

## IBD23 CURTAIN TYPE STATIC FIRE DAMPERS 3 HOUR UL555 RATED FOR USE IN STATIC SYSTEMS

### APPLICATION

Ruskin Model IBD23 is a 3 hour UL classified static (fans off) curtain style fire damper for use in HVAC systems that shut down during a fire event. Fire dampers used for the protection of openings in walls, partitions, or masonry floors with fire resistance ratings of 3 hours or more and shall have a 3 hour fire protection rating. The IBD23 can be installed vertically in walls or horizontally in masonry floors and is rated for airflow in either direction.

### STANDARD CONSTRUCTION

#### FRAME AND BLADES MATERIAL

Galvanized steel (in gauges required by UL listing R-5531).

#### CLOSURE SPRINGS

301 stainless steel constant force type (horizontal mount only)

#### FUSIBLE LINK

165°F (74°C) is standard.

212°F (100°C) available as an option.



### DAMPER SIZES

See pages 2 - 5 for minimum and maximum UL sizes.

See pages 6 - 9 for construction details on multiple section assemblies.

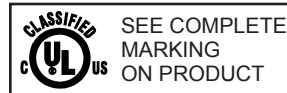
### OPTIONS

- **FM Approvals** as Specification Tested Product
- **SP200** Switch Package to allow remote indication of damper blade position
- **PFMA Angles** factory supplied two-side installation. Other angles of various sizes and gauges are available for two-side installation
- **Factory Sleeves** of various lengths and gauges to ensure field compliance with UL installation requirements
- **MCP** Control panels for monitoring purpose

Models IBD23 series meet the requirements for fire dampers established by:

- **National Fire Protection Association** NFPA Standards 80, 90A, 92A, 92B, and 101
- **ICC International Building Codes**
- **CSFM California State Fire Marshal** IBD23 #3225-0245:0004
- **New York City** MEA 450-06-M

**UL CLASSIFIED**  
**UL555 Listing R5531**



**FM Approvals**  
Specification Tested Product  
(Option)

### Notes:

1. Dimensions shown in parentheses ( ) indicate millimeters.
2. Single section dampers ordered with either 12" (305), 14" (356) or 16" (406) long sleeve; the IBD230, 430 and 630 models may be substituted.

# DAMPER STYLES AND SIZES

## A Style

Frame and blades in air stream

Sleeve optional

75 - 85% free area

### MINIMUM SIZE

Vertical Installation – 4"w x 4"h (102 x 102)

Horizontal Installation – 6"w x 6"h (152 x 152)

### MAXIMUM SIZE

#### Single Section

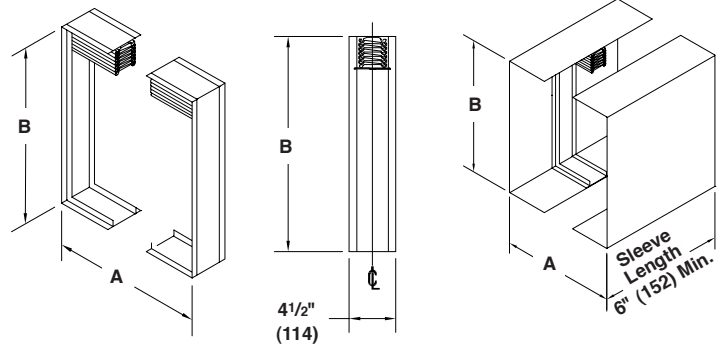
Vertical Installation – 36"w x 36"h (914 x 914)

Horizontal Installation – 30"w x 45<sup>1</sup>/<sub>2</sub>"h (762 x 1156)

#### Multiple Section Assembly

Vertical Installation – 90"w x 72"h (2286 x 1829)

Horizontal Installation – 90"w x 91"h (2286 x 2311)



A Style w/o Sleeve

A Style w/Sleeve

**Note:** See page 6 of this document for overall damper dimensional information.

## B Style

Blades out of air stream

Sleeve optional

80 - 90% free area

### MINIMUM SIZE

Vertical Installation – 4"w x 4"h (102 x 102)

Horizontal Installation – 6"w x 4"h (152 x 102)

### MAXIMUM SIZE

#### Single Section

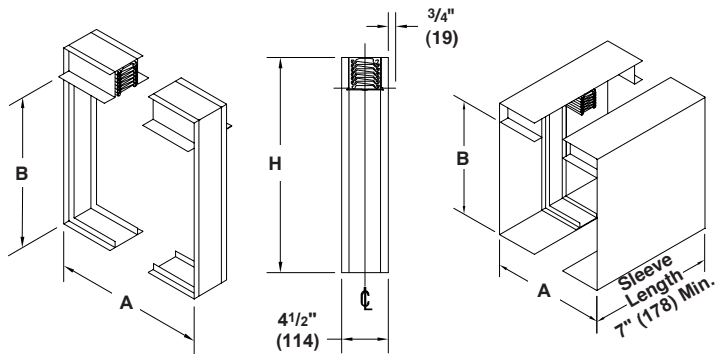
Vertical Installation – 36"w x 32"h (914 x 813)

Horizontal Installation – 30"w x 40"h (762 x 1016)

#### Multiple Section Assembly

Vertical Installation – 90"w x 68"h (2286 x 1727)

Horizontal Installation – 90"w x 81"h (2286 x 2057)



B Style w/o Sleeve

B Style w/Sleeve

A = Duct Width  
B = Duct Height  
H = Overall Damper Height

**Note:** See page 7 of this document for overall damper dimensional information.

## BC and WB Style

Blades out of air stream

Fully welded sleeve required

80 - 90% free area

### MINIMUM SIZE

Vertical Installation – 4"w x 4"h (102 x 102)

