

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) is 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 #3225-0245:0005
- ▶ **New York City MEA 450-06-M**



SEE COMPLETE
MARKING ON PRODUCT

UL CLASSIFIED
UL555 Listing R5531

FM Approvals
Specification Tested Product (Option)

NOTE:

- Dimensions shown in parentheses () indicate millimeters.
- 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

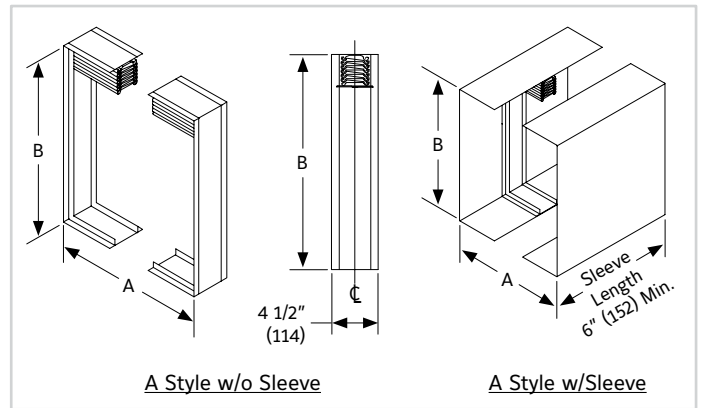
Single Section

Vertical Installation - 36"w x 36"h (914 x 914)
Horizontal Installation - 30"w x 45 1/2"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)

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

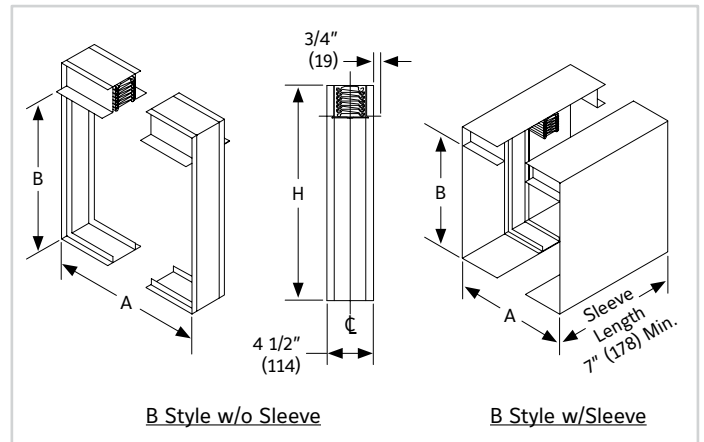
Vertical Installation - 36"w x 32"h (914 x 813)
Horizontal Installation - 30"w x 40"h (762 x 1016)

Multiple Section Assembly

Vertical Installation - 90"w x 68"h (2286 x 1727)
Horizontal Installation - 90"w x 81"h (2286 x 2057)

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

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



BC & WB STYLE

Blades out of air stream
Fully welded sealed sleeve
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

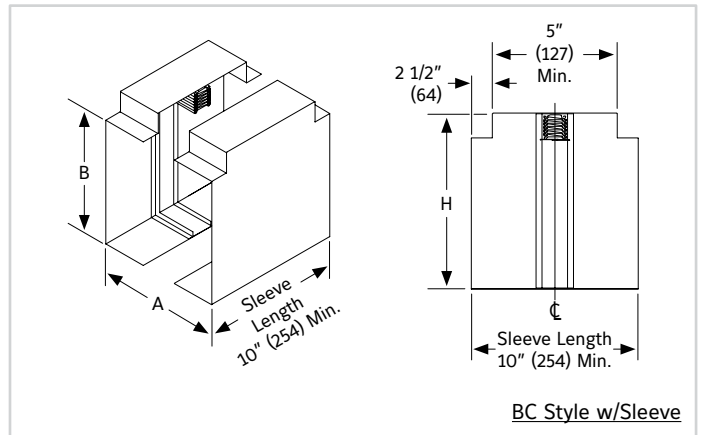
Vertical Installation - 36"w x 32"h (914 x 813)
Horizontal Installation - 30"w x 40"h (762 x 1016)

Multiple Section Assembly

Vertical Installation - 90"w x 68"h (2286 x 1727)
Horizontal Installation - 90"w x 81"h (2286 x 2057)

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 & 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

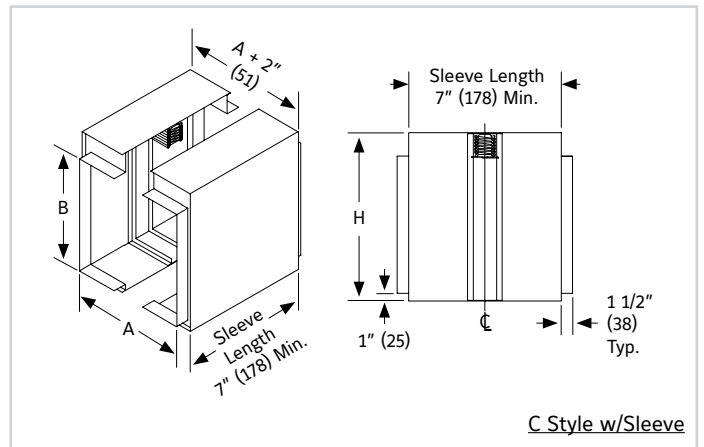
Vertical Installation – 88" w x 67" h (2235 x 1702)

