

IBD2 AND IBD23 CURTAIN TYPE STATIC FIRE DAMPERS 1-1/2 AND 3 HOUR UL555 RATED FOR USE IN STATIC SYSTEMS

APPLICATION

Ruskin Model IBD2 can be installed vertically in walls or horizontally in floors with fire resistance ratings of less than 3 hours. The IBD2 carries a 1 1/2 hour UL fire damper label and is classified as a static damper for use in HVAC systems that shut down during a fire.

Ruskin Model IBD23 can be installed vertically in walls or horizontally in floors with fire resistance ratings of 3 hours or more. The IBD23 carries a 3 hour UL fire damper label and is classified as a static damper for use in HVAC systems that shut down during a fire.

STANDARD CONSTRUCTION

FRAME AND BLADES MATERIAL

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

CLOSURE SPRINGS (horizontal only)

301 stainless steel constant force type.

FUSIBLE LINK

165°F (74°C) is standard. 212°F (100°C) is available.

DAMPER SIZES

The sizes listed below are for A Style dampers. Refer to pages 2 and 3 for sizes of other style dampers.

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

IBD2 – 33"w x 72"h (838 x 1829), 48"w x 30"h (914 x 762)

or 36"w x 36"h (914 x 914)

IBD23 – 36"w x 36"h (914 x 914)

Horizontal Installation

IBD2 – 33"w x 38"h (838 x 965) or 30"w x 45"h (762 x 1143)

IBD23 – 30"w x 45"h (762 x 1143)

Multiple Section

Vertical Installation

IBD2 – 120"w x 72"h (3048 x 1829)

IBD23 – 90"w x 72"h (2286 x 1829)

Horizontal Installation

IBD2 – 114"w x 38"h (2896 x 965) or 90"w x 91"h (2286 x 2311)

IBD23 – 90"w x 91"h (2286 x 2311)

OPTIONS

(Not all options available on IBD23)

- **FM Approvals** as Specification Tested Product.
- **Switch Package** to remotely indicate damper blade position.
- **FAST Angle** for one side angle installations.
- **G Style** for grille applications.
- **GA, Grille Access Type** for "out of the wall" grille applications.
- **OW, Out of Wall Type** for out of wall or floor applications.
- **Sleeve** of various lengths and gages to insure field compliance with UL installation requirements.
- **Access Door** factory mounted in common sleeve to ensure compliance with UL installation requirements.
- **304 Stainless Steel** construction.

NOTE: Dimensions shown in parentheses () indicate millimeters.

Models IBD2 and IBD23 meet the requirements for fire dampers established by:

- **National Fire Protection Association NFPA Standards** 90A and 101
- **BOCA National Building Codes**
- **ICBO Uniform Building Codes**
- **SBCCI Standard Building Codes**
- **ICC International Building Codes**
- **CSFM California State Fire Marshal Fire Damper Listing** (#3225-245:005 and #3225-245:004)
- **New York City** (BSA Listing #297-71-SA and #28-85-SA)

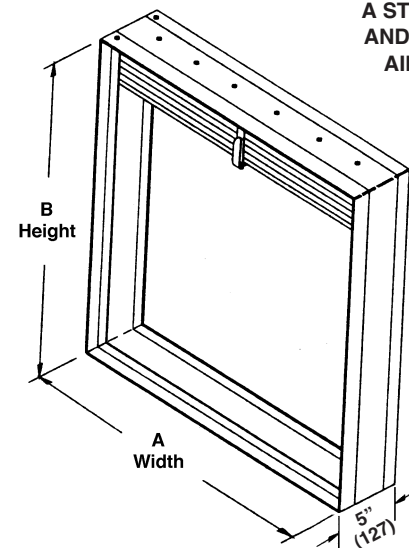
UL CLASSIFIED

UL555 Listing R5531



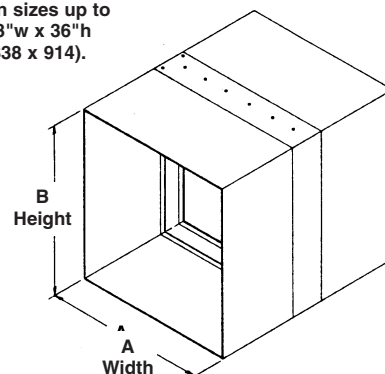
SEE COMPLETE
MARKING
ON PRODUCT

FM Approvals
Specification Tested Product
(Option)



**A STYLE FRAME
AND BLADES IN
AIRSTREAM**

Taped and sealed
on sizes up to
33"w x 36"h
(838 x 914).



IBD2 OR 23 STYLE A IN FACTORY SLEEVE

DAMPER STYLES AND SIZES

“B” Style – Blades out of airstream for high free area applicatic

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

IBD2 – 33”w x 65”h (838 x 1651), 48”w x 26”h (914 x 660) or
 36”w x 32”h (914 x 813)
 IBD23 – 36”w x 32”h (914 x 813)

Horizontal Installation

IBD2 – 33”w x 33”h (838 x 838) or 30”w x 40”h (762 x 1016)
 IBD23 – 30”w x 40”h (762 x 1016)

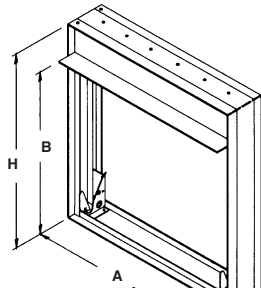
Multiple Section

Vertical Installation

IBD2 – 120”w x 65”h (3048 x 1651)
 IBD23 – 90”w x 68”h (2286 x 1727)

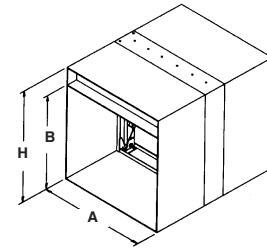
Horizontal Installation

IBD2 – 114”w x 33”h (2896 x 838) or 90”w x 81”h (2286 x 2057)
 IBD23 – 90”w x 81”h (2286 x 2057)



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

Taped and sealed on vertical sizes up to 33”w x 32”h (838 x 813) and horizontal sizes up to 24”w x 21”h (610 x 533).