Horizontal Installation – 6"w x 4"h (152 x 102)

### MAXIMUM SIZE

#### Single Section

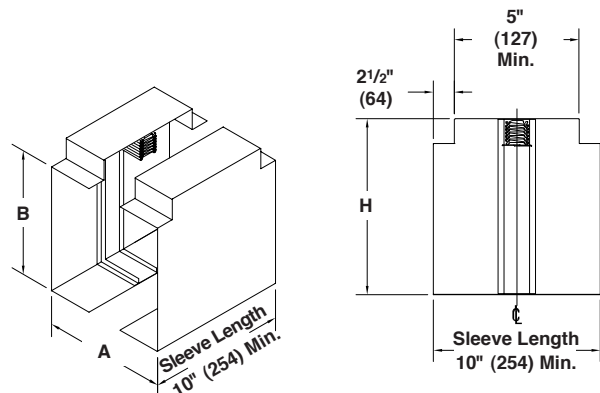
Vertical Installation – 36"w x 32"h (914 x 813)

Horizontal Installation – 30"w x 40"h (762 x 1016)

#### Multiple Section Assembly

Vertical Installation – 90"w x 68"h (2286 x 1727)

Horizontal Installation – 90"w x 81"h (2286 x 2057)



BC Style w/Sleeve

A = Duct Width  
B = Duct Height  
H = Overall Damper Height

**Note:** See page 7 of this document for overall damper dimensional information.

# DAMPER STYLES AND SIZES

## C AND WC Style – Square or Rectangle Transition

Frame and blades out of air stream

Sleeve required

95 - 100% free area

C Style – sealed assembly

WC Style – fully welded

### MINIMUM SIZE

Vertical or Horizontal Installation – 4" w x 4" h (102 x 102)

### MAXIMUM SIZE

#### Single Section

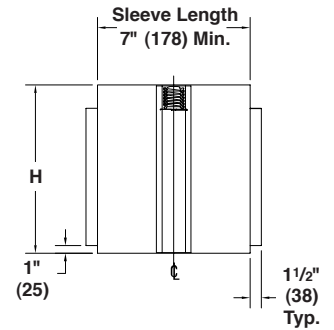
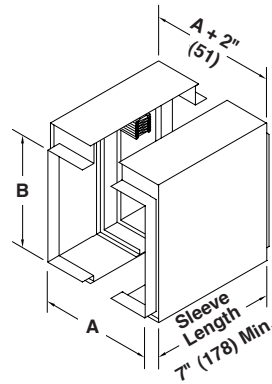
Vertical Installation – 34" w x 31" h (864 x 787)

Horizontal Installation – 28" w x 39" h (711 x 991)

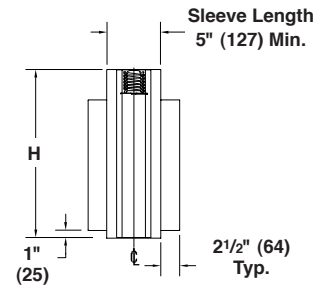
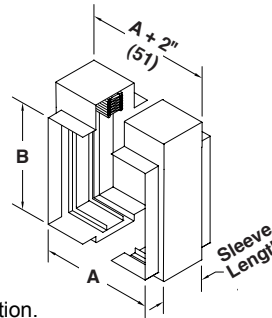
#### Multiple Section Assembly

Vertical Installation – 88" w x 67" h (2235 x 1702)

Horizontal Installation – 88" w x 81" h (2235 x 2057)



C Style w/Sleeve



WC Style w/Sleeve

A = Duct Width  
 B = Duct Height  
 H = Overall Damper Height

### NOTE:

1. Style C duct connection extends 1 1/2" (38) beyond the sleeve.
2. Style WC duct connection extends 2 1/2" (64) beyond the sleeve.
3. See page 8 of this document for overall damper dimensional information.

## CR AND WR Style – Round Transition

Frame and blades out of air stream

Sleeve required

95 - 100% free area

CR Style – sealed assembly

WR Style – fully welded

### MINIMUM SIZE

Vertical or Horizontal Installation – 4" diameter (102)

### MAXIMUM SIZE

#### Single Section

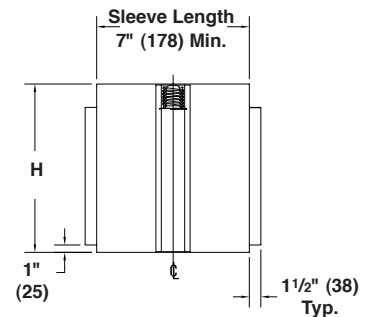
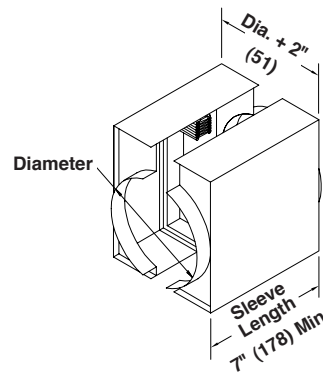
Vertical or Horizontal Installation – 31" diameter (787)

Horizontal Installation – 28" diameter (711)

#### Multiple Section Assembly

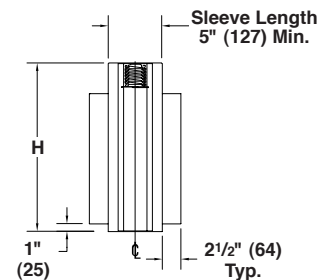
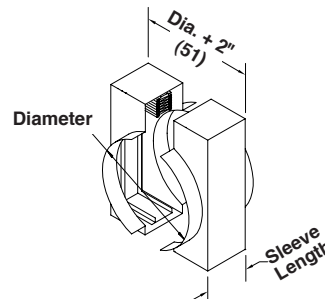
Vertical Installation – 67" diameter (1702)

Horizontal Installation – 81" diameter (2057)



CR Style

D = Diameter  
 H = Overall Damper Height  
 X = Blade Package Height



WR Style

### NOTE:

1. Style CR duct connection extends 1 1/2" (38) beyond the sleeve.
2. Style WC duct connection extends 2 1/2" (64) beyond the sleeve.
3. Transition collars to be sealed (by others).
4. See page 9 of this document for "X" dimension and overall damper dimensional information.