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

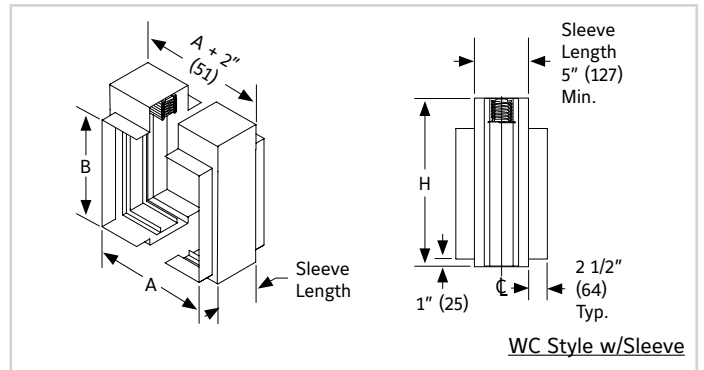
A = Duct Width
B = Duct Height
H = Overall Damper Height

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.



C Style w/Sleeve



WC Style w/Sleeve

CR & 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

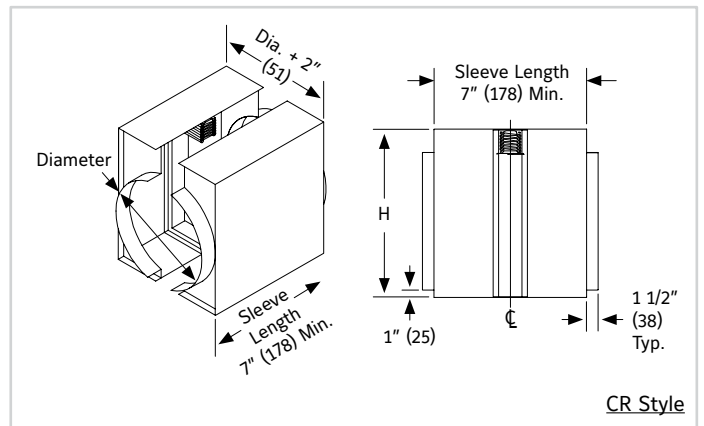
Vertical Installation – 67" diameter (1702)

Horizontal Installation – 81" diameter (2057)

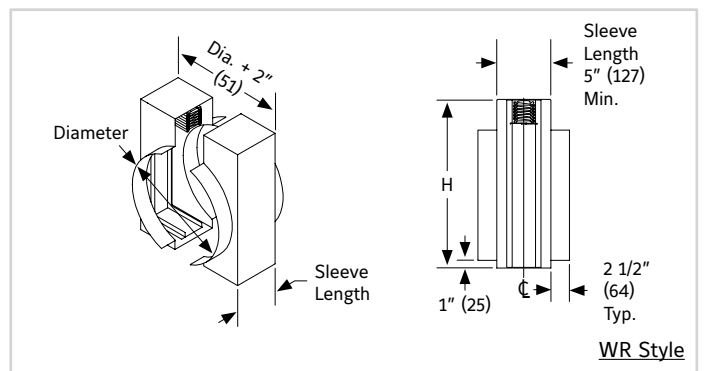
D = Diameter
H = Overall Damper Height
X = Blade Package Height

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.



CR Style



WR Style

DAMPER STYLES AND SIZES

CO & 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)

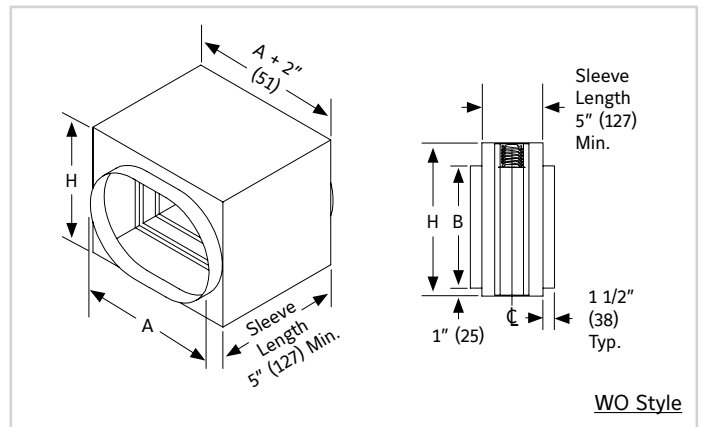
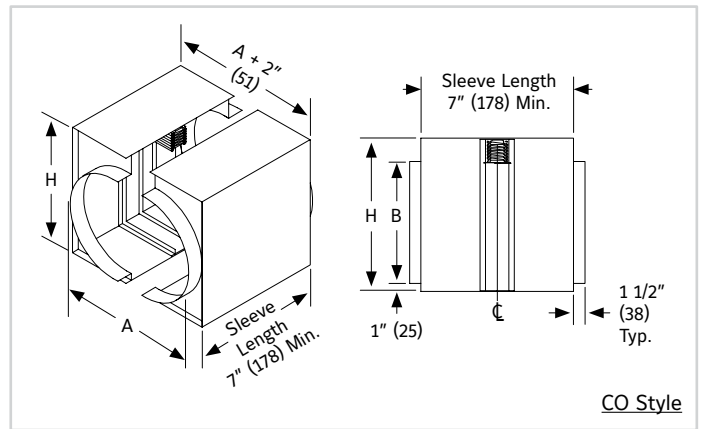
Multiple Section Assembly