**IBD2 or 23 STYLE B
 IN FACTORY SLEEVE**

“BC” Style – Welded “B” style for high pressure, high free area applications

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

IBD2 – 33”w x 65”h (838 x 1651), 48”w x 26”h (914 x 660) or
 36”w x 32”h (914 x 813)
 IBD23 – 36”w x 32”h (914 x 813)

Horizontal Installation

IBD2 – 33”w x 33”h (838 x 838) or 30”w x 40”h (762 x 1016)
 IBD23 – 30”w x 40”h (762 x 1016)

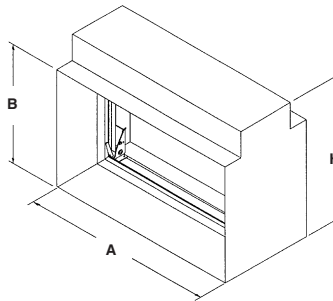
Multiple Section

Vertical Installation

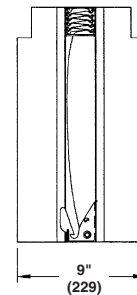
IBD2 – 120”w x 65”h (3048 x 1651)
 IBD23 – 90”w x 68”h (2286 x 1727)

Horizontal Installation

IBD2 – 114”w x 33”h (2896 x 838) or 90”w x 81”h (2286 x 2057)
 IBD23 – 90”w x 81”h (2286 x 2057)



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



Damper must be ordered with minimum 18 gage (1.2) x 9” (229) factory sleeve.

C and WC Style – Sealed (C) or welded (WC) square or rectangular transition for maximum free area applications

MINIMUM SIZE

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

MAXIMUM SIZE

Single Section

Vertical Installation

IBD2 – 31”w x 64”h (787 x 1626), 46”w x 25”h (1168 x 635) or
 34”w x 31”h (864 x 787)
 IBD23 – 34”w x 31”h (864 x 787)

Horizontal Installation

IBD2 – 28”w x 39”h (711 x 991) or 31”w x 32”h (787 x 813)
 IBD23 – 28”w x 39”h (711 x 991)

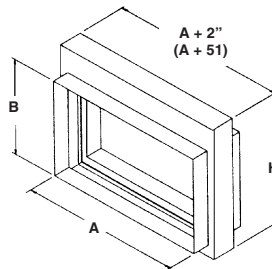
Multiple Section

Vertical Installation

IBD2 – 118”w x 64”h (2997 x 1626)
 IBD23 – 88”w x 67”h (2235 x 1702)

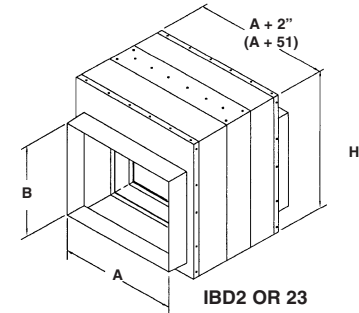
Horizontal Installation

IBD2 – 112”w x 32”h (2845 x 813) or 88”w x 81”h (2235 x 2057)
 IBD23 – 88”w x 81”h (2235 x 2057)



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

Taped and sealed on sizes up to 31”w x 31”h (787 x 787) for vertical installation and 22”w x 20”h (559 x 508) for horizontal installation.



**IBD2 OR 23
 STYLE C
 IN FACTORY SLEEVE**

DAMPER STYLES AND SIZES

CR and WR Style – Sealed (CR) or welded (WR) round transition for 100% free area applications

MINIMUM SIZE

Vertical or Horizontal Installation – 4" (102) diameter

MAXIMUM SIZE

Single Section

Vertical Installation

IBD2 – 31" (787) diameter.

IBD23 – 31" (787) diameter.

Horizontal Installation

IBD2 – 31" (787) diameter.

IBD23 – 28" (711) diameter.

Multiple Section

Vertical Installation

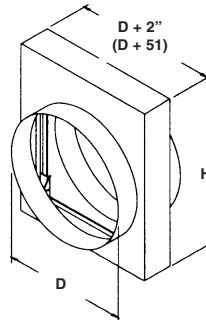
IBD2 – 64" (1626) diameter.

IBD23 – 67" (1702) diameter.

Horizontal Installation

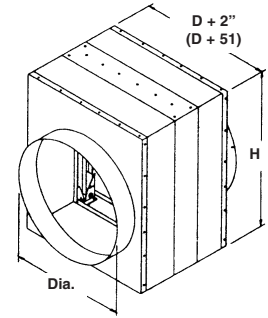
IBD2 – 81" (2057) diameter.

IBD23 – 81" (2057) diameter.



D = Diameter
H = Overall Damper Height

Taped and sealed on sizes up to 31" (787) in diameter for vertical installation and 20" (508) in diameter for horizontal installation.



**IBD2 OR 23 STYLE CR
IN FACTORY SLEEVE**

CO and WO Style – Sealed (CO) or welded (WO) oval transition for 100% free area applications

MINIMUM SIZE

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

MAXIMUM SIZE

Single Section

Vertical Installation

IBD2 – 31" w x 64" h (787 x 1626), 46" w x 25" h (1168 x 635) or 34" w x 31" h (864 x 787)

IBD23 – 34" w x 31" h (864 x 787)

Horizontal Installation

IBD2 – 28" w x 39" h (711 x 991) or 31" w x 32" h (787 x 813)

IBD23 – 28" w x 39" h (711 x 991)

Multiple Section

Vertical Installation

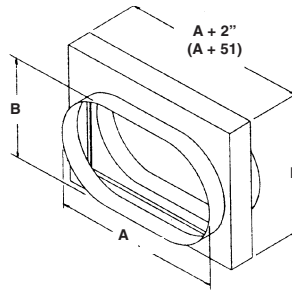
IBD2 – 118" w x 64" h (2997 x 1626)