# DAMPER STYLES AND SIZES

## CO AND WO Style – Oval Transition

Frame and blades out of air stream

Sleeve required

95 - 100% free area

CO Style – sealed assembly

WO Style – fully welded

### MINIMUM SIZE

Vertical or Horizontal Installation – 4"w x 4"h (102 x 102)

### MAXIMUM SIZE

#### Single Section

Vertical Installation – 34"w x 31"h (864 x 787)

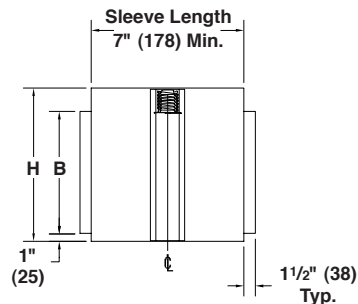
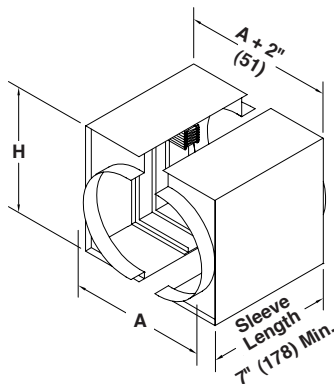
Horizontal Installation – 28"w x 39"h (711 x 991)

#### Multiple Section Assembly

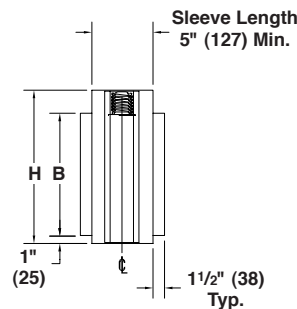
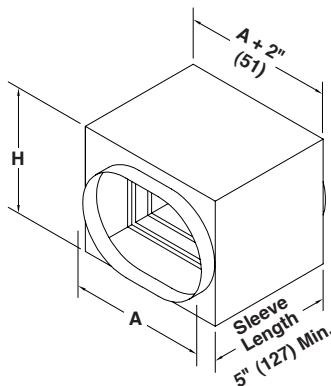
Vertical Installation – 88"w x 67"h (2235 x 1702)

Horizontal Installation – 88"w x 81"h (2235 x 2057)

A = Duct Width  
 B = Duct Height  
 H = Overall Damper Height



CO Style



WO Style

### NOTE:

1. Style CO duct connection extends 1 1/2" (38) beyond the sleeve.
2. Style WO duct connection extends 2 1/2" (64) beyond the sleeve.
3. Transition collars to be sealed (by others).
4. See page 8 of this document for overall damper dimensional information.

## LR Style – Round Transition

Round enclosure - frame and blades out of air stream

Sleeve optional non-sealed assembly

95 - 100% free area

### MINIMUM SIZE

Vertical or Horizontal Installation – 4" diameter (102)

### MAXIMUM SIZE

#### Single Section

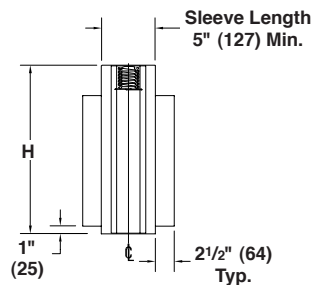
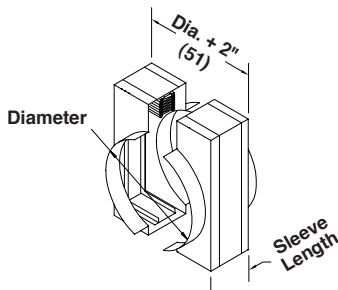
Vertical Installation – 31" diameter (787)

Horizontal Installation – 28" diameter (711)

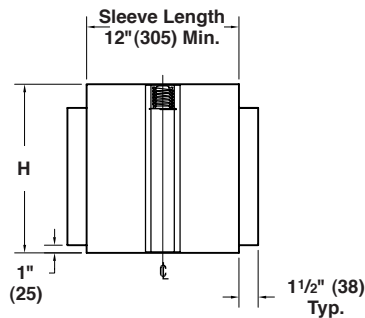
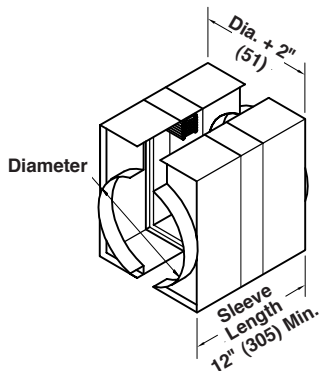
#### Multiple Section Assembly

Not available in style LR. See Style CR for larger assemblies

D = Diameter  
 H = Overall Damper Height  
 X = Blade Package Height



LR Style Without Sleeve



LR Style w/Sleeve

Available with 12" (305), 14" (356) or 16" (406) long sleeves

### NOTE:

1. Style LR without sleeves the duct connection extends 2 1/2" (64) beyond the damper.
2. Style LR with sleeves the duct connection extends 1 1/2" (38) beyond the sleeve.
3. Transitions and collars to be sealed in the field (by others).
4. See page 9 of this document for "X" dimension overall damper dimensional information.