- 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

NOTE:

- Style CO duct connection extends 1 1/2" (38) beyond the sleeve.
- Style WO duct connection extends 2 1/2" (64) beyond the sleeve.
- Transition collars to be sealed (By Others).
- 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)

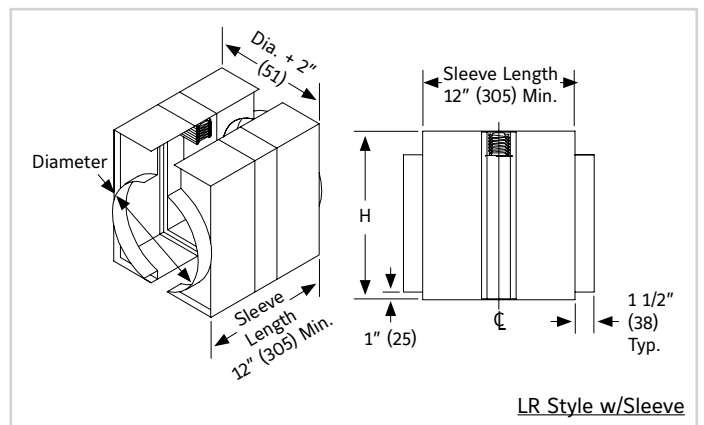
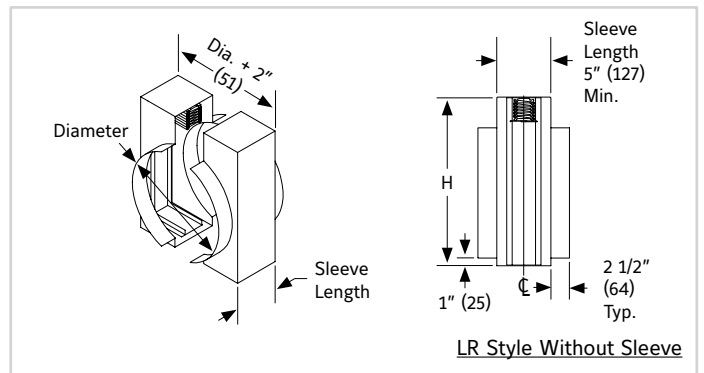
Multiple Section Assembly

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

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

NOTE:

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



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

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)

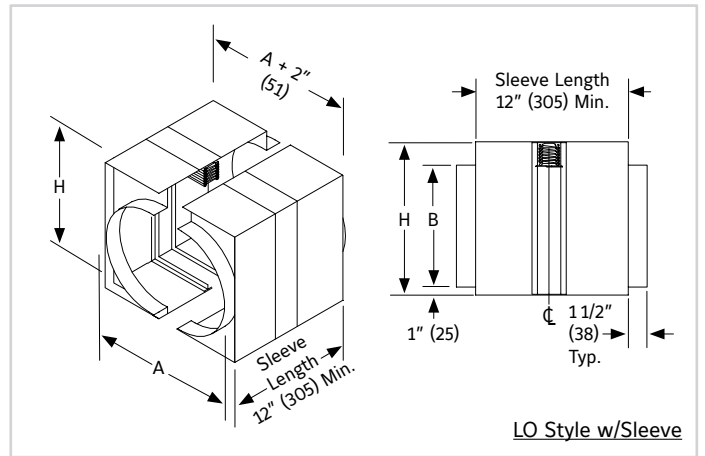
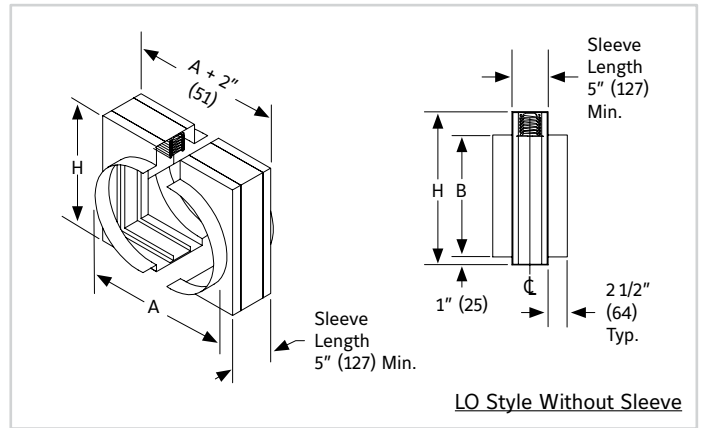
Multiple Section Assembly

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

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

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.



