

DIBD20, 40 and 60 CURTAIN TYPE STATIC FIRE DAMPERS

3 HOUR UL555 RATED

FOR USE IN DYNAMIC AND STATIC SYSTEMS

APPLICATION

Ruskin Model DIBD20,40 60 is a 1½ hour UL classified dynamic (fans on) or static (fans off) curtain style fire damper for use in HVAC systems that remain in operation during a fire. Fire dampers are used for the protection of openings in walls, partitions, or masonry floors with fire resistance ratings of less than 3 hours and shall have a 1½ hour fire protection rating. The DIBD20,40 60 can be installed vertically in walls or horizontally in masonry floors and is rated for airflow in either direction.

DYNAMIC CLOSURE RATINGS

4000 fpm (20.3 m/s) vertical mount only, up to 24" x 24" (610 x 610).

3000 fpm (15.2 m/s) vertical and horizontal mount, up to 24" x 24" (610 x 610).

2000 fpm (10.2 m/s) vertical or horizontal mount on all sizes.

4 in. w.g. (1 kPa) maximum pressure on all sizes.

STANDARD CONSTRUCTION

Frame and Blades Material

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

Closure Springs

301 stainless steel constant force or spring clip type.

Note: Vertical units 24" x 24" (610 x 610) and smaller utilize spring clips only and do not have constant force springs.

Fusible Link

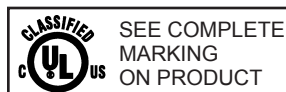
165°F (74°C) is standard. 212°F (100°C) and 285°F (141°C) are available.



Models IBD20, 40, and 60 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**
IBD2 #3225-0245:0005
- **New York City** MEA 450-06-M

UL CLASSIFIED
UL555 Listing R5531



FM Approvals
Specification Tested Product
(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

- **True Round Fire Damper** - See model FDR25
- **Stainless Steel Construction** – See model (D)IBD20SS
- **FM Approvals** as Specification Tested Product
- **SP200** Switch Package to allow remote indication of damper blade position
- **FAST Angles** factory supplied one-side installation. Other angles of various sizes and gauges also available for one-side or two-side installation
- **Factory** sealed sleeves and transitions
- **MCP** Control panels for monitoring purpose
- **Access Door** factory mounted in common sleeve. See model (D)IBD2-D
- **Grille Mounting** See (D)IBD20G model

Notes:

1. Dimensions shown in parentheses () indicate millimeters.

DAMPER STYLES AND SIZES

A Style - Frame and Blades in Airstream

Frame and blades in air stream
 Non-Sealed Sleeve Standard
 Sealed 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)

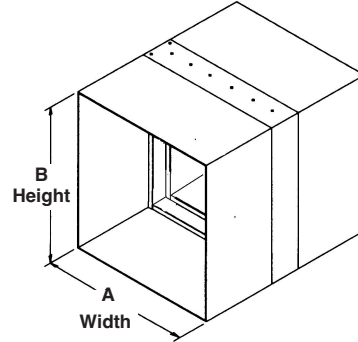
MAXIMUM SIZE

Single Section

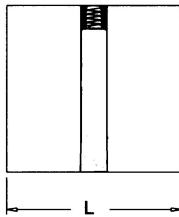
Vertical Installation – 33"w x 54"h (838 x 1372) or
 48"w x 30"h (1219 x 762) or 36"w x 36"h (914 x 914)
 Horizontal Installation – 30"w x 45½"h (762 x 1156) or
 33"w x 38"h (838 x 965)

Multiple Section Assembly

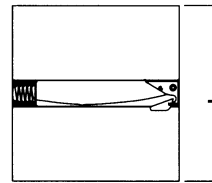
Vertical Installation – 54"w x 54"h (1372 x 1372)
 Horizontal Installation – 54"w x 54"h (1372 x 1372)



VERTICAL MOUNT



HORIZONTAL MOUNT



L = Frame/Sleeve Length

Note: See page 6 for overall dimensional information

B Style - Blades out of the Airstream for Greater Free Area

Blades out of air stream
 Non-Sealed Sleeve Standard
 Sealed 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)