# DAMPER STYLES AND SIZES

## LO Style – Oval Transition

Frame and blades out of air stream  
 Sleeve optional non-sealed assembly  
 95 - 100% free area

### MINIMUM SIZE

Vertical or Horizontal Installation – 4"w x 4"h (102 x 102)

### MAXIMUM SIZE

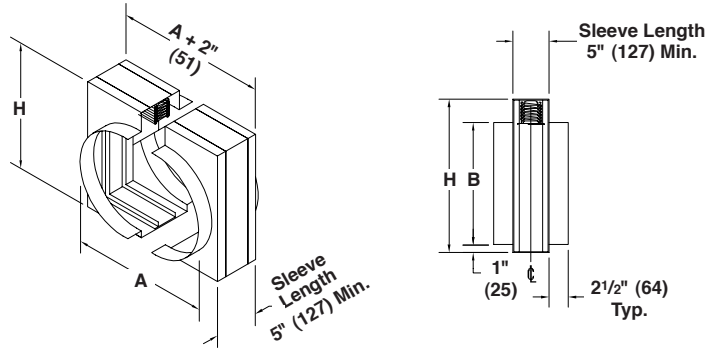
#### Single Section

Vertical Installation – 34"w x 31"h (864 x 787)

Horizontal Installation – 28"w x 39"h (711 x 991)

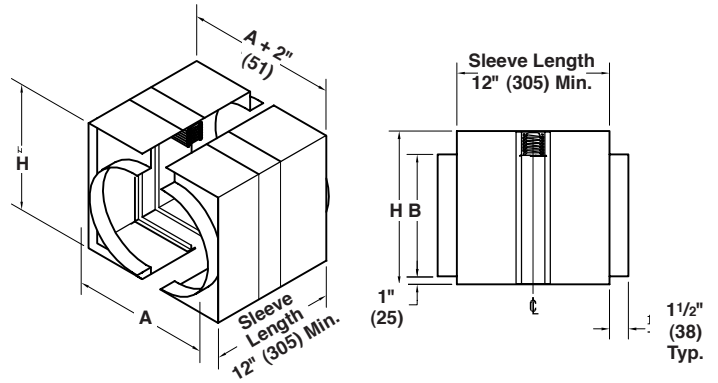
#### Multiple Section Assembly

Not available in Style LO. See Style CO for larger assemblies



LO Style Without Sleeve

A = Duct Width  
 B = Duct Height  
 H = Overall Damper Height



LO Style w/Sleeve

Available with 12" (305), 14" (356) or 16" (406) long sleeves

### NOTE:

1. Style LO without sleeves the duct connection extends 2 1/2" (64) beyond the damper.
2. Style LO with sleeves the duct connection extends 1 1/2" (38) beyond the sleeve.
3. Transitions and collars to be sealed in the field (By Others).
4. See page 8 of this document for overall damper dimensional information.

## R Style – Round Transition

Round enclosure. Blades partially in the air stream  
 Sleeve optional non-sealed assembly  
 85 - 95% free area

### MINIMUM SIZE

Vertical or Horizontal Installation – 4" diameter (102)

### MAXIMUM SIZE

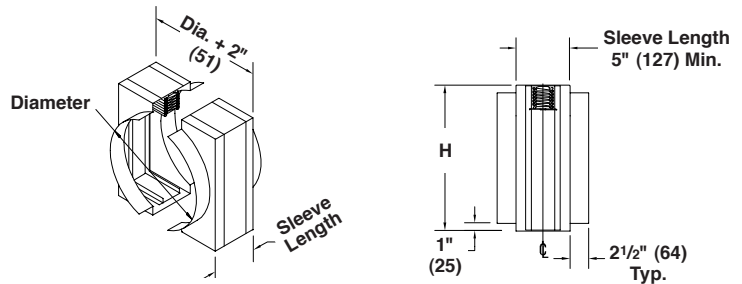
#### Single Section

Vertical Installation – 34" diameter (864)

Horizontal Installation – 28" diameter (711)

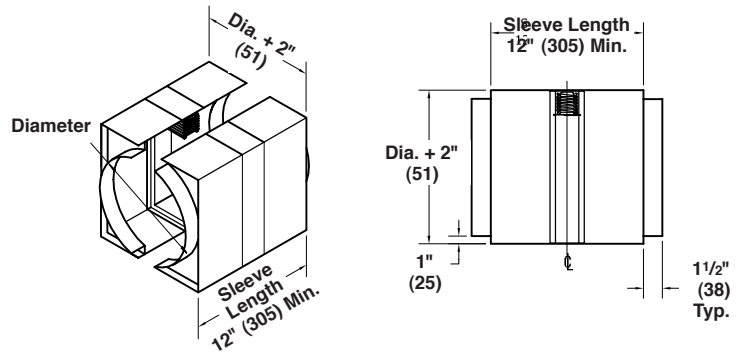
#### Multiple Section Assembly

Not available in Style R. See Style CR for larger assemblies



R Style

D = Diameter  
 H = Overall Damper Height



R Style w/Sleeve

Available with 12" (305), 14" (356) or 16" (406) long sleeves

### NOTE:

1. Style R without sleeves the duct connection extends 2 1/2" (64) beyond the damper.
2. Style R with sleeves the duct connection extends 1 1/2" (38) beyond the sleeve.
3. Transitions and collars to be sealed in the field (By Others).
4. See page 10 of this document for overall damper dimensional information.