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

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)

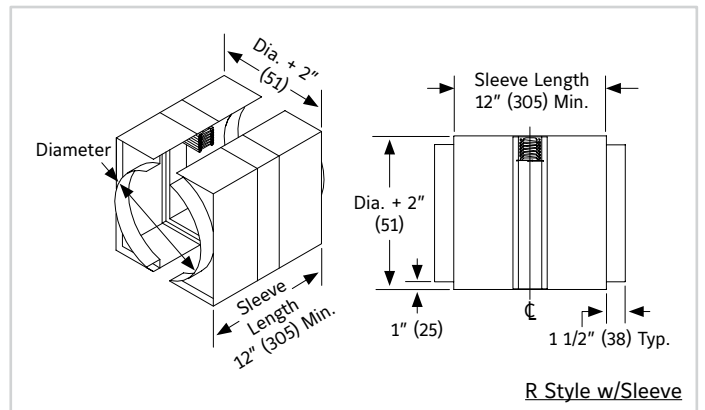
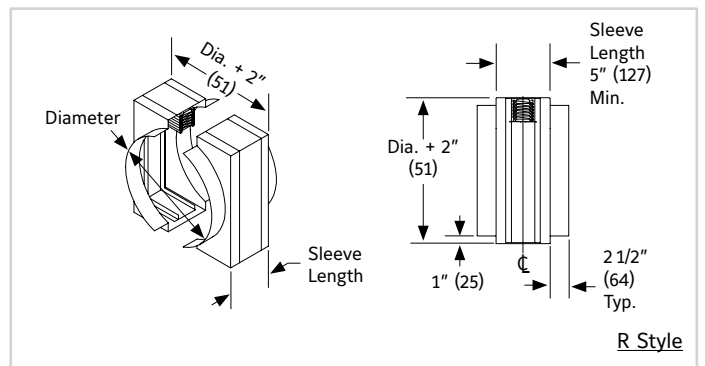
Multiple Section Assembly

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

D = Diameter
 H = Overall Damper Height

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.



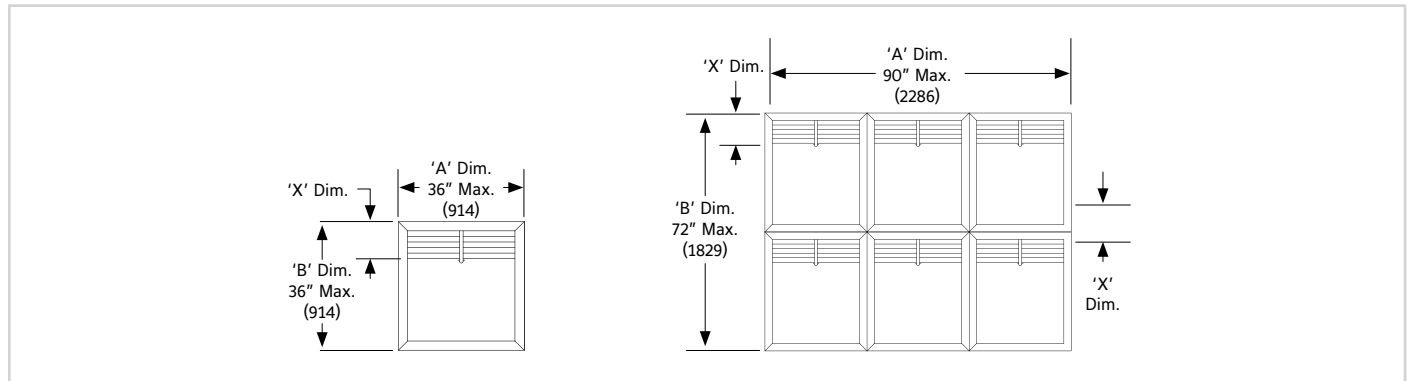
Available with 12" (305), 14" (356) or 16" (406) long sleeves

ASSAMBLY 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.