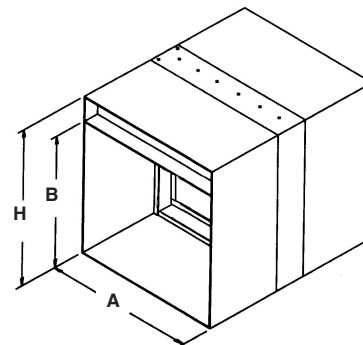
MAXIMUM SIZE

Single Section

Vertical Installation – 33"w x 48"h (838 x 1219) or
 48"w x 26"h (1219 x 660) or 36"w x 32"h (914 x 813)
 Horizontal Installation – 30"w x 40"h (762 x 1016) or
 33"w x 33"h (838 x 838)

Multiple Section Assembly

Vertical Installation – 54"w x 48"h (1372 x 1219)
 Horizontal Installation – 54"w x 46"h (1372 x 1168)



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

Note: See page 7 for overall dimensional information

DAMPER STYLES AND SIZES

C Style – Square or Rectangle Transition

Frame and blades out of air stream

Sealed Sleeve Standard

95 - 100% free area

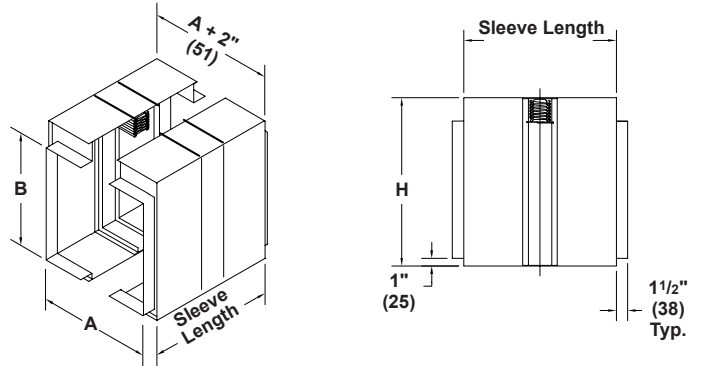
MINIMUM SIZE

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

MAXIMUM SIZE

Single Section

Vertical Installation – 31"w x 47"h (787 x 1194) or
 46"w x 25"h (1168 x 635) or 34"w x 31"h (864 x 787)
 Horizontal Installation – 28"w x 39"h (711 x 991) or
 31"w x 33"h (787 x 965)



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. See page 8 for overall dimensional information

CR Style – Round Transition

Frame and blades out of air stream

95 - 100% free area

Sealed Sleeve Standard

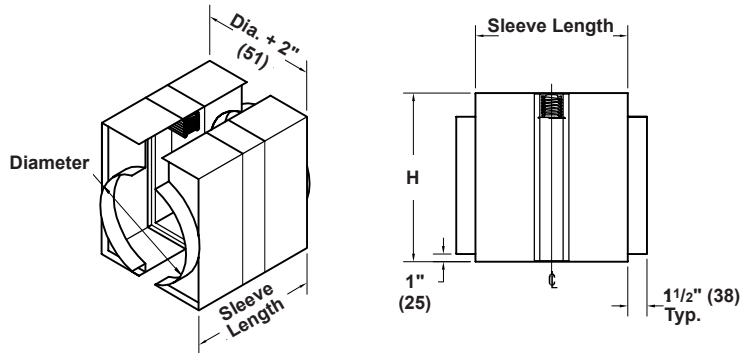
MINIMUM SIZE

Vertical Installation – 3" diameter (76)
 Horizontal Installation – 4" diameter (102)

MAXIMUM SIZE

Single Section

Vertical or Horizontal Installation – 31" diameter (787)



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. See page 8 for overall dimensional information



Recommended FDR25(SS)
 For round units 6" (125) dia. through 24" (610) dia. consider using the FDR25 True Round Fire Damper for increased performance

