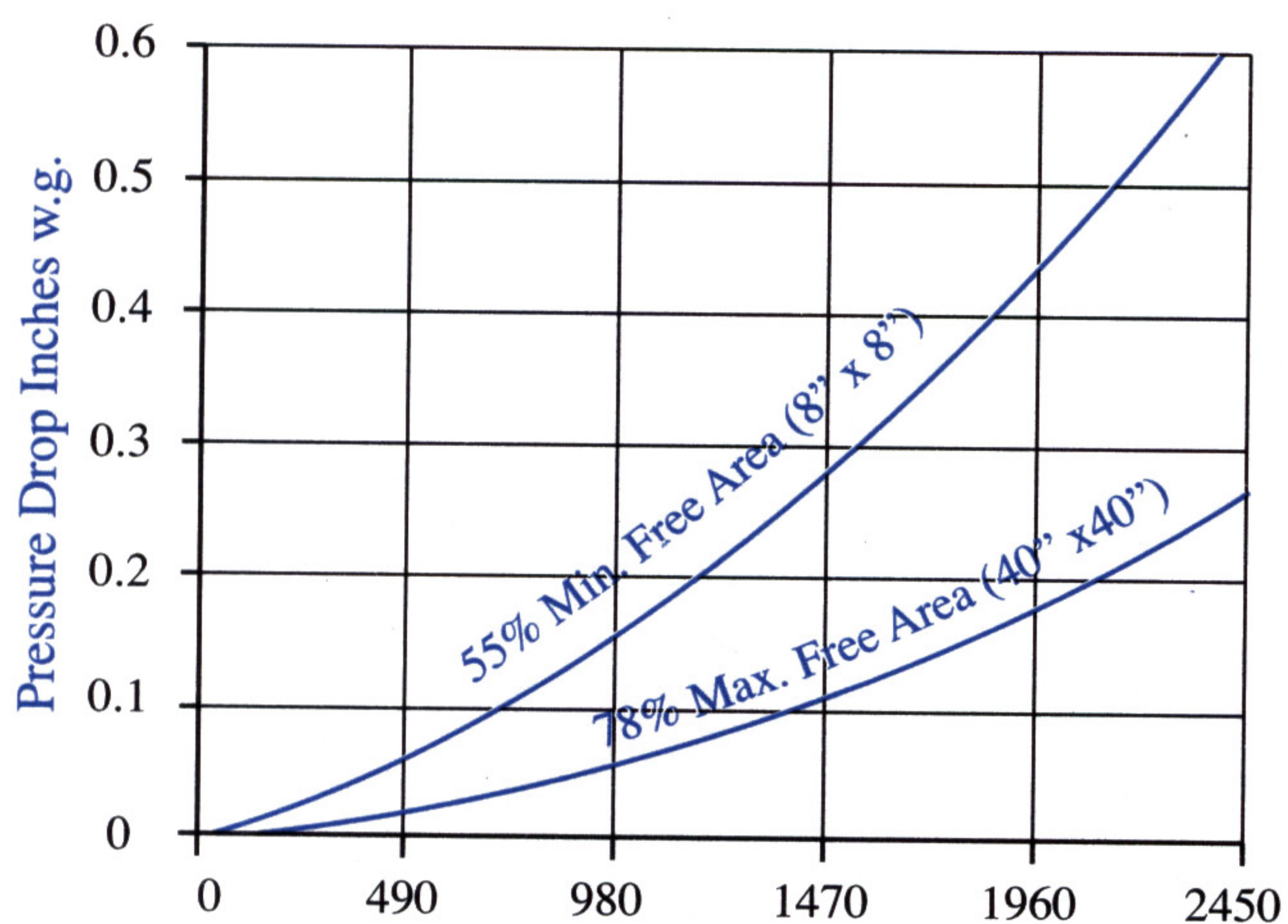


Vertical Mounting

CFD 20 FIRE DAMPERS AERODYNAMIC DATA

Chart (A)