IBD23 – 88" w x 67" h (2235 x 1702)

Horizontal Installation

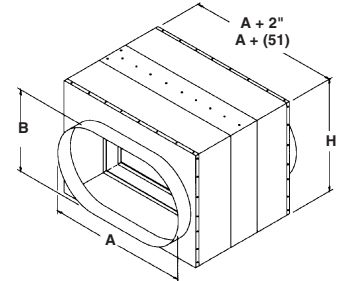
IBD2 – 112" w x 32" h (2845 x 813) or 88" w x 81" h (2235 x 2057)

IBD23 – 88" w x 81" h (2235 x 2057)



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

Taped and sealed on sizes up to 31" w x 31" h (787 x 787) for vertical installation and 22" w x 20" h (559 x 508) for horizontal installation.



**IBD2 OR 23 STYLE CO
IN FACTORY SLEEVE**

LO, LR and R Style – Non-sealed oval (LO) or round (LR, R) transitions for low pressure applications. LO and LR transitions offset for 100% free area applications. R transition centered for use when 100% free area not required.

MINIMUM SIZE

Vertical or Horizontal Installation

LR, R Styles – 4" (102) diameter

LO Style – 4" w x 4" h (102 x 102)

MAXIMUM SIZE

Vertical Installation, Single Section

LR, R Style

IBD2 or IBD23 – 31" (787) diameter

LO Style

IBD2 – 46" w x 25" h (1168 x 635) or 31" w x 64" h (787 x 1626)

IBD23 – 34" w x 31" h (864 x 787)

Horizontal Installation, Single Section

LR, R Style

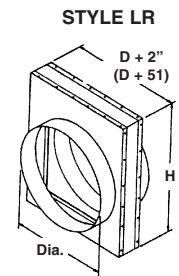
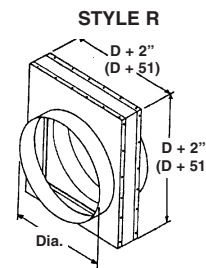
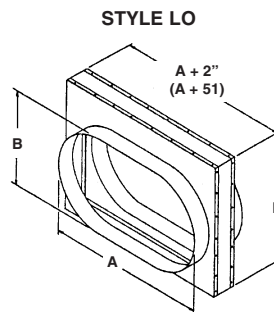
IBD2 – 31" (787) diameter

IBD23 – 28" (711) diameter

LO Style

IBD2 – 31" w x 32" h (787 x 813) or 28" w x 39" h (711 x 991)

IBD23 – 28" w x 39" h (711 x 991)



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

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. Ruskin recommends the authority having jurisdiction, the engineer and the contractor agree on the installation design prior to installation.

IBD2 and IBD23 multiple section dampers ordered without sleeves are shipped in individual sections, for field assembly.

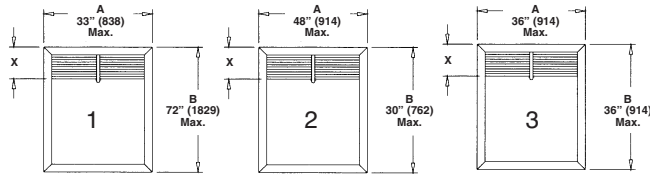
IBD2 and IBD23 multiple section dampers ordered with factory furnished sleeves are normally shipped in complete assemblies.

If TDF or other flanged breakaway connections are to be used, order dampers with factory furnished sleeves actual size.

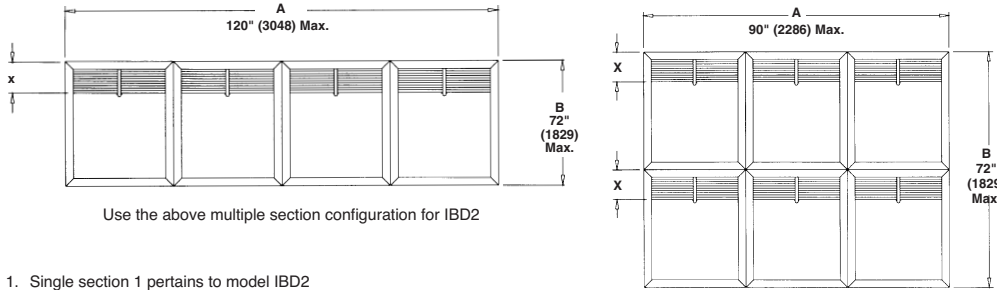
A STYLE DAMPERS

VERTICAL INSTALLATION

Single Section Dampers



Multiple Section Dampers



Use the above multiple section configuration for IBD2

Use the above multiple section configuration for IBD23

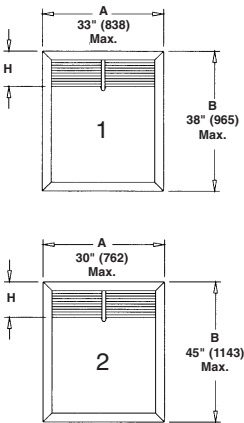
1. Single section 1 pertains to model IBD2
2. Single section 2 pertains to model IBD2
3. Single section 3 pertains to models IBD2 and IBD23

