

Reference:

Client:

Project:

Contractor:

Location:

Contractor:

Date:

Submitted by: BM



**BADR and ASFOUR**  
Engineering & Metal Industries

### Model FD-USL

Ultra-Slimline Static Curtain Fire Damper  
1-1/2 or 3 Hour, UL555 Classified

### Application:

The BAS/CVS model FD-USL fire damper utilizes a Ultra-Slimline frame as well as curtain style blades to prevent the spread of fire through a penetration in a fire rated barrier made by an HVAC duct or transfer. The FD-USL can be installed vertically or horizontally and is meant for static HVAC systems (fans turn off in a fire) only.



### LISTINGS:

UL 555 Listing: R27700(UAE), R41135(KSA), R40068(Qatar), R41122(Egypt)

### Standard Construction:

|                                | Standard                              | Optional   |
|--------------------------------|---------------------------------------|--|
| <b>Frame Material</b>          | 22-gauge Galvanized Roll-formed Steel | -----  |
| <b>Blade Material and Type</b> | 22-gauge Galvanized Roll-formed Steel | -----  |
| <b>Frame Depth</b>             | 1-1/2" (38 mm)                        | 3-11/16" (94) [see Model FD]<br>2-3/8" (55 mm) [see Model FD-SL] |
| <b>Dimensions</b>              | Actual - 1/4" (6)                     | Actual   |
| <b>Closure Spring</b>          | Stainless Steel (Horizontal)          | Stainless Steel (Vertical)                                       |
| <b>Fusible Link</b>            | 165° (74°C)                           | 212° (100°C)   |
| <b>Mounting</b>                | Vertical                              | Horizontal   |
| <b>UL Hour Rating</b>          | 1-1/2 Hours                           | 3 Hours  |

Option in Stainless steel construction available.

All dimensions shown in inches, parentheses ( ) indicate millimeters.

### Optional Construction:

#### Factory Installed External Sleeve:

Length: 12 (305) 16 (406) 24 (610) Other: \_\_\_\_\_

Gauge: 20 (1.0) 18 (1.2) 16 (1.5) 14 (2.0) Other: \_\_\_\_\_

Location in Sleeve: Standard Offset: \_\_\_\_\_

#### Flanged Sleeve (requires factory installed external sleeve):

3/4" (19) 1" (25)

#### Framed Retaining Angles - 16 ga. x 1 1/2 x 1 1/2 (1.5x38x38)

Single Side Dual Side

### Other Options:

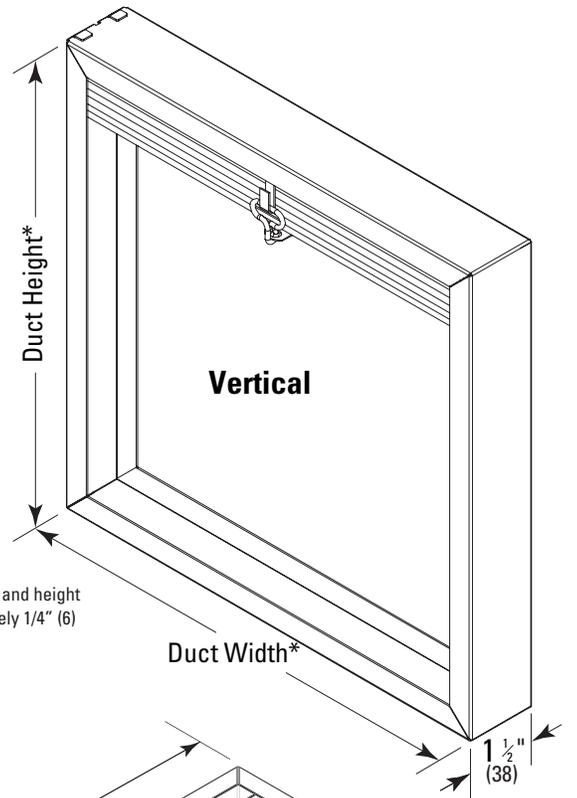
- Dynamic models (see Model FDD-SL)
- Multi-Blade models (FD-MB)
- Regular Frame and Slimline models (see Models FD and FD-USL)
- Out-of-wall models (see Model FD-OW)
- True Round models (see Model FD-RD)