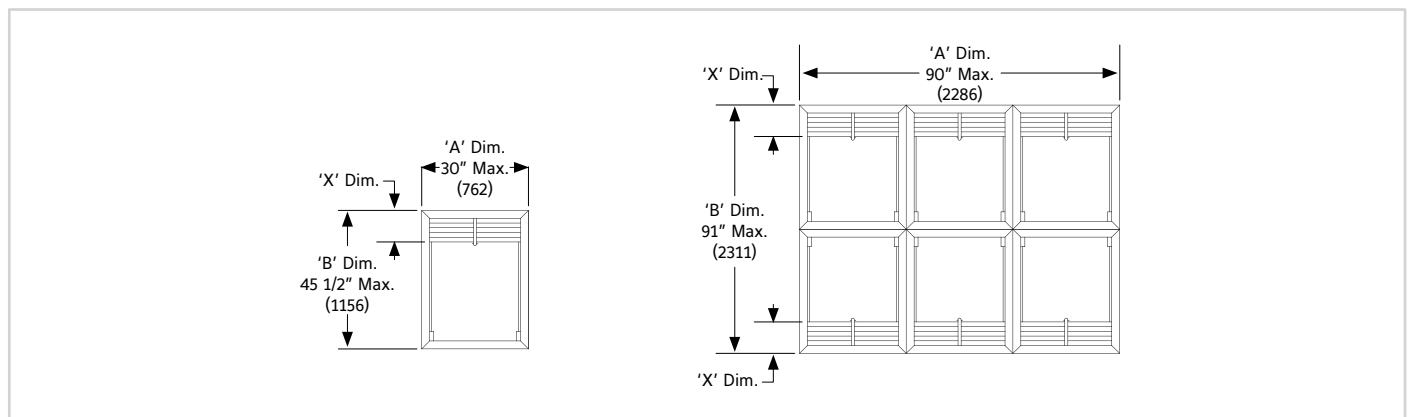
A STYLE DAMPERS VERTICAL INSTALLATION

Single Section High 'X' Blade Stack Dimension		Two Section High 'X' Blade Stack Dimension	
'B' Damper Height	'X' Dim.	'B' Damper Height	'X' Dim.
4" (102) thru 10" (254)	1 1/2" (39)	36.01" (915) thru 42" (1067)	2 1/2" (64)
10.01" (255) thru 17" (432)	2" (51)	42.01" (1068) thru 52" (1321)	3" (77)
17.01" (433) thru 21" (533)	2 1/2" (64)	52.01" (1322) thru 62" (1575)	3 1/2" (89)
21.01" (534) thru 26" (660)	3" (77)	62.01" (1576) thru 72" (1829)	4" (102)
26.01" (661) thru 31" (787)	3 1/2" (89)		
31.01" (788) thru 36" (914)	4" (102)		



A STYLE DAMPERS HORIZONTAL INSTALLATION

Single Section High 'X' Blade Stack Dimension		Two Section High 'X' Blade Stack Dimension	
'B' Damper Height	'X' Dim.	'B' Damper Height	'X' Dim.
6" (152) thru 10" (254)	1 1/2" (39)	45.6" (1157) thru 52" (1321)	3" (77)
10.01" (255) thru 17" (432)	2" (51)	52.01" (1322) thru 62" (1575)	3 1/2" (89)
17.01" (433) thru 21" (533)	2 1/2" (64)	62.01" (1576) thru 76" (1930)	4" (102)
21.01" (534) thru 26" (660)	3" (77)	76.01" (1931) thru 84" (2134)	4 1/2" (115)
26.01" (661) thru 31" (787)	3 1/2" (89)	84.01" (2135) thru 91" (2311)	5" (127)
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)		



ASSAMBLY AND DIMENSIONAL INFORMATION

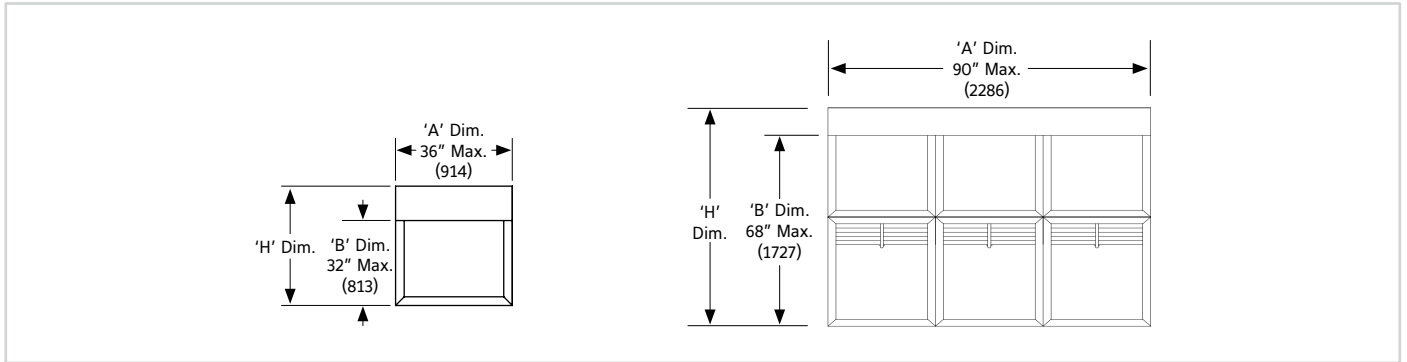
B, BC & WB STYLE DAMPERS VERTICAL INSTALLATION

Single Section High	
'B' Damper Height	'X' Dim.
4" (102) thru 12" (305)	1 3/4" (44)
12.01" (306) thru 23" (584)	2 3/4" (70)
23.01" (585) thru 32" (813)	3 3/4" (95)