B	Blade Dimensions		Blade Dimensions	
	X	B	X	B
4 (102)	1 1/4 (44)	39 (991)	4 3/4 (121)	
5 (127)	1 1/4 (44)	40 (1016)	4 3/4 (121)	
6 (152)	1 1/4 (44)	41 (1041)	4 3/4 (121)	
7 (178)	1 1/4 (44)	42 (1067)	4 3/4 (121)	
8 (203)	1 1/4 (44)	43 (1092)	4 3/4 (121)	
9 (229)	1 1/4 (44)	44 (1118)	4 3/4 (121)	
10 (254)	1 1/4 (44)	45 (1143)	4 3/4 (121)	
11 (279)	1 1/4 (44)	46 (1168)	4 3/4 (121)	
12 (305)	1 1/4 (44)	47 (1194)	5 1/4 (146)	
13 (330)	2 1/4 (70)	48 (1219)	5 1/4 (146)	
14 (356)	2 1/4 (70)	49 (1245)	5 1/4 (146)	
15 (381)	2 1/4 (70)	50 (1270)	5 1/4 (146)	
16 (406)	2 1/4 (70)	51 (1295)	5 1/4 (146)	
17 (432)	2 1/4 (70)	52 (1321)	5 1/4 (146)	
18 (457)	2 1/4 (70)	53 (1346)	5 1/4 (146)	
19 (483)	2 1/4 (70)	54 (1372)	5 1/4 (146)	
20 (508)	2 1/4 (70)	55 (1397)	5 1/4 (146)	
21 (533)	2 1/4 (70)	56 (1422)	5 1/4 (146)	
22 (559)	2 1/4 (70)	57 (1448)	5 1/4 (146)	
23 (584)	2 1/4 (70)	58 (1473)	6 1/4 (171)	
24 (610)	2 1/4 (70)	59 (1499)	6 1/4 (171)	
25 (635)	2 1/4 (70)	60 (1524)	6 1/4 (171)	
26 (660)	3 1/4 (95)	61 (1549)	6 1/4 (171)	
27 (686)	3 1/4 (95)	62 (1575)	6 1/4 (171)	
28 (711)	3 1/4 (95)	63 (1600)	6 1/4 (171)	
29 (737)	3 1/4 (95)	64 (1626)	6 1/4 (171)	
30 (762)	3 1/4 (95)	65 (1651)	6 1/4 (171)	
31 (787)	3 1/4 (95)	66 (1676)	6 1/4 (171)	
32 (813)	3 1/4 (95)	67 (1702)	6 1/4 (171)	
33 (838)	3 1/4 (95)	68 (1727)	6 1/4 (171)	
34 (864)	3 1/4 (95)	69 (1751)	7 (178)	
35 (889)	3 1/4 (95)	70 (1778)	7 (178)	
36 (914)	3 1/4 (95)	71 (1803)	7 (178)	
37 (940)	4 1/4 (121)	72 (1829)	7 (178)	
38 (965)	4 1/4 (121)			

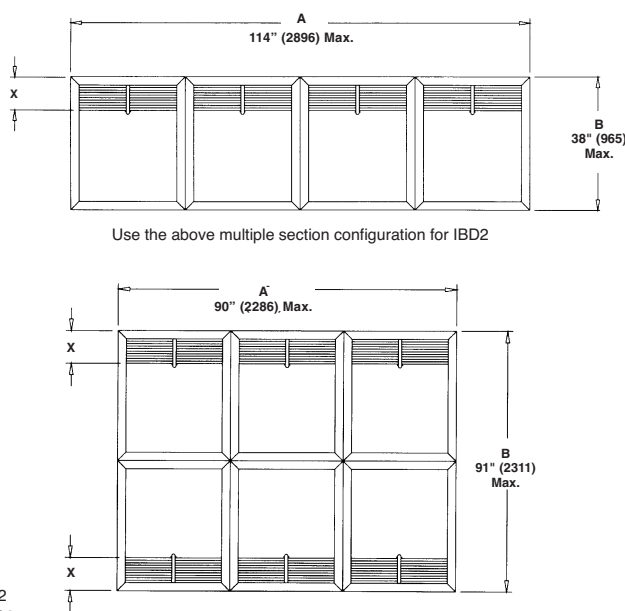
Dimensions shown in parentheses () indicate millimeters.