### STANDARDS MET:

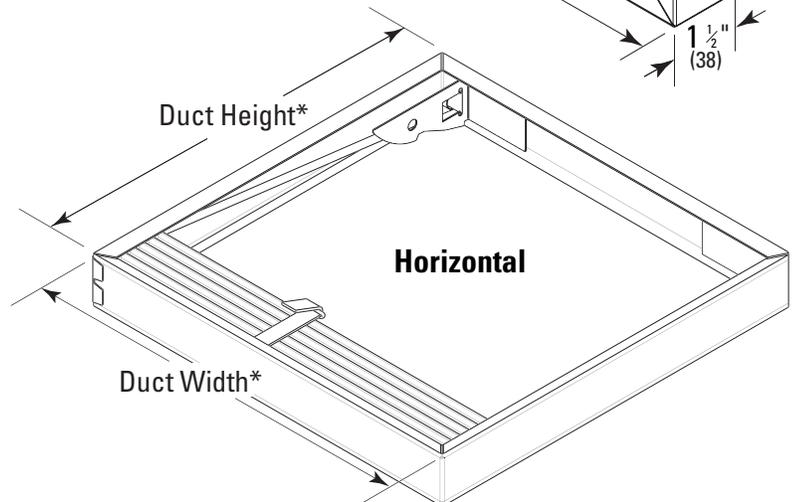
NFPA Standards: 80, 90A, 92A, 92B and 101

Building Code Standard:

ICC International Building Code



\*Damper width and height are approximately 1/4" (6) undercut.



As part of our continuous improvement program, we reserve the right to make further improvements without notice.

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**Type A Static Curtain Fire Damper**

- For use in static HVAC systems (fans off)
- Frame and blade stack in air stream
- Approximately 75-85% Free Area
- Sleeve optional (Factory installed)
- 1-1/2 or 3 Hour Fire Rated

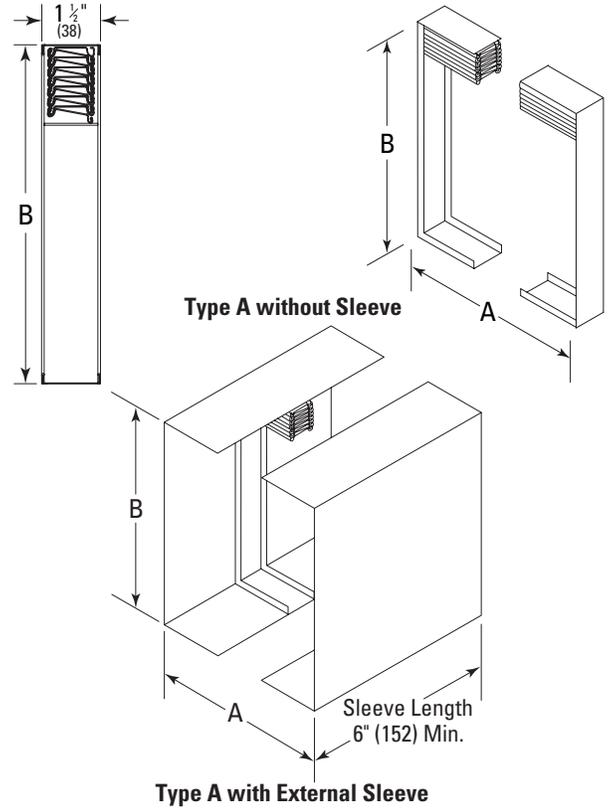
**FD-USL-A Minimum & Maximum Sizes:**

| Type A Model                 | Minimum Size  |        | Max. Single Section  |                      | Max. Multi-Section   |                      |
|------------------------------|---------------|--------|----------------------|----------------------|----------------------|----------------------|
|                              | 1.5 Hour      | 3 Hour | 1.5 Hour             | 3 Hour               | 1.5 Hour             | 3 Hour               |
| <b>FD-USL-A (Vertical)</b>   | 4x4 (102x102) |        | 48x48<br>(1219x1219) | 48x48<br>(1219x1219) | 80x40<br>(2032x1016) | 80x40<br>(2032x1016) |
| <b>FD-USL-A (Horizontal)</b> |               |        | 40x40<br>(1016x1016) | 40x40<br>(1016x1016) | 80x40<br>(2032x1016) | 80x40<br>(2032x1016) |

All dimensions shown in inches, parentheses ( ) indicate millimeters.