Two Section High	
'B' Damper Height	'X' Dim.
32.01" (814) thru 49" (1245)	2 3/4" (70)
49.01" (1246) thru 68" (1727)	3 3/4" (95)

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

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



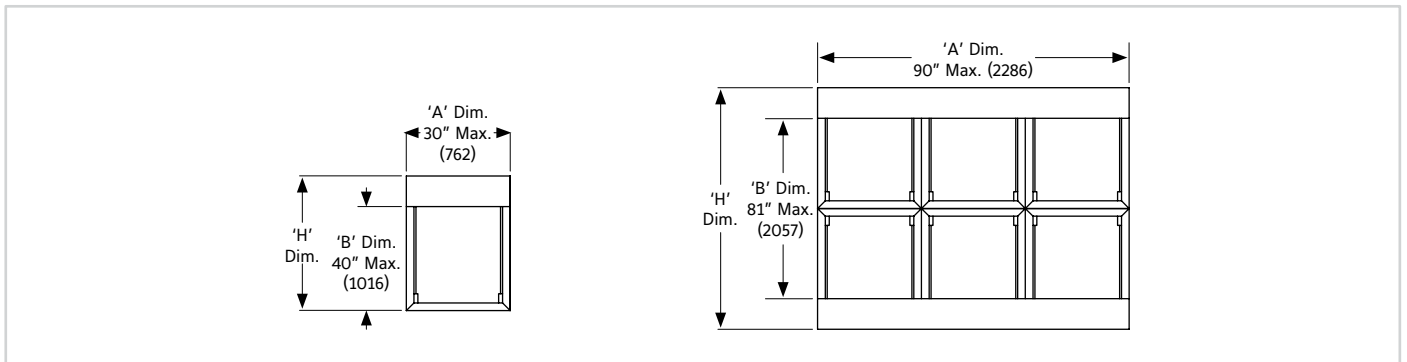
B, BC & WB STYLE DAMPERS HORIZONTAL INSTALLATION

Single Section High	
'B' Damper Height	'X' Dim.
4" (102) thru 12" (305)	1 3/4" (44)
12.01" (306) thru 23" (584)	2 3/4" (70)
23.01" (585) thru 34" (864)	3 3/4" (95)
34.01" (865) thru 40" (1016)	4 3/4" (121)

Two Section High	
'B' Damper Height	'X' Dim.
40.01" (1017) thru 46" (1168)	5 1/2" (140)
46.01" (1169) thru 68" (1727)	7 1/2" (191)
68.01" (1728) thru 81" (2057)	9 1/2" (241)

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

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



ASSAMBLY AND DIMENSIONAL INFORMATION

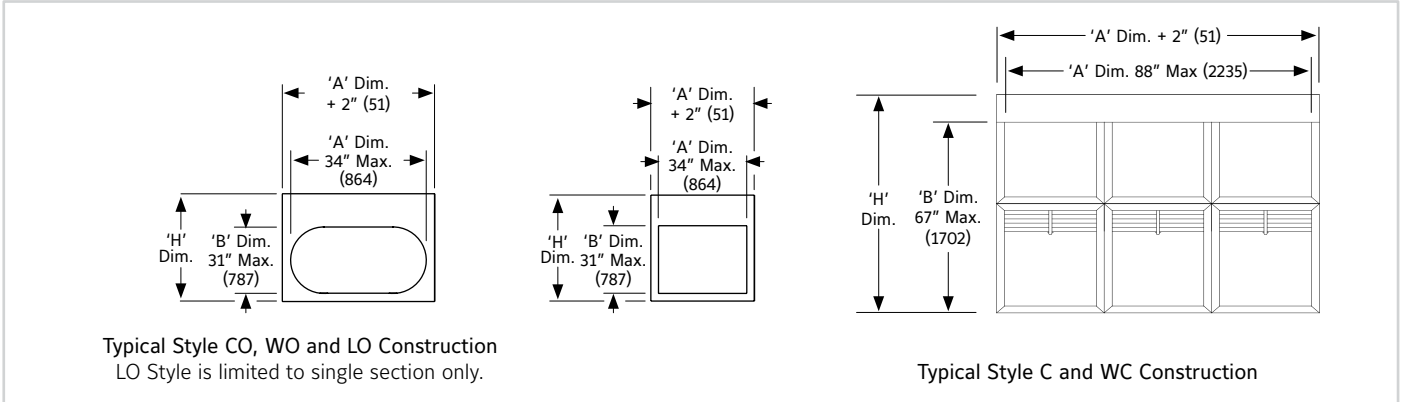
C, WC, CO, WO & LO STYLE DAMPERS VERTICAL INSTALLATION

Single Section High	
'B' Damper Height	'X' Dim.
3" (76) thru 11" (279)	2 3/4" (70)
11.01" (280) thru 22" (559)	3 3/4" (95)
22.01" (560) thru 31" (787)	4 3/4" (121)

Two Section High	
'B' Damper Height	'X' Dim.
31.01" (788) thru 48" (1219)	3 3/4" (95)
48.01" (1220) thru 67" (1702)	4 3/4" (121)