HORIZONTAL INSTALLATION

Single Section Dampers



Multiple Section Dampers



Use the above multiple section configuration for IBD2

Use the above multiple section configuration for IBD2 and IBD23

1. Single section 1 pertains to model IBD2
2. Single section 2 pertains to models IBD2 and IBD23

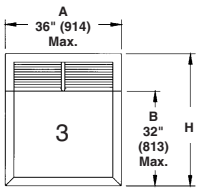
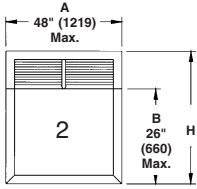
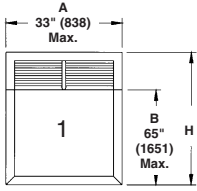
B	Single Sections & Single High Assemblies		Double High Assemblies	
	X	B	X	B
6 (152)	1 1/4 (32)	46 (1168)	2 1/8 (54)	
7 (178)	1 1/4 (32)	47 (1194)	2 1/8 (54)	
8 (203)	1 3/8 (35)	48 (1219)	2 1/8 (54)	
9 (229)	1 3/8 (35)	49 (1245)	2 1/8 (54)	
10 (254)	1 3/8 (35)	50 (1270)	2 1/8 (54)	
11 (279)	1 3/8 (35)	51 (1295)	2 1/8 (54)	
12 (305)	1 3/8 (35)	52 (1321)	2 1/8 (54)	
13 (330)	1 3/4 (44)	53 (1346)	2 1/8 (54)	
14 (356)	1 3/4 (44)	54 (1372)	2 1/8 (54)	
15 (381)	2 (51)	55 (1397)	3 1/8 (79)	
16 (406)	2 (51)	56 (1422)	3 1/8 (79)	
17 (432)	2 1/8 (54)	57 (1448)	3 1/8 (79)	
18 (457)	2 1/8 (54)	58 (1473)	3 1/8 (79)	
19 (483)	2 1/8 (54)	59 (1499)	3 1/8 (79)	
20 (508)	2 1/8 (54)	60 (1524)	3 1/8 (79)	
21 (533)	2 1/8 (54)	61 (1549)	3 1/8 (79)	
22 (559)	2 1/8 (54)	62 (1575)	3 1/8 (79)	
23 (584)	2 1/8 (54)	63 (1600)	3 1/8 (79)	
24 (610)	2 1/8 (54)	64 (1626)	3 1/8 (79)	
25 (635)	2 1/8 (54)	65 (1651)	3 1/8 (79)	
26 (660)	2 1/8 (54)	66 (1676)	3 1/8 (79)	
27 (686)	2 1/8 (54)	67 (1702)	3 1/8 (79)	
28 (711)	3 1/8 (79)	68 (1727)	3 1/8 (79)	
29 (737)	3 1/8 (79)	69 (1751)	3 1/8 (79)	
30 (762)	3 1/8 (79)	70 (1778)	3 1/8 (79)	
31 (787)	3 1/8 (79)	71 (1803)	3 1/8 (79)	
32 (813)	3 1/8 (79)	72 (1829)	3 1/8 (79)	
33 (838)	3 1/8 (79)	73 (1854)	4 (102)	
34 (864)	3 1/8 (79)	74 (1880)	4 (102)	
35 (889)	3 1/8 (79)	75 (1905)	4 (102)	
36 (914)	3 1/8 (79)	76 (1930)	4 (102)	
37 (940)	4 (102)	77 (1956)	4 1/8 (105)	
38 (965)	4 (102)	78 (1981)	4 1/8 (105)	
39 (991)	4 1/8 (105)	79 (2007)	4 1/8 (105)	
40 (1016)	4 1/8 (105)	80 (2032)	4 1/8 (105)	
41 (1041)	4 1/8 (105)	81 (2057)	4 1/8 (105)	
42 (1067)	4 1/8 (105)	82 (2083)	4 1/8 (105)	
43 (1092)	4 1/2 (114)	83 (2108)	4 1/2 (114)	
44 (1118)	4 1/2 (114)	84 (2134)	4 1/2 (114)	
45 (1143)	4 1/2 (114)	85 (2159)	4 1/2 (114)	
		86 (2184)	4 1/2 (114)	
		87 (2210)	4 1/2 (114)	
		88 (2235)	4 1/2 (114)	
		89 (2261)	4 3/4 (121)	
		90 (2286)	4 3/4 (121)	
		91 (2311)	4 3/4 (121)	

Dimensions shown in parenthesis () indicate millimeters.

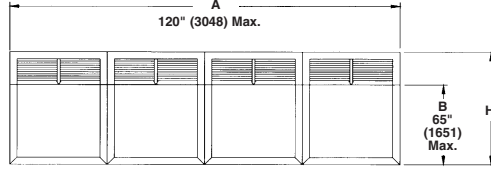
B AND BC STYLE DAMPERS

VERTICAL INSTALLATION

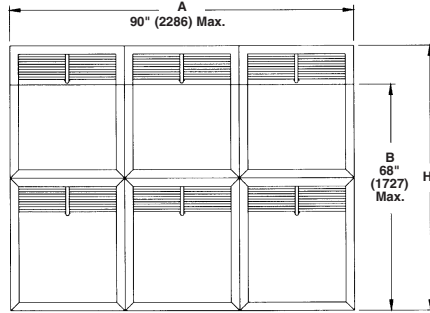
Single Section Dampers



Multiple Section Dampers



Use the above multiple section configuration for IBD2



Use the above multiple section configuration for IBD23

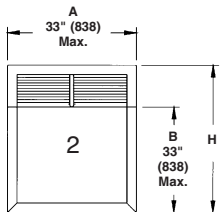
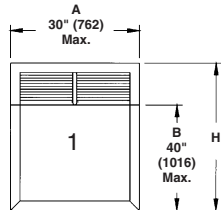
	Single Sections & Single High Assemblies		Double High Assemblies	
	B	H	B	H
3	(76)	4 1/4 (121)	33 (838)	37 1/4 (959)
4	(102)	5 1/4 (146)	34 (864)	38 1/4 (984)
5	(127)	6 1/4 (171)	35 (889)	39 1/4 (1010)
6	(152)	7 1/4 (197)	36 (914)	40 1/4 (1035)
7	(178)	8 1/4 (222)	37 (940)	41 1/4 (1060)
8	(203)	9 1/4 (248)	38 (965)	42 1/4 (1086)
9	(229)	10 1/4 (273)	39 (991)	43 1/4 (1111)
10	(254)	11 1/4 (298)	40 (1016)	44 1/4 (1137)
11	(279)	12 1/4 (324)	41 (1041)	45 1/4 (1162)
12	(305)	13 1/4 (349)	42 (1067)	47 1/4 (1213)
13	(330)	15 1/4 (400)	43 (1082)	48 1/4 (1238)
14	(356)	16 1/4 (425)	44 (1118)	49 1/4 (1264)
15	(381)	17 1/4 (451)	45 (1143)	50 1/4 (1289)
16	(406)	18 1/4 (476)	46 (1168)	51 1/4 (1314)
17	(432)	19 1/4 (502)	47 (1194)	52 1/4 (1340)
18	(457)	20 1/4 (527)	48 (1219)	53 1/4 (1365)
19	(483)	21 1/4 (552)	49 (1245)	54 1/4 (1391)
20	(508)	22 1/4 (578)	50 (1270)	55 1/4 (1416)
21	(533)	23 1/4 (603)	51 (1295)	56 1/4 (1441)
22	(559)	24 1/4 (629)	52 (1321)	58 1/4 (1492)
23	(584)	26 1/4 (679)	53 (1346)	59 1/4 (1518)
24	(610)	27 1/4 (705)	54 (1372)	60 1/4 (1543)
25	(635)	28 1/4 (730)	55 (1397)	61 1/4 (1568)
26	(660)	29 1/4 (756)	56 (1422)	62 1/4 (1594)
27	(686)	30 1/4 (781)	57 (1448)	63 1/4 (1619)
28	(711)	31 1/4 (806)	58 (1473)	64 1/4 (1645)
29	(737)	32 1/4 (832)	59 (1499)	65 1/4 (1670)
30	(762)	33 1/4 (857)	60 (1524)	66 1/4 (1695)
31	(787)	34 1/4 (883)	61 (1549)	67 1/4 (1721)
32	(813)	35 1/4 (908)	62 (1575)	69 (1753)
			63 (1600)	70 (1778)
			64 (1626)	71 (1803)
			65 (1651)	72 (1829)
			66 (1676)	69 1/2 (1772)
			67 (1702)	70 1/2 (1797)
			68 (1727)	71 1/2 (1822)

Dimensions shown in parenthesis () indicate millimeters.