A Dimension = Duct Width

B Dimension = Duct Height



**Type B Static Curtain Fire Damper**

- For use in static HVAC systems (fans off)
- Blade stack out of airstream
- Approximately 80-90% Free Area
- Sleeve optional (Factory installed)
- 1-1/2 or 3 Hour Fire Rated

**FD-USL-B Minimum & Maximum Sizes:**

| Type B Model                 | Minimum Size |        | Max. Single Section  |                      | Max. Multi-Section <sup>1</sup> |                      |
|------------------------------|--------------|--------|----------------------|----------------------|---------------------------------|----------------------|
|                              | 1.5 Hour     | 3 Hour | 1.5 Hour             | 3 Hour               | 1.5 Hour                        | 3 Hour               |
| <b>FD-USL-B (Vertical)</b>   | ----         | ----   | ----                 | ----                 | ----                            | ----                 |
| <b>FD-USL-B (Horizontal)</b> | 4x3 (102x76) |        | 40x40<br>(1016x1016) | 40x40<br>(1016x1016) | 80x40<br>(2032x1016)            | 80x40<br>(2032x1016) |

All dimensions shown in inches, parentheses ( ) indicate millimeters.

A Dimension = Duct Width

B Dimension = Duct Height

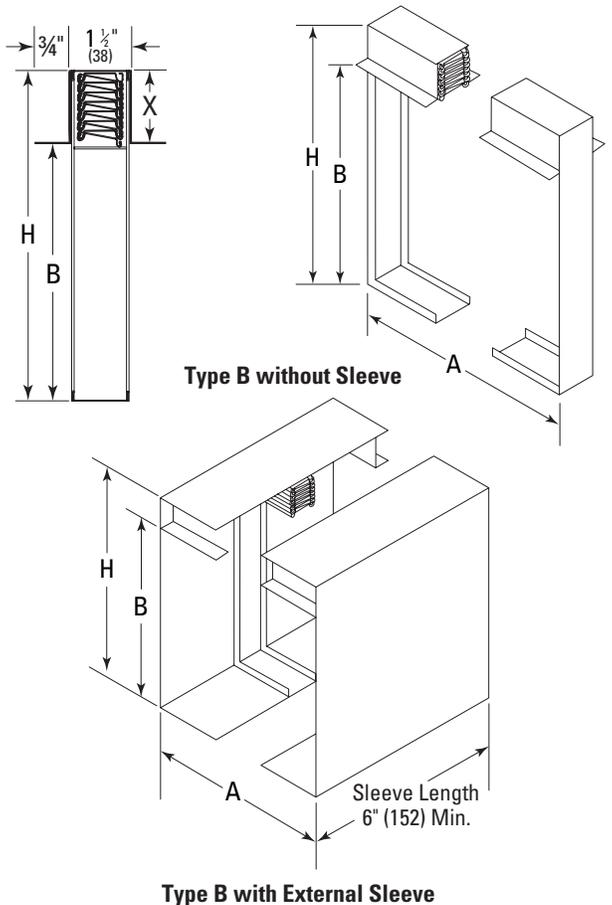
X Dimension = Height of Blade Stack

H Dimension = Overall Damper Height (B+X)

**Notes:**

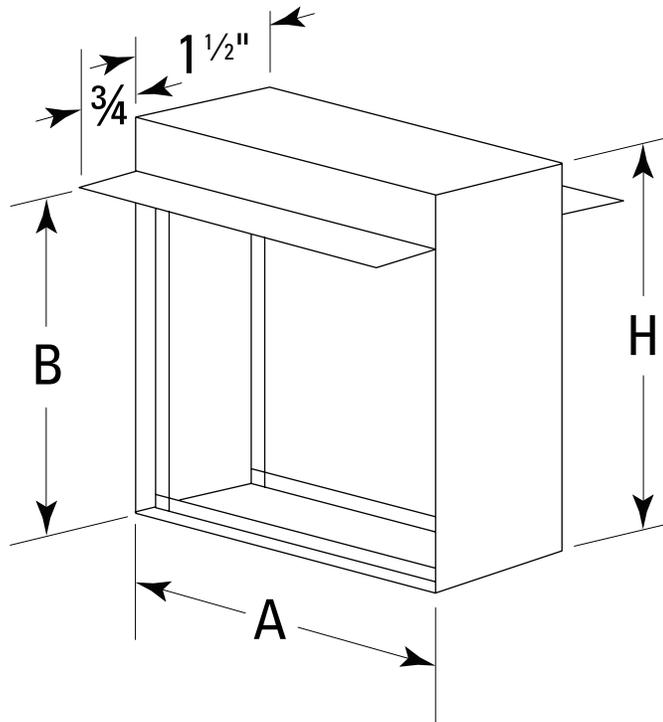
1. Multi-section damper will have frame in the airstream, and blades for vertical models more than one damper in height.