# ASSEMBLY AND DIMENSIONAL INFORMATION

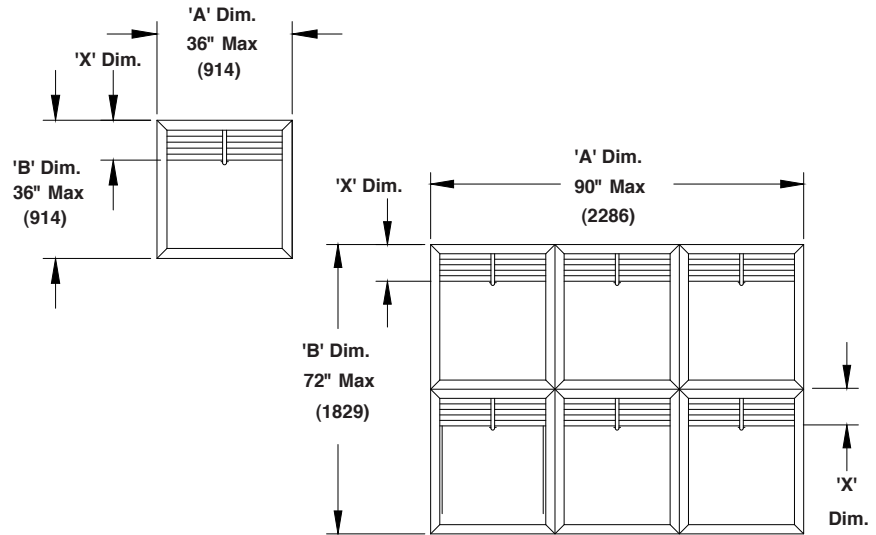
Dampers normally fabricated approximately 1/4" (6) less than given duct dimensions. A (width) and B (height) dimensions shown describe maximum UL Classified sizes. Multiple section damper assemblies ordered without sleeves are shipped in individual sections, for field assembly. Multiple section dampers ordered with factory furnished sleeves are normally shipped in complete assemblies.

## IBD23 A STYLE DAMPERS

### VERTICAL INSTALLATION

SINGLE SECTION HIGH	
'X' BLADE STACK DIMENSION	
'B' Damper Height	'X' Dim.
4" (102) thru 10" (254)	1 1/2" (39)
10.01" (255) thru 17" (432)	2" (51)
17.01" (433) thru 21" (533)	2 1/2" (64)
21.01" (534) thru 26" (660)	3" (77)
26.01" (661) thru 31" (787)	3 1/2" (89)
31.01" (788) thru 36" (914)	4" (102)

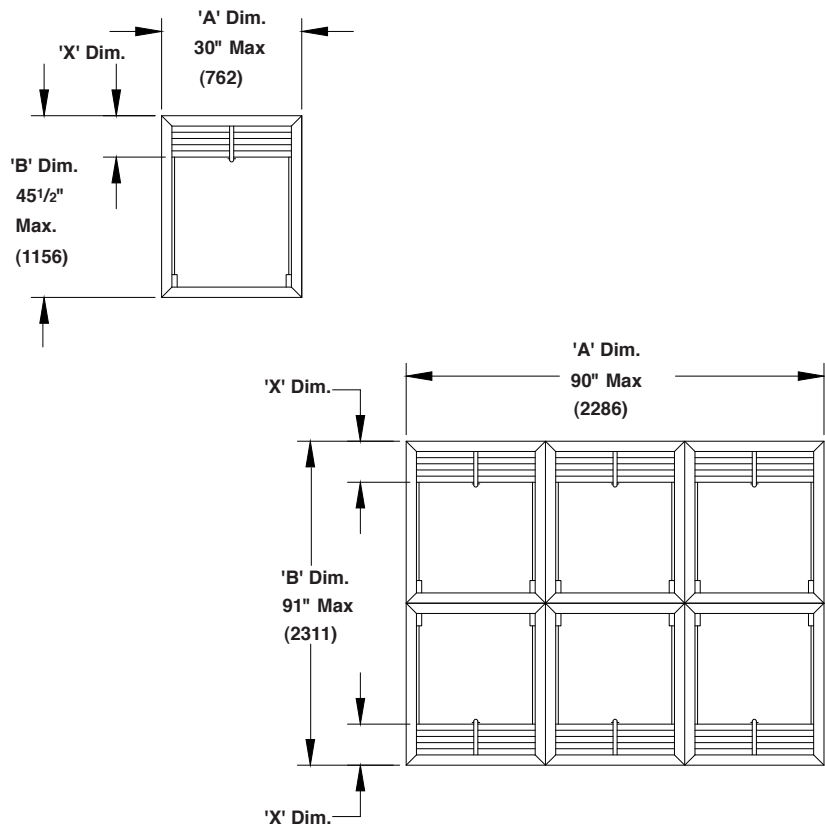
TWO SECTION HIGH	
'X' BLADE STACK DIMENSION	
'B' Damper Height	'X' Dim.
36.01" (915) thru 42" (1067)	2 1/2" (64)
42.01" (1068) thru 52" (1321)	3" (77)
52.01" (1322) thru 62" (1575)	3 1/2" (89)
62.01" (1576) thru 72" (1829)	4" (102)



### HORIZONTAL INSTALLATION

SINGLE SECTION HIGH	
'X' BLADE STACK DIMENSION	
'B' Damper Height	'X' Dim.
6" (152) thru 10" (254)	1 1/2" (39)
10.01" (255) thru 17" (432)	2" (51)
17.01" (433) thru 21" (533)	2 1/2" (64)
21.01" (534) thru 26" (660)	3" (77)
26.01" (661) thru 31" (787)	3 1/2" (89)
31.01" (788) thru 38" (965)	4" (102)
38.01" (966) thru 42" (1067)	4 1/2" (115)
42.01" (1068) thru 45.5 (1156)	5" (127)