DAMPER STYLES AND SIZES

CO Style – Oval Transition

Frame and blades out of air stream

95 - 100% free area

Sealed Sleeve Standard

MINIMUM SIZE

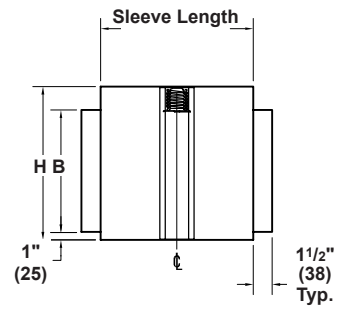
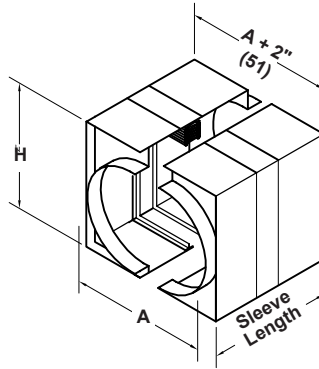
Vertical or Horizontal Installation – 4"w x 4"h (102 x 102)

MAXIMUM SIZE

Single Section

Vertical Installation – 31"w x 47"h (787 x 1194) or
 46"w x 25"h (1168 x 635) or 34"w x 31"h (864 x 787)
 Horizontal Installation – 28"w x 39"h (711 x 991) or
 31"w x 33"h (787 x 965)

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



NOTE:

1. Style CO duct connection extends 1 1/2" (38) beyond the sleeve.
2. See page 8 overall dimensional information

LR Style – Round Transition

Round enclosure - frame and blades out of air stream

Non-sealed sleeve standard

Sealed sleeve optional

95 - 100% free area

MINIMUM SIZE

Vertical Installation – 3" diameter (76)

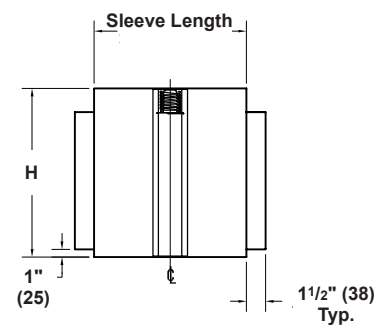
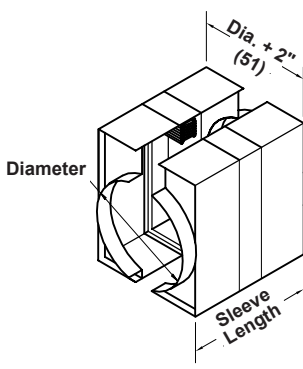
Horizontal Installation – 4" diameter (102)

MAXIMUM SIZE

Single Section

Vertical or Horizontal Installation – 31" diameter (787)

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



NOTE:

1. Style LR duct connection extends 1 1/2" (38) beyond the damper.
2. See page 7 for overall dimensional information

DAMPER STYLES AND SIZES

LO Style – Oval Transition

Frame and blades out of air stream
 Non-sealed sleeve standard
 Sealed sleeve optional
 95 - 100% free area

MINIMUM SIZE

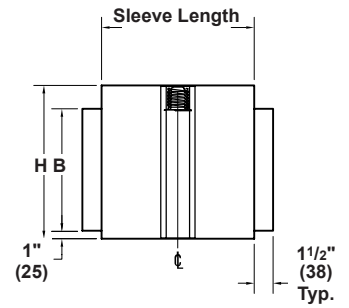
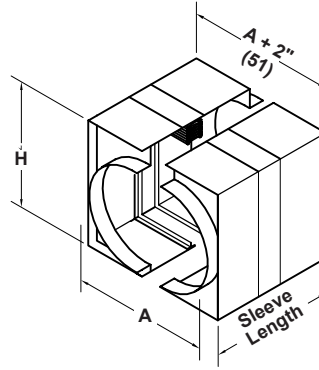
Vertical or Horizontal Installation – 4"w x 4"h (102 x 102)

MAXIMUM SIZE

Single Section

Vertical Installation – 31"w x 47"h (787 x 1194) or
 46"w x 25"h (1168 x 635) or 34"w x 31"h (864 x 787)
 Horizontal Installation – 28"w x 39"h (711 x 991) or
 31"w x 33"h (787 x 965)

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



NOTE:

1. Style LO the duct connection extends 1 1/2" (38) beyond the damper.
2. See page 8 for overall dimensional information

R Style – Round Transition

Round enclosure. Blades partially in the air stream
 Non-sealed sleeve standard
 Sealed sleeve optional
 85 - 95% free area