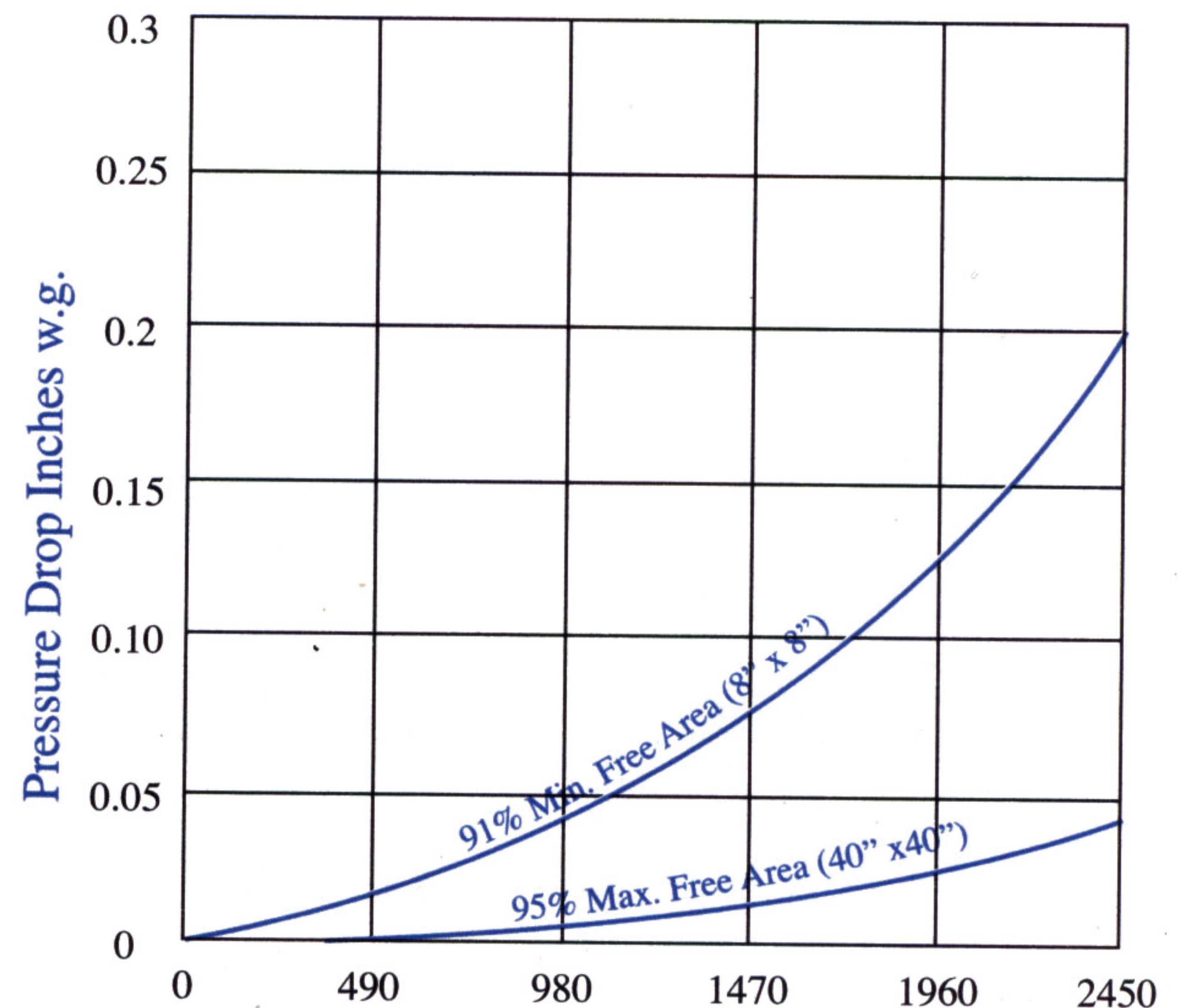
Applicable to CFD20-A
recommended for low and medium
velocities (55-78% free area)



Duct Velocity FPM

Chart (B)