TWO SECTION HIGH	
'X' BLADE STACK DIMENSION	
'B' Damper Height	'X' Dim.
45.6" (1157) thru 52" (1321)	3" (77)
52.01" (1322) thru 62" (1575)	3 1/2" (89)
62.01" (1576) thru 76" (1930)	4" (102)
76.01" (1931) thru 84" (2134)	4 1/2" (115)
84.01" (2135) thru 91" (2311)	5" (127)

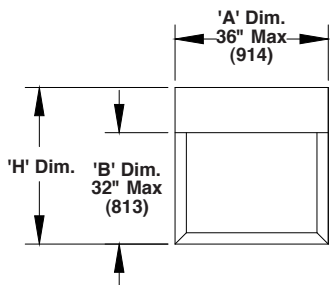


# ASSEMBLY AND DIMENSIONAL INFORMATION

## B, BC and WB STYLE DAMPERS VERTICAL INSTALLATION

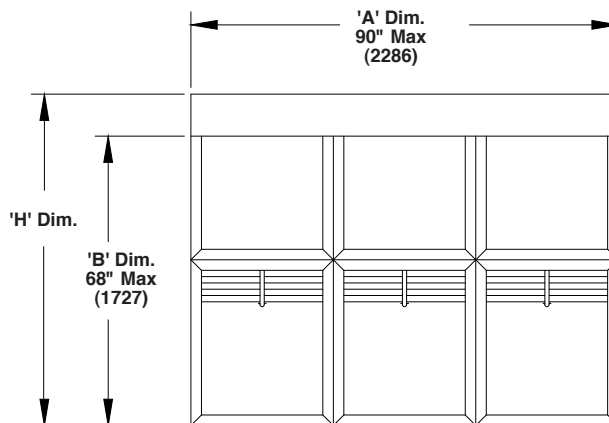
SINGLE SECTION HIGH	
'B' Damper Height	'X' Dim.
4" (102) thru 12" (305)	1 <sup>3</sup> / <sub>4</sub> " (44)
12.01" (306) thru 23" (584)	2 <sup>3</sup> / <sub>4</sub> " (70)
23.01" (585) thru 32" (813)	3 <sup>3</sup> / <sub>4</sub> " (95)

'X' dim. + 'B' dim. = 'H' dim.



TWO SECTION HIGH	
'B' Damper Height	'X' Dim.
32.01" (814) thru 49" (1245)	2 <sup>3</sup> / <sub>4</sub> " (70)
49.01" (1246) thru 68" (1727)	3 <sup>3</sup> / <sub>4</sub> " (95)

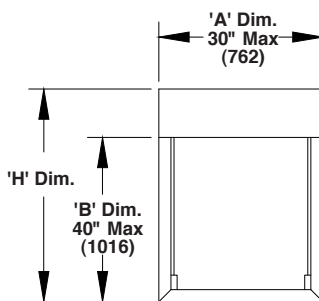
'X' dim. + 'B' dim. = 'H' dim.



## HORIZONTAL INSTALLATION

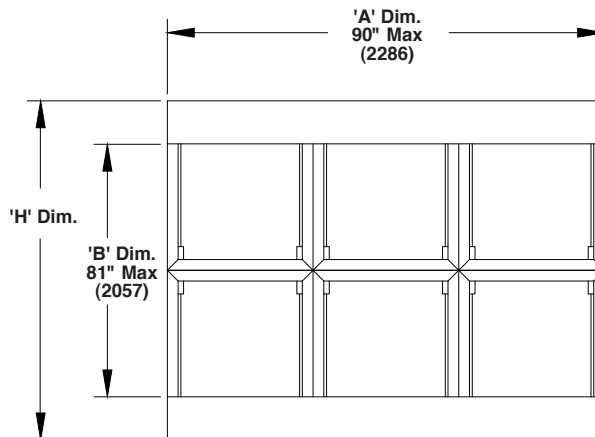
SINGLE SECTION HIGH	
'B' Damper Height	'X' Dim.
4" (102) thru 12" (305)	1 <sup>3</sup> / <sub>4</sub> " (44)
12.01" (306) thru 23" (584)	2 <sup>3</sup> / <sub>4</sub> " (70)
23.01" (585) thru 34" (864)	3 <sup>3</sup> / <sub>4</sub> " (95)
34.01" (865) thru 40" (1016)	4 <sup>3</sup> / <sub>4</sub> " (121)

'X' dim. + 'B' dim. = 'H' dim.



TWO SECTION HIGH	
'B' Damper Height	'X' Dim.
40.01" (1017) thru 46" (1168)	5 <sup>1</sup> / <sub>2</sub> " (140)
46.01" (1169) thru 68" (1727)	7 <sup>1</sup> / <sub>2</sub> " (191)
68.01" (1728) thru 81" (2057)	9 <sup>1</sup> / <sub>2</sub> " (241)

'X' dim. + 'B' dim. = 'H' dim.