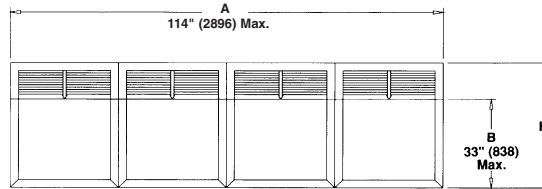
- Single section 1 pertains to model IBD2
- Single section 2 pertains to model IBD2
- Single section 3 pertains to models IBD2 and IBD23

HORIZONTAL INSTALLATION

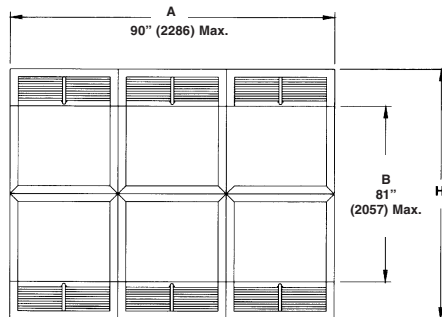
Single Section Dampers



Multiple Section Dampers



Use the above multiple section configuration for IBD2



Use the above multiple section configuration for IBD2 and IBD23

	Single Sections & Single High Assemblies		Double High Assemblies	
	B	H	B	H
3	(76)	4 1/4 (121)	41 (1041)	46 1/2 (1181)
4	(102)	5 1/4 (146)	42 (1067)	47 1/2 (1206)
5	(127)	6 1/4 (171)	43 (1082)	48 1/2 (1232)
6	(152)	7 1/4 (197)	44 (1118)	49 1/2 (1257)
7	(178)	8 1/4 (222)	45 (1143)	50 1/2 (1283)
8	(203)	9 1/4 (248)	46 (1168)	53 1/4 (1359)
9	(229)	10 1/4 (273)	47 (1194)	54 1/4 (1384)
10	(254)	11 1/4 (298)	48 (1219)	55 1/4 (1410)
11	(279)	12 1/4 (324)	49 (1245)	56 1/4 (1435)
12	(305)	13 1/4 (349)	50 (1270)	57 1/2 (1460)
13	(330)	15 1/4 (400)	51 (1295)	58 1/2 (1486)
14	(356)	16 1/4 (425)	52 (1321)	59 1/2 (1511)
15	(381)	17 1/4 (451)	53 (1346)	60 1/2 (1537)
16	(406)	18 1/4 (476)	54 (1372)	61 1/2 (1562)
17	(432)	19 1/4 (502)	55 (1422)	62 1/2 (1587)
18	(457)	20 1/4 (527)	56 (1448)	63 1/2 (1613)
19	(483)	21 1/4 (552)	57 (1473)	64 1/2 (1638)
20	(508)	22 1/4 (578)	58 (1473)	65 1/2 (1664)
21	(533)	23 1/4 (603)	59 (1499)	66 1/2 (1689)
22	(559)	24 1/4 (629)	60 (1524)	67 1/2 (1714)
23	(584)	26 1/4 (679)	61 (1549)	68 1/2 (1740)
24	(610)	27 1/4 (705)	62 (1575)	69 1/2 (1765)
25	(635)	28 1/4 (730)	63 (1600)	70 1/2 (1791)
26	(660)	29 1/4 (756)	64 (1626)	71 1/2 (1816)
27	(686)	30 1/4 (781)	65 (1651)	74 1/2 (1892)
28	(711)	31 1/4 (806)	66 (1676)	75 1/2 (1892)
29	(737)	32 1/4 (832)	67 (1702)	76 1/2 (1943)
30	(762)	33 1/4 (857)	68 (1727)	77 1/2 (1968)
31	(787)	34 1/4 (883)	69 (1751)	78 1/2 (1994)
32	(813)	35 1/4 (908)	70 (1778)	79 1/2 (2019)
33	(838)	37 1/4 (959)	71 (1803)	80 1/2 (2045)
34	(864)	38 1/4 (984)	72 (1829)	81 1/2 (2070)
35	(889)	39 1/4 (1010)	73 (1854)	82 1/2 (2095)
36	(914)	40 1/4 (1035)	74 (1880)	83 1/2 (2121)
37	(940)	41 1/4 (1060)	75 (1905)	84 1/2 (2146)
38	(965)	42 1/4 (1084)	76 (1930)	85 1/2 (2172)
39	(991)	43 1/4 (1111)	77 (1956)	86 1/2 (2197)
40	(1016)	44 1/4 (1137)	78 (1981)	87 1/2 (2222)
			79 (2007)	88 1/2 (2248)
			80 (2032)	89 1/2 (2273)
			81 (2057)	90 1/2 (2299)

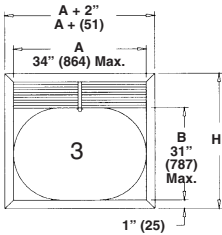
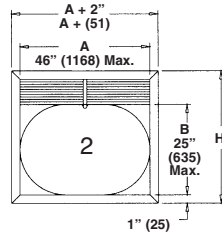
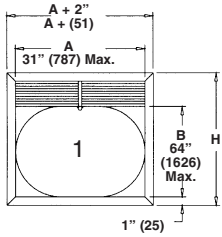
Dimensions shown in parenthesis () indicate millimeters.