MINIMUM SIZE

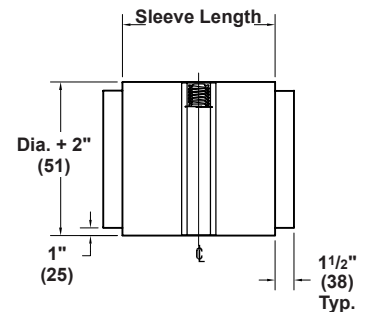
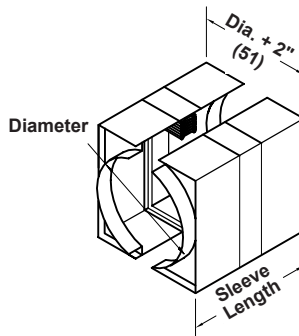
Vertical Installation – 3" diameter (76)
 Horizontal Installation – 4" diameter (102)

MAXIMUM SIZE

Single Section

Vertical or Horizontal Installation – 31" diameter (787)

D = Diameter
 H = Overall Damper Height



NOTE:

1. Style R the duct connection extends 1 1/2" (38) beyond the damper.
2. See page 10 for overall dimensional information

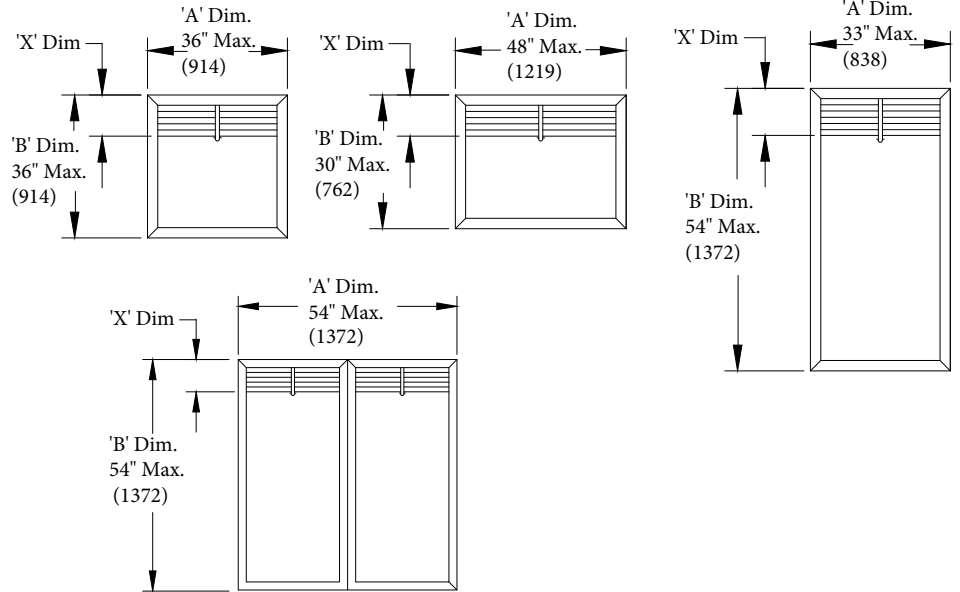
ASSEMBLY AND DIMENSIONAL INFORMATION

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,

IBD20 A STYLE DAMPERS

VERTICAL INSTALLATION

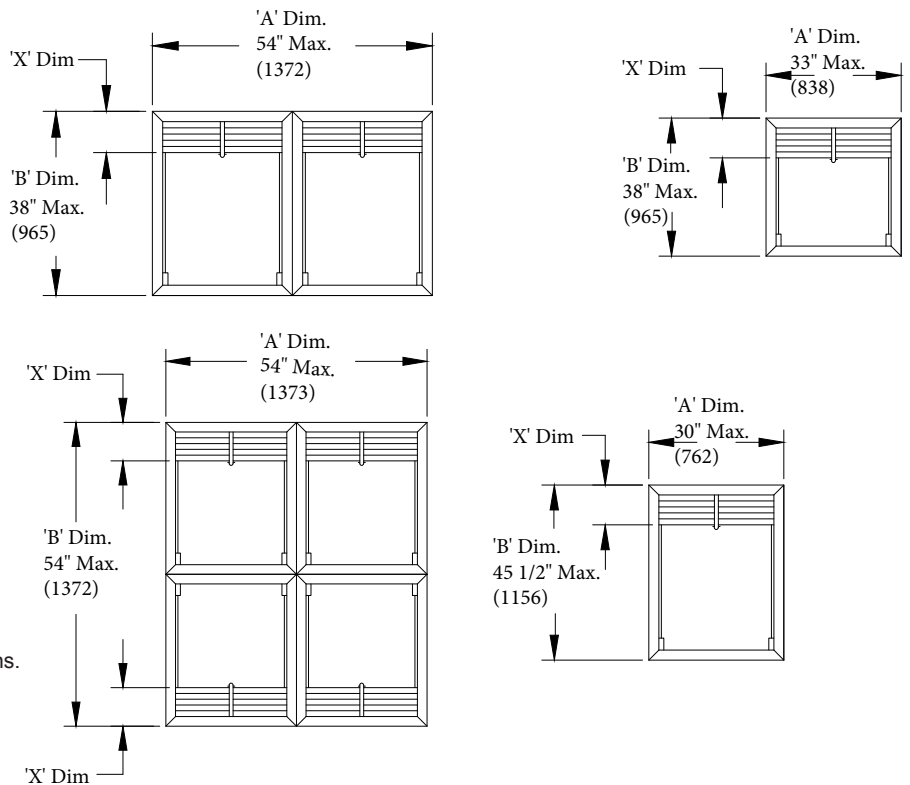
| 'X' BLADE STACK DIMENSION | |
|-------------------------------|--------------|
| 'B' Damper Height | 'X' Dim. |
| 4" (102) thru 10" (254) | 1/1 2" (38) |
| 10.01" (255) thru 17" (432) | 2" (51) |
| 17.01" (433) thru 21" (533) | 2 1/2" (64) |
| 21.01" (534) thru 26" (660) | 3" (76) |
| 26.01" (661) thru 31" (787) | 3 1/2" (89) |
| 31.01" (788) thru 38" (965) | 4" (102) |
| 38.01" (966) thru 42" (1067) | 4 1/2" (114) |
| 42.01" (1068) thru 47" (1194) | 5" (127) |
| 47.01" (1195) thru 54" (1372) | 5 1/2" (140) |



HORIZONTAL INSTALLATION

| SINGLE SECTION HIGH | |
|-------------------------------|--------------|
| 'X' BLADE STACK DIMENSION | |
| 'B' Damper Height | 'X' Dim. |
| 6" (152) thru 10" (254) | 1 1/2" (38) |
| 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" (76) |
| 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" (114) |
| 42.01" (1068) thru 45" (1143) | 5" (127) |

| TWO SECTION HIGH | |
|-------------------------------|----------|
| 'X' BLADE STACK DIMENSION | |
| 'B' Damper Height | 'X' Dim. |
| 45.5 (1156) thru 52" (1321) | 6" (152) |
| 52.01" (1322) thru 54" (1372) | 7" (178) |