# ASSEMBLY AND DIMENSIONAL INFORMATION

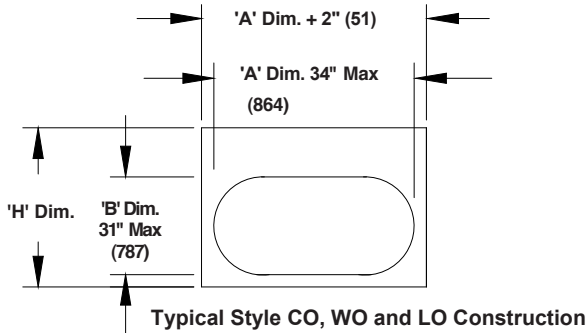
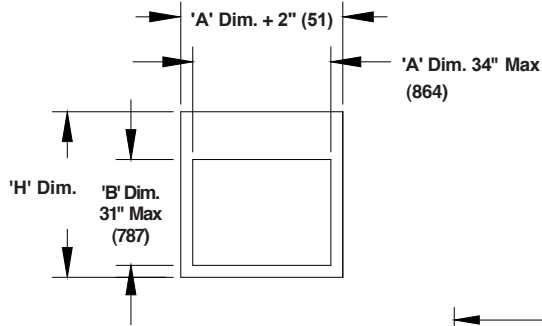
## C, WC, CO, WO and LO STYLE DAMPERS VERTICAL INSTALLATION

SINGLE SECTION HIGH	
'B' Damper Height	'X' Dim.
3" (76) thru 11" (279)	2 <sup>3</sup> / <sub>4</sub> " (70)
11.01" (280) thru 22" (559)	3 <sup>3</sup> / <sub>4</sub> " (95)
22.01" (560) thru 31" (787)	4 <sup>3</sup> / <sub>4</sub> " (121)

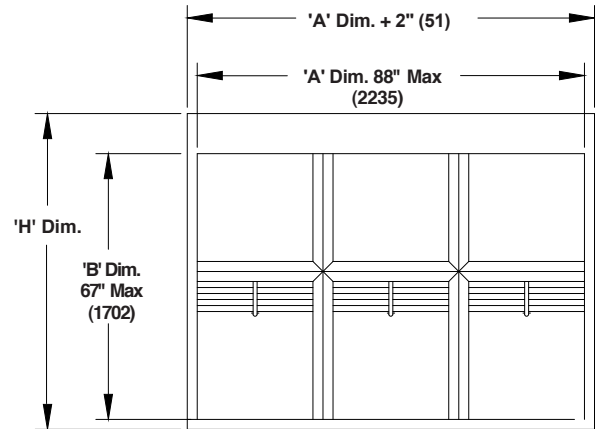
'X' dim. + 'B' dim. = 'H' dim.

TWO SECTION HIGH	
'B' Damper Height	'X' Dim.
31.01" (788) thru 48" (1219)	3 <sup>3</sup> / <sub>4</sub> " (95)
48.01" (1220) thru 67" (1702)	4 <sup>3</sup> / <sub>4</sub> " (121)

'X' dim. + 'B' dim. = 'H' dim.



LO Style is limited to single section only.



Typical Style C and WC

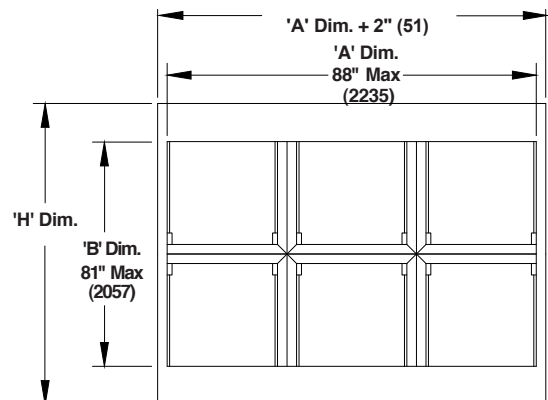
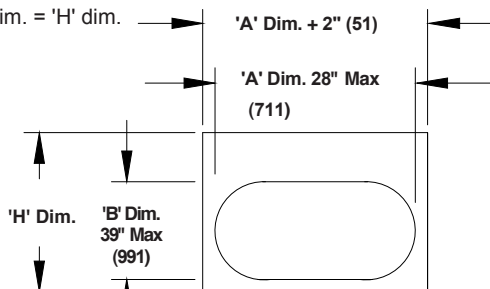
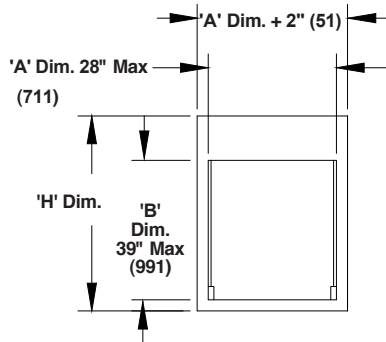
## HORIZONTAL INSTALLATION

SINGLE SECTION HIGH	
'B' Damper Height	'X' Dim.
3" (76) thru 11" (279)	2 <sup>3</sup> / <sub>4</sub> " (70)
11.01" (280) thru 22" (559)	3 <sup>3</sup> / <sub>4</sub> " (95)
22.01" (560) thru 33" (838)	4 <sup>3</sup> / <sub>4</sub> " (121)
33.01" (839) thru 39" (991)	5 <sup>3</sup> / <sub>4</sub> " (146)

'X' dim. + 'B' dim. = 'H' dim.

TWO SECTION HIGH	
'B' Damper Height	'X' Dim.
39.01" (992) thru 46" (1168)	5 <sup>1</sup> / <sub>2</sub> " (140)
46.01" (1169) thru 68" (1727)	7 <sup>1</sup> / <sub>2</sub> " (191)
68.01" (1728) thru 81" (2057)	9 <sup>1</sup> / <sub>2</sub> " (241)

'X' dim. + 'B' dim. = 'H' dim.