- Single section 1 pertains to model IBD2
- Single section 2 pertains to models IBD2 and BD23

C, CO, WC, WO AND LO STYLE DAMPERS

VERTICAL INSTALLATION

Single Section Dampers

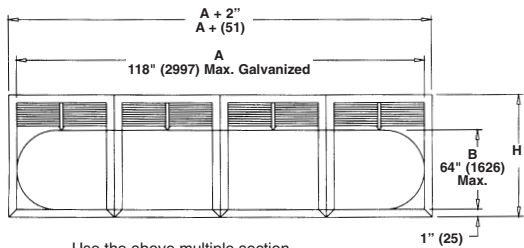


1. Single section 1 pertains to model IBD2
2. Single section 2 pertains to model IBD2
3. Single section 3 pertains to models IBD2 and IBD3

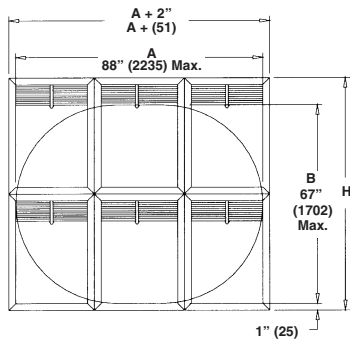
B	Single Sections & Single High Assemblies		H
	B	H	
3	(76)	5 3/4 (146)	
4	(102)	6 3/4 (171)	
5	(127)	7 3/4 (197)	
6	(152)	8 3/4 (222)	
7	(178)	9 3/4 (248)	
8	(203)	10 3/4 (273)	
9	(229)	11 3/4 (299)	
10	(254)	12 3/4 (324)	
11	(279)	13 3/4 (349)	
12	(305)	14 3/4 (375)	
13	(330)	15 3/4 (400)	
14	(356)	16 3/4 (425)	
15	(381)	17 3/4 (451)	
16	(406)	18 3/4 (476)	
17	(432)	19 3/4 (502)	
18	(457)	20 3/4 (527)	
19	(483)	21 3/4 (553)	
20	(508)	22 3/4 (578)	
21	(533)	23 3/4 (603)	
22	(559)	24 3/4 (629)	
23	(584)	25 3/4 (654)	
24	(610)	26 3/4 (680)	
25	(635)	27 3/4 (705)	
26	(660)	28 3/4 (731)	
27	(686)	29 3/4 (756)	
28	(711)	30 3/4 (782)	
29	(737)	31 3/4 (807)	
30	(762)	32 3/4 (833)	
31	(787)	33 3/4 (858)	
32	(813)	34 3/4 (884)	35 3/4 (908)
33	(838)	35 3/4 (909)	36 3/4 (933)
34	(864)	36 3/4 (934)	37 3/4 (959)
35	(889)	37 3/4 (959)	38 3/4 (984)
36	(914)	38 3/4 (984)	39 3/4 (1010)
37	(940)	39 3/4 (1010)	40 3/4 (1035)
38	(965)	40 3/4 (1035)	41 3/4 (1060)
39	(991)	41 3/4 (1060)	42 3/4 (1086)
40	(1016)	42 3/4 (1086)	43 3/4 (1111)
41	(1041)	43 3/4 (1111)	44 3/4 (1137)
42	(1067)	44 3/4 (1137)	45 3/4 (1162)
43	(1092)	45 3/4 (1162)	46 3/4 (1187)
44	(1118)	46 3/4 (1187)	47 3/4 (1213)
45	(1143)	47 3/4 (1213)	48 3/4 (1238)
46	(1168)	48 3/4 (1238)	49 3/4 (1264)
47	(1194)	49 3/4 (1264)	50 3/4 (1289)
48	(1219)	50 3/4 (1289)	51 3/4 (1314)
49	(1245)	51 3/4 (1314)	52 3/4 (1340)
50	(1245)	52 3/4 (1340)	53 3/4 (1365)
51	(1295)	53 3/4 (1365)	54 3/4 (1391)
52	(1321)	54 3/4 (1391)	55 3/4 (1416)
53	(1346)	55 3/4 (1416)	56 3/4 (1441)
54	(1372)	56 3/4 (1441)	57 3/4 (1467)
55	(1397)	57 3/4 (1467)	58 3/4 (1492)
56	(1422)	58 3/4 (1492)	59 3/4 (1518)
57	(1448)	59 3/4 (1518)	60 3/4 (1543)
58	(1473)	60 3/4 (1543)	61 3/4 (1568)
59	(1499)	61 3/4 (1568)	62 3/4 (1594)
60	(1524)	62 3/4 (1594)	63 3/4 (1619)
61	(1549)	63 3/4 (1619)	64 3/4 (1645)
62	(1575)	64 3/4 (1645)	65 3/4 (1670)
63	(1600)	65 3/4 (1670)	66 3/4 (1695)
64	(1626)	66 3/4 (1695)	67 3/4 (1721)
65	(1651)	67 3/4 (1721)	68 3/4 (1746)
66	(1676)	68 3/4 (1746)	69 3/4 (1772)
67	(1702)	69 3/4 (1772)	70 3/4 (1797)
		71 3/4 (1822)	

Dimensions in parenthesis () indicate millimeters.