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

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



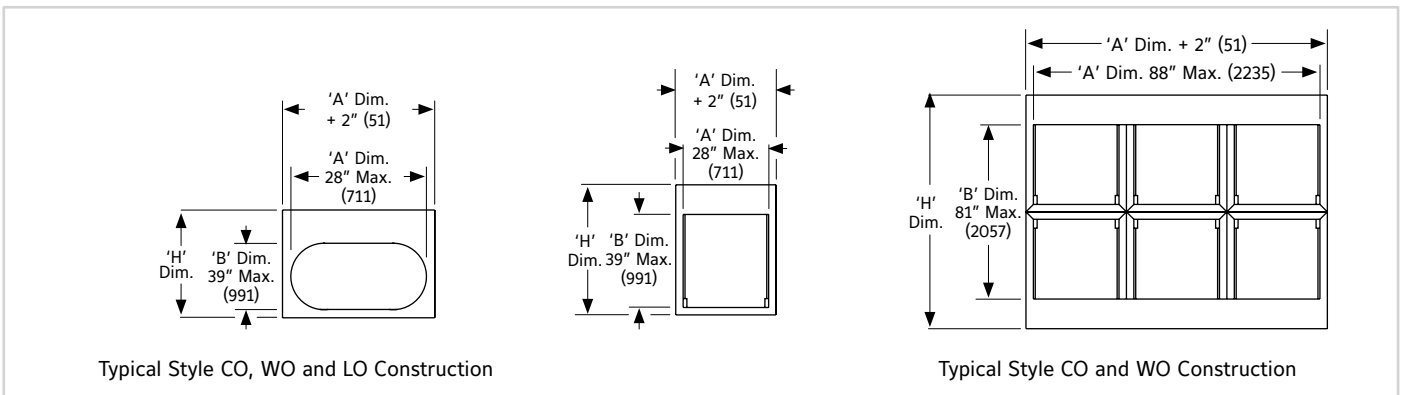
C, WC, CO, WO & LO STYLE DAMPERS HORIZONTAL INSTALLATION

Single Section High	
'B' Damper Height	'X' Dim.
3" (76) thru 11" (279)	2 3/4" (70)
11.01" (280) thru 22" (559)	3 3/4" (95)
22.01" (560) thru 33" (838)	4 3/4" (121)
33.01" (839) thru 39" (991)	5 3/4" (146)

Two Section High	
'B' Damper Height	'X' Dim.
39.01" (992) thru 46" (1168)	5 1/2" (140)
46.01" (1169) thru 68" (1727)	7 1/2" (191)
68.01" (1728) thru 81" (2057)	9 1/2" (241)

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

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



ASSAMBLY AND DIMENSIONAL INFORMATION

CR, WR & LR STYLE DAMPERS VERTICAL INSTALLATION

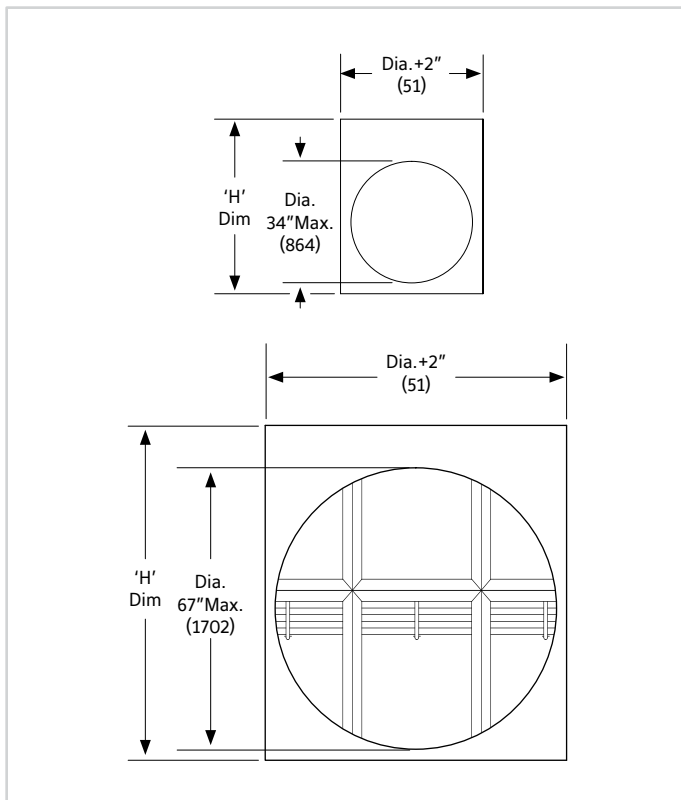
Single Section High 'H' Dimension	
Damper Height	'X' Dim.
3" (76) thru 11" (279)	2 3/4" (70)
11.01" (305) thru 22" (559)	3 3/4" (95)
22.01" (560) thru 31" (787)	4 3/4" (121)

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

NOTE: LR Style is limited to single section only.