Typical Style CO and WO Construction



# ASSEMBLY AND DIMENSIONAL INFORMATION

## CR, WR and LR STYLE DAMPERS VERTICAL INSTALLATION

SINGLE SECTION HIGH	
'H' DIMENSION	
Diameter	'X' Dim.
3" (76) thru 11" (279)	2 <sup>3</sup> / <sub>4</sub> " (70)
11.01" (305) thru 22" (559)	3 <sup>3</sup> / <sub>4</sub> " (95)
22.01" (560) thru 31" (787)	4 <sup>3</sup> / <sub>4</sub> " (121)

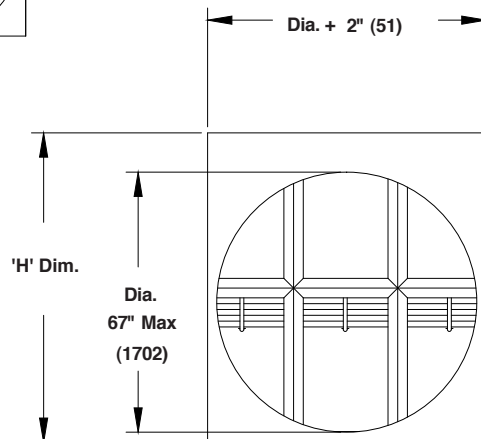
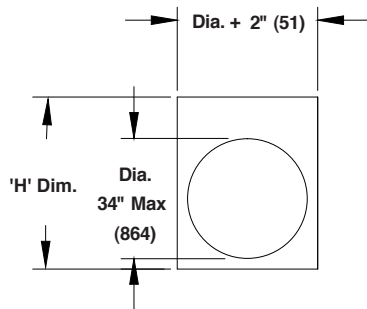
'X' dim. + 'B' dim. = 'H' dim.

**NOTE:**

LR Style is limited to single section only.

TWO SECTION HIGH	
'H' DIMENSION	
Diameter	'X' Dim.
32" (838) thru 48" (1219)	3 <sup>3</sup> / <sub>4</sub> " (95)
48.01" (1220) thru 67" (1702)	4 <sup>3</sup> / <sub>4</sub> " (121)

'X' dim. + 'B' dim. = 'H' dim.



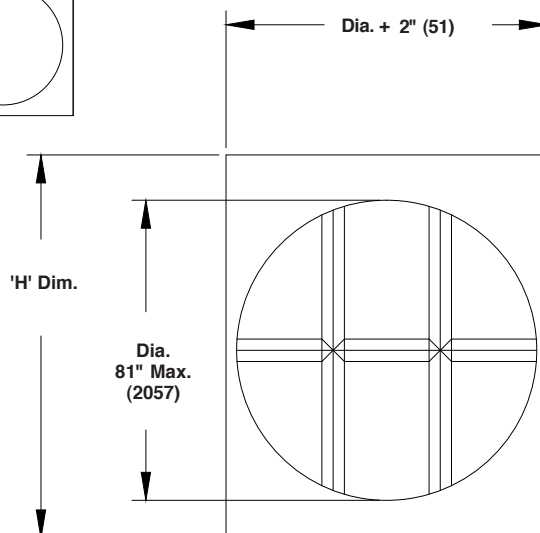
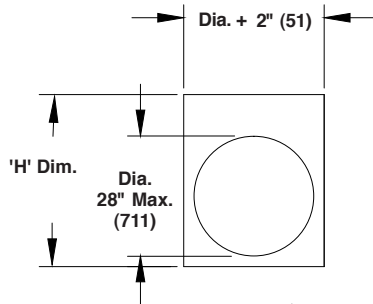
## HORIZONTAL INSTALLATION

SINGLE SECTION HIGH	
'H' DIMENSION	
Diameter	'X' Dim.
4" (102) thru 11" (279)	2 <sup>3</sup> / <sub>4</sub> " (70)
11.01" (280) thru 22" (559)	3 <sup>3</sup> / <sub>4</sub> " (95)
22.01" (560) thru 33" (838)	4 <sup>3</sup> / <sub>4</sub> " (121)
33.01" (839) thru 39" (991)	5 <sup>3</sup> / <sub>4</sub> " (146)

'X' dim. + 'B' dim. = 'H' dim.

TWO SECTION HIGH	
'H' DIMENSION	
Diameter	'X' Dim.
40" (1016) thru 46" (1168)	5 <sup>1</sup> / <sub>2</sub> " (140)
46.01" (1169) thru 68" (1727)	7 <sup>1</sup> / <sub>2</sub> " (191)
68.01" (1728) thru 81" (2057)	9 <sup>1</sup> / <sub>2</sub> " (241)

'X' dim. + 'B' dim. = 'H' dim.



## ASSEMBLY AND DIMENSIONAL INFORMATION

### R STYLE DAMPERS VERTICAL OR HORIZONTAL INSTALLATION



## SUGGESTED SPECIFICATION

Furnish and install at locations shown on plans, static fire dampers tested, constructed and labeled in accordance with the last edition of UL standard 555. Dampers shall have a fire of 3 hours and shall meet the requirements of the latest edition of NFPA90A. Curtain type fire dampers suitable for vertical wall or partitions; and horizontal masonry floor or ceiling with a fire resistance rating of 3 hours and greater. Fire Dampers shall be produced in an ISO 9001 certified factory.

Damper frame and blades shall be galvanized steel in gauges required by UL listing R-5531 installed in a factory mounted sleeve and shipped loose mounting angles. Damper blades shall be steel interlock to provide fire shield in gauges required by UL listing R-5531. Closure springs on horizontal mounted dampers shall be of 301 stainless steel and shall be constant force type.

Each fire damper shall have a 3 hour fire protection rating and shall be supplied with a 165°F (74°C) or 212°F (100°C) fusible link. Damper shall be installed in static (fans off) systems only. Submittal information shall include the fire protection rating and manufacturer's UL installation instruction.

#### Optional FM Approvals Specification

Each fire damper shall be listed in Factory Mutual (FM) Approvals Specification Tested Product and labeled accordingly.

Static fire dampers shall be Ruskin model IBD23.

(Consult [www.ruskin.com](http://www.ruskin.com) for electronic version of this "Quick" spec as well as for complete 3-part CSI MasterFormat Specifications).

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