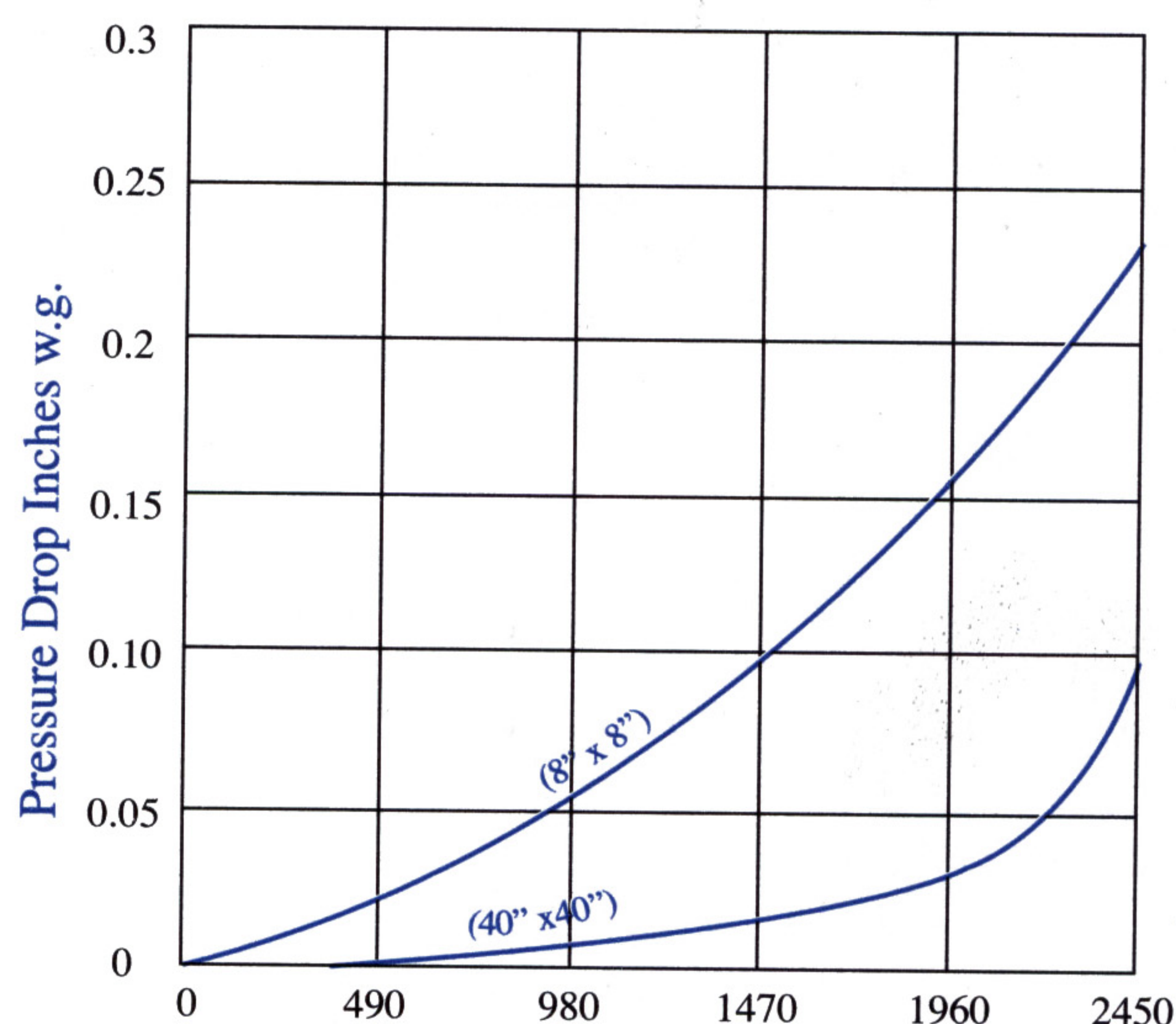
Applicable to CFD20-B models
recommended for low and medium
velocities (91-95% free area)



Duct Velocity FPM

Chart (C)

Applicable to CFD20-C, CR and CO models
recommended for high velocities
(100% free area)



Duct Velocity FPM