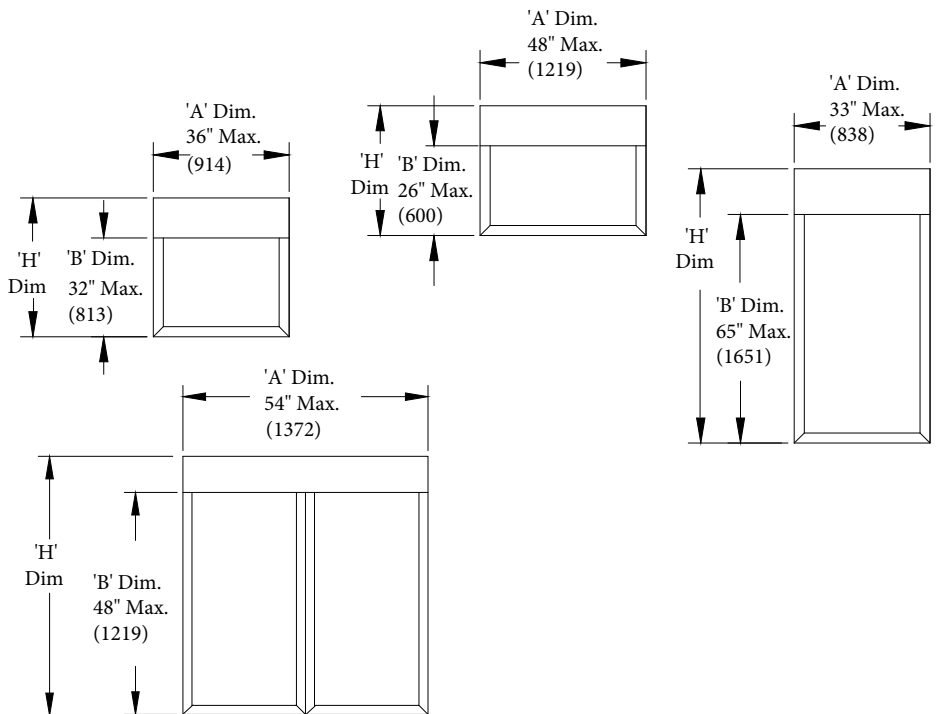
On two section high, 'X' dimension is the total of both sections.

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 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" (864) thru 42" (1067) | 4 ³ / ₄ " (121) |
| 42.01" (1068) thru 48" (1219) | 5 ³ / ₄ " (146) |

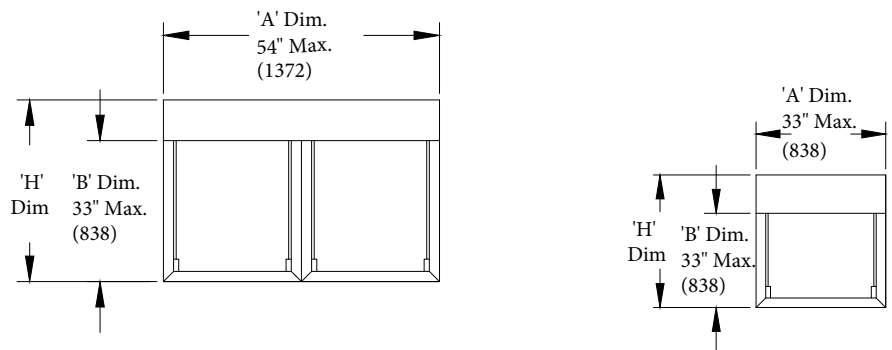
'X' dim. + 'B' dim. = 'H' dim.



HORIZONTAL INSTALLATION

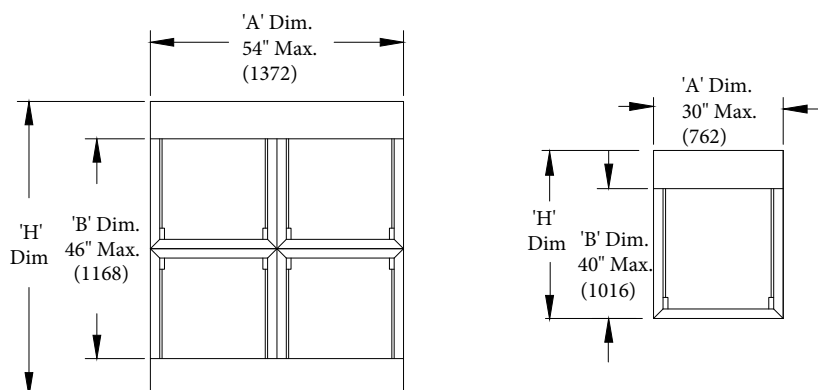
| SINGLE SECTION HIGH | |
|------------------------------|---------------------------------------|
| 'B' Damper Height | 'X' Dim. |
| 4" (102) thru 12" (305) | 1 ³ / ₄ " (44) |
| 12.01" (306) thru 23" (584) | 2 ³ / ₄ " (70) |
| 23.01" (585) thru 34" (864) | 3 ³ / ₄ " (95) |
| 34.01" (864) thru 40" (1016)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