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### Type B Fire Damper

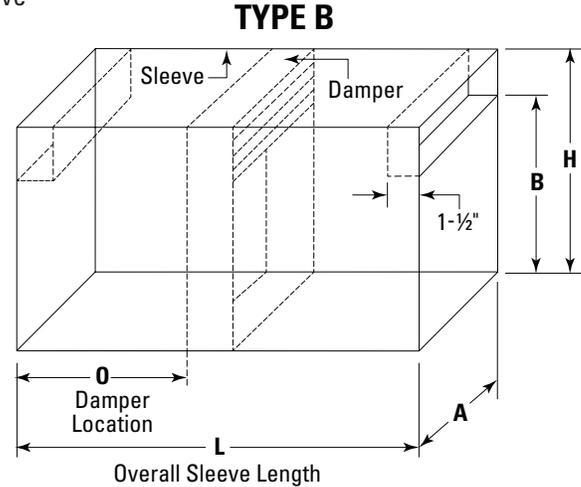
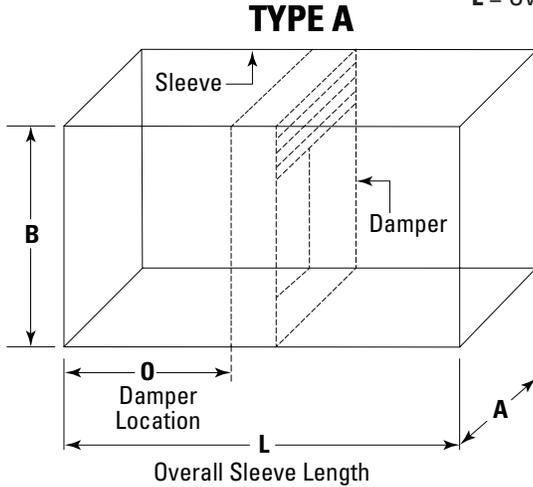


| Duct Height (B) | Type B Damper Height (H) |    |    |     |     |
|-----------------|--------------------------|----|----|-----|-----|
| Inches          | Inches                   |    |    |     |     |
| 3               | 5                        | 40 | 44 | 78  | 82  |
| 4               | 6                        | 41 | 45 | 79  | 83  |
| 5               | 7                        | 42 | 46 | 80  | 84  |
| 6               | 8                        | 43 | 48 | 81  | 85  |
| 7               | 9                        | 44 | 49 | 82  | 86  |
| 8               | 10                       | 45 | 50 | 83  | 87  |
| 9               | 11                       | 46 | 51 | 84  | 88  |
| 10              | 12                       | 47 | 52 | 85  | 89  |
| 11              | 13                       | 48 | 53 | 86  | 91  |
| 12              | 14                       | 49 | 54 | 87  | 92  |
| 13              | 15                       | 50 | 55 | 88  | 93  |
| 14              | 16                       | 51 | 56 | 89  | 94  |
| 15              | 17                       | 52 | 57 | 90  | 95  |
| 16              | 18                       | 53 | 58 | 91  | 96  |
| 17              | 19                       | 54 | 59 | 92  | 97  |
| 18              | 20                       | 55 | 60 | 93  | 98  |
| 19              | 21                       | 56 | 59 | 94  | 99  |
| 20              | 22                       | 57 | 60 | 95  | 100 |
| 21              | 23                       | 58 | 61 | 96  | 101 |
| 22              | 25                       | 59 | 62 | 97  | 102 |
| 23              | 26                       | 60 | 63 | 98  | 103 |
| 24              | 27                       | 61 | 64 | 99  | 104 |
| 25              | 28                       | 62 | 65 | 100 | 105 |
| 26              | 29                       | 63 | 66 | 101 | 106 |
| 27              | 30                       | 64 | 67 | 102 | 107 |
| 28              | 31                       | 65 | 69 | 103 | 108 |
| 29              | 32                       | 66 | 70 | 104 | 109 |
| 30              | 33                       | 67 | 71 | 105 | 110 |
| 31              | 34                       | 68 | 72 | 106 | 111 |
| 32              | 35                       | 69 | 73 | 107 | 112 |
| 33              | 37                       | 70 | 74 | 108 | 113 |
| 34              | 38                       | 71 | 75 | 109 | 114 |
| 35              | 39                       | 72 | 76 | 110 | 115 |
| 36              | 40                       | 73 | 77 | 111 | 116 |
| 37              | 41                       | 74 | 78 | 112 | 117 |
| 38              | 42                       | 75 | 79 | 113 | 118 |
| 39              | 43                       | 76 | 80 | 114 | 119 |
|                 |                          | 77 | 81 | 115 | 120 |