Two Section High 'H' Dimension	
Damper Height	'X' Dim.
32" (838) thru 48" (1219)	3 3/4" (95)
48.01" (1220) thru 67" (1702)	4 3/4" (121)

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



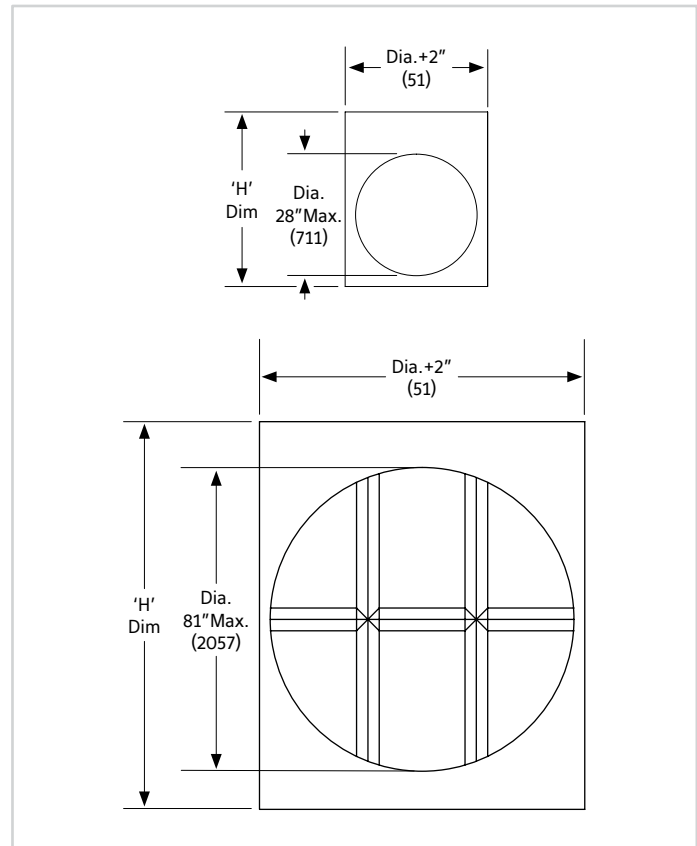
CR, WR & LR STYLE DAMPERS HORIZONTAL INSTALLATION

Single Section High 'H' Dimension	
'B' Damper Height	'X' Dim.
4" (102) thru 11" (279)	2 3/4" (70)
11.01" (280) thru 22" (559)	3 3/4" (95)
22.01" (560) thru 33" (838)	4 3/4" (121)
33.01" (839) thru 39" (991)	5 3/4" (146)

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

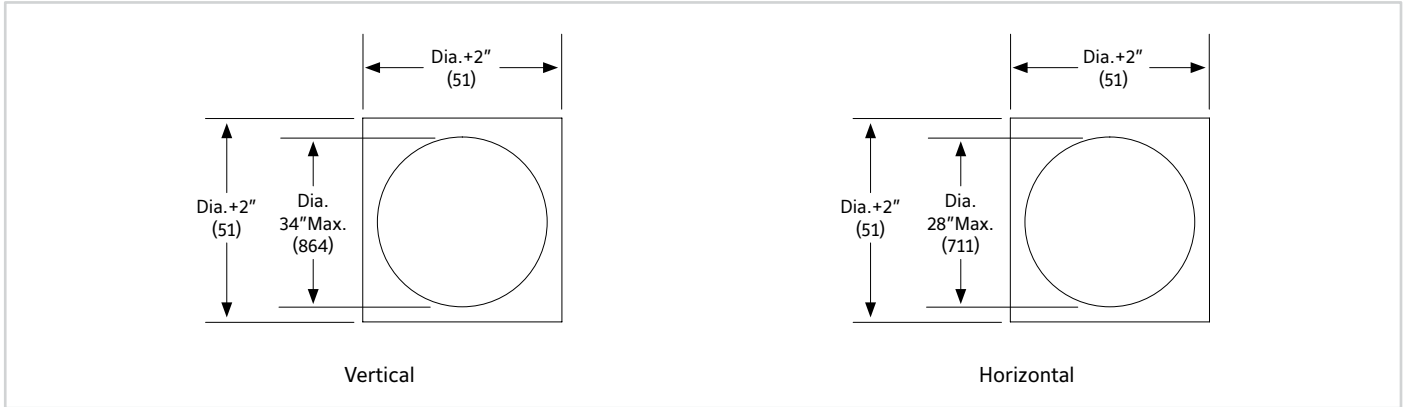
Two Section High 'H' Dimension	
'B' Damper Height	'X' Dim.
40" (1016) thru 46" (1168)	5 1/2" (140)
46.01" (1169) thru 68" (1727)	7 1/2" (191)
68.01" (1728) thru 81" (2057)	9 1/2" (241)

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



ASSAMBLY AND DIMENSIONAL INFORMATION

R STYLE DAMPERS VERTICAL & 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 for electronic version of this "Quick" spec as well as for complete 3-part CSI MasterFormat Specifications).

LINKS TO IMPORTANT DOCUMENTS

Document Title

Limited Warranty Document



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