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



| TWO SECTION HIGH | |
|----------------------------|---------------------------------------|
| 'B' Damper Height | 'X' Dim. |
| 41" (1041) thru 46" (1168) | 5 ¹ / ₂ " (140) |

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

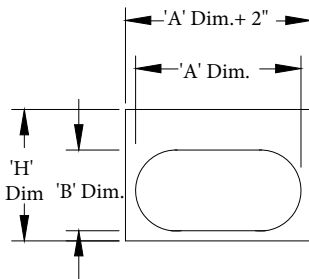
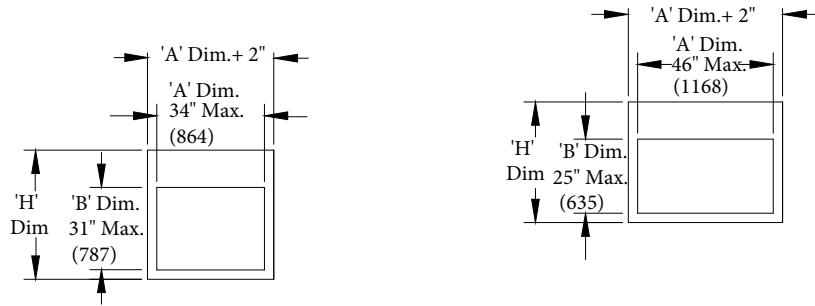


ASSEMBLY AND DIMENSIONAL INFORMATION

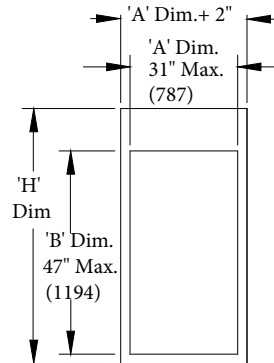
C, CO and LO STYLE DAMPERS VERTICAL INSTALLATION

| 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 33" (838) | 4 ³ / ₄ " (121) |
| 33.01" (839) thru 41" (1041) | 5 ³ / ₄ " (146) |
| 41.01" (1042) thru 47" (1194) | 6 ³ / ₄ " (171) |

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



Typical Style CO and LO Construction

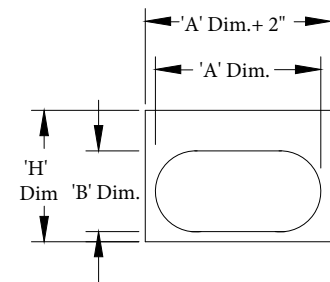
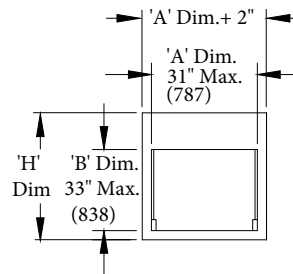


Typical Style CO and WO Construction

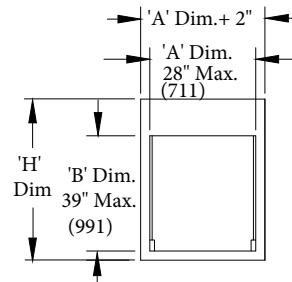
HORIZONTAL INSTALLATION

| SINGLE SECTION HIGH | |
|-----------------------------|---------------------------------------|
| '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.



Typical Style CO, WO and LO Construction
Single section shown



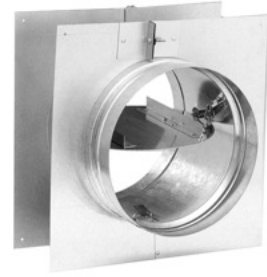
FDR25 TRUE ROUND FIRE DAMPER

APPLICATION

Ruskin FDR25 "true round" fire damper provides point-of-origin fire containment. The FDR series is the ideal choice when round duct is used on a project. FDR25 series dampers may be installed vertically in walls or horizontally in concrete/masonry floors and is rated for airflow and leakage in either direction. The FDR25 is rated for velocities up to 3000 fpm (15.2 m/s) and 4 in. w.g. (1 kPa). The FDR25 may be used in static (fans off) or dynamic (fans on) systems.

The integral frame and unique "Cinch Plate" design provides a low cost, easy to install, high performing damper.

Visit RUSKIN.com for more details



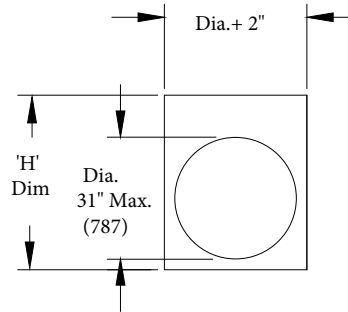
| Damper | Frame | Blade | Bearings | Hourly Rating | Minimum Size | Maximum Size |
|--------|--------------------------------|---|--|---------------|---------------|----------------|
| FDR25 | 20 gauge (.9) galvanized steel | Single skin 14 gauge (1.9) galvanized steel | Stainless steel sleeve type, pressed into frame. | 1 1/2 | 6" Dia. (152) | 24" Dia. (610) |

ASSEMBLY AND DIMENSIONAL INFORMATION

CR and LR STYLE DAMPERS VERTICAL INSTALLATION

| SINGLE SECTION HIGH | |
|-----------------------------|--------------|
| 'H' DIMENSION | |
| Diameter | '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) |

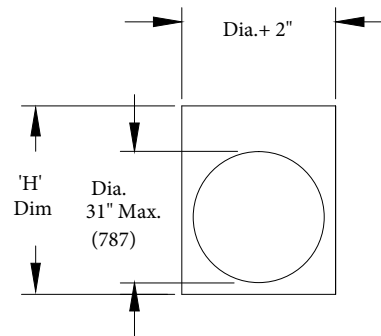
'X' dim. + 'B' dim. = 'H' dim.



HORIZONTAL INSTALLATION

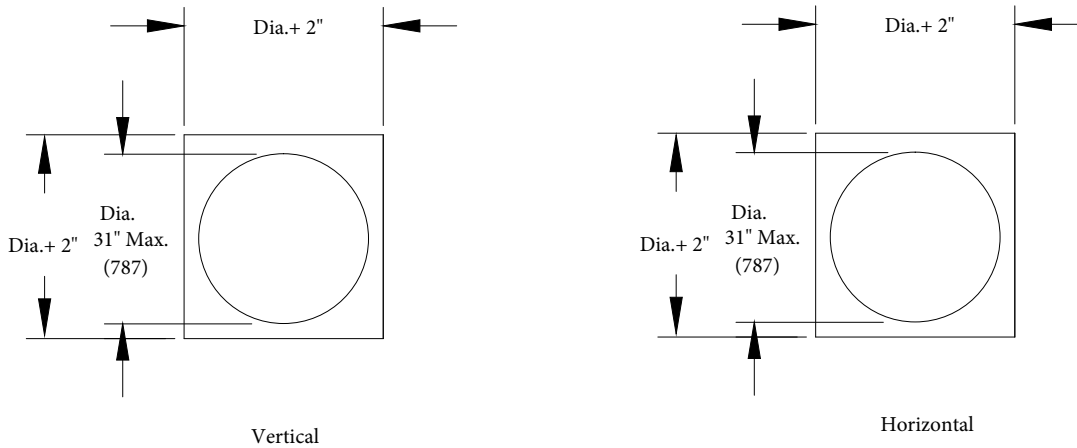
| SINGLE SECTION HIGH | |
|-----------------------------|--------------|
| 'H' DIMENSION | |
| Diameter | 'X' Dim. |
| 4" (102) thru 11" (279) | 2 3/4" (70) |
| 11.01" (280) thru 22" (559) | 3 3/4" (95) |
| 22.01" (560) thru 31" (787) | 4 3/4" (121) |

'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 latest edition of UL555 standard. Dampers shall have a fire rating of 1½ 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 less than 3 hours. 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 R5531 installed in a factory mounted sleeve and shipped with loose mounting angle. Damper blades shall be steel interlock to provide fire shield in gauges required by UL listing R5531. Closure springs on horizontal mounted dampers shall be of 301 stainless steel and shall be constant force type.

Each fire damper shall have a 1½ 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 IBD20, 40, and 60.

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

RUSKIN®

3900 Dr. Greaves Rd.
Kansas City, MO 64030
(816) 761-7476
FAX (816) 765-8955
www.ruskin.com