Multiple Section Dampers



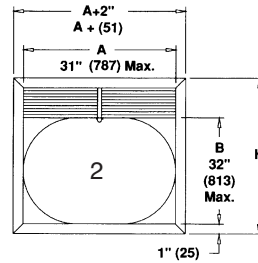
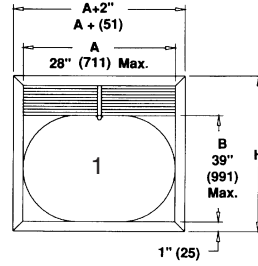
Use the above multiple section configuration for IBD2



Use the above multiple section configuration for IBD23

HORIZONTAL INSTALLATION

Single Section Dampers

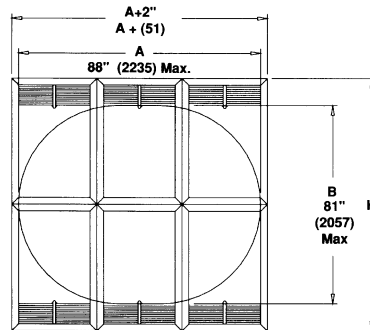


1. Single section 1 pertains to model IBD2
2. Single section 2 pertains to models IBD2 and IBD23

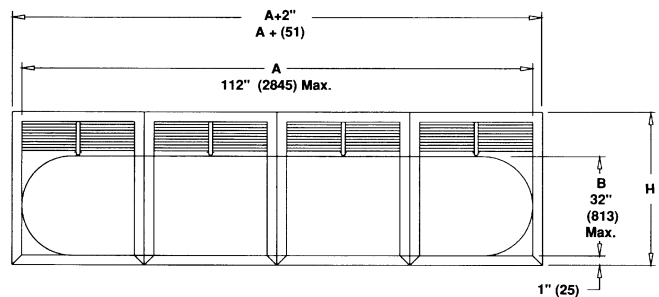
B	H
3	(76) 5 3/4 (146)
4	(102) 6 3/4 (171)
5	(127) 7 3/4 (197)
6	(152) 8 3/4 (222)
7	(178) 9 3/4 (248)
8	(203) 10 3/4 (273)
9	(229) 11 3/4 (299)
10	(254) 12 3/4 (324)
11	(279) 13 3/4 (349)
12	(305) 14 3/4 (375)
13	(330) 15 3/4 (400)
14	(356) 16 3/4 (425)
15	(381) 17 3/4 (451)
16	(406) 18 3/4 (476)
17	(432) 19 3/4 (502)
18	(457) 20 3/4 (527)
19	(483) 21 3/4 (553)
20	(508) 22 3/4 (578)
21	(533) 23 3/4 (603)
22	(559) 24 3/4 (629)
23	(584) 25 3/4 (654)
24	(610) 26 3/4 (680)
25	(635) 27 3/4 (705)
26	(660) 28 3/4 (731)
27	(686) 29 3/4 (756)
28	(711) 30 3/4 (782)
29	(737) 31 3/4 (807)
30	(762) 32 3/4 (833)
31	(787) 33 3/4 (858)
32	(813) 34 3/4 (884)
33	(838) 35 3/4 (909)
34	(864) 36 3/4 (934)
35	(889) 37 3/4 (959)
36	(914) 38 3/4 (984)
37	(940) 39 3/4 (1010)
38	(965) 40 3/4 (1035)
39	(991) 41 3/4 (1060)
40	(1016) 42 3/4 (1086)
41	(1041) 43 3/4 (1111)
42	(1067) 44 3/4 (1137)
43	(1092) 45 3/4 (1162)
44	(1118) 46 3/4 (1187)
45	(1143) 47 3/4 (1213)
46	(1168) 48 3/4 (1238)
47	(1194) 49 3/4 (1264)
48	(1219) 50 3/4 (1289)
49	(1245) 51 3/4 (1314)
50	(1270) 52 3/4 (1340)
51	(1295) 53 3/4 (1365)
52	(1321) 54 3/4 (1391)
53	(1346) 55 3/4 (1416)
54	(1372) 56 3/4 (1441)
55	(1397) 57 3/4 (1467)
56	(1422) 58 3/4 (1492)
57	(1448) 59 3/4 (1518)
58	(1473) 60 3/4 (1543)
59	(1499) 61 3/4 (1568)
60	(1524) 62 3/4 (1594)
61	(1549) 63 3/4 (1619)
62	(1575) 64 3/4 (1645)
63	(1600) 65 3/4 (1670)
64	(1626) 66 3/4 (1695)
65	(1651) 67 3/4 (1721)
66	(1676) 68 3/4 (1746)
67	(1702) 69 3/4 (1772)
68	(1727) 70 3/4 (1797)
69	(1751) 71 3/4 (1822)
70	(1778) 72 3/4 (1847)
71	(1803) 73 3/4 (1872)
72	(1829) 74 3/4 (1897)
73	(1854) 75 3/4 (1922)
74	(1880) 76 3/4 (1947)
75	(1905) 77 3/4 (1972)
76	(1930) 78 3/4 (1997)
77	(1956) 79 3/4 (2022)
78	(1981) 80 3/4 (2047)
79	(2007) 81 3/4 (2072)
80	(2032) 82 3/4 (2097)
81	(2057) 83 3/4 (2122)

Dimensions shown in parenthesis () indicate millimeters.

Multiple Section Dampers



Use the above multiple section configuration for IBD2 and IBD23

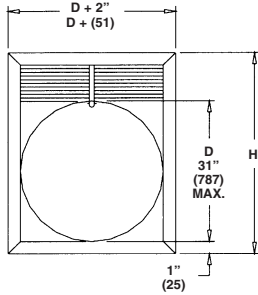


Use the above multiple section configuration for IBD2

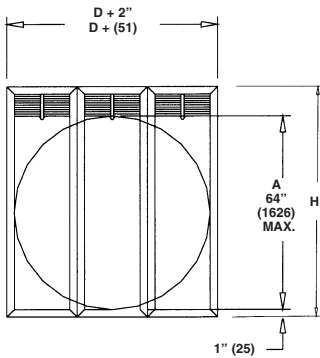
CR, WR, AND LR STYLE DAMPERS

VERTICAL INSTALLATION

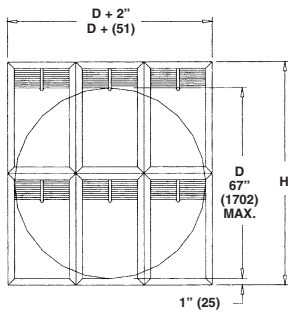