Below are diagrams showing the location of the Type A and B fire dampers in a factory installed external sleeve.

**Sleeve Diagram Key:**

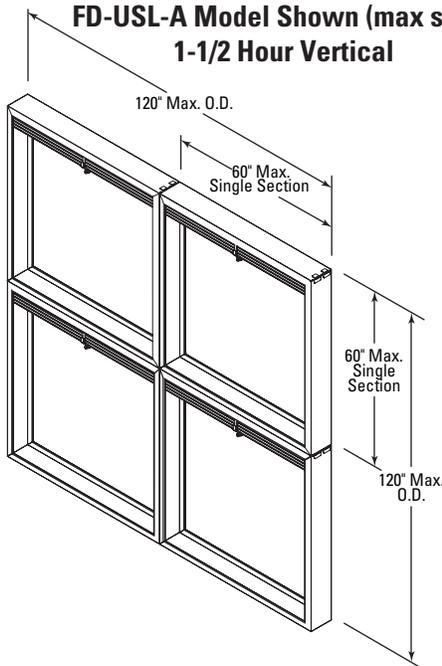
- H** = Overall height
- W** = Overall width (always the length of the blades)
- A** = Duct Width
- B** = Duct Height
- O** = The offset from one end of the sleeve to the beginning of the damper frame (can be altered as a construction option)
- L** = Overall length of sleeve



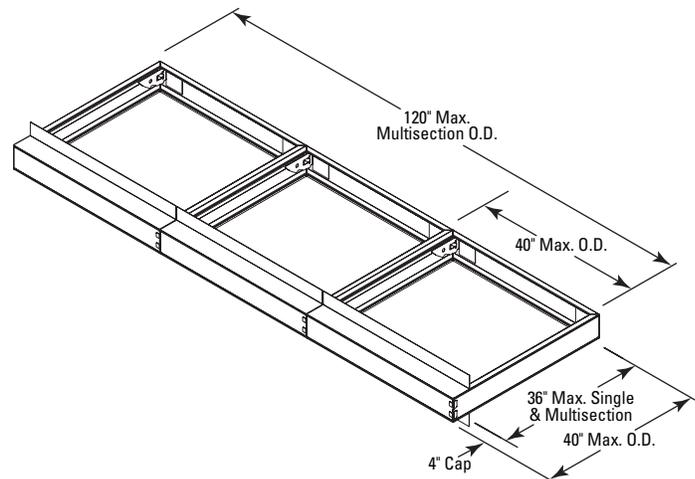
**MULTIPLE SECTION INFORMATION - Model FD-USL**  
Ultra-Slimline Static Curtain Fire Damper

**Multiple section damper assemblies** are shipped in individual sections from the factory unless a factory supplied and installed sleeve is required. When a multiple section damper is ordered with a sleeve, it is usually shipped as a complete assembly. The following drawings are of different maximum size multiple section FDD-SL models and are for reference purposes (not all options are shown).

**Type A Multi-Section Assembly**  
FD-USL-A Model Shown (max size):  
1-1/2 Hour Vertical



**Type B Multi-Section Assembly**  
FD-USL-B Model Shown (max size):  
1-1/2 Hour Horizontal



**Notes:**

1. These diagrams are for reference purposes
2. Not all FD-USL Model options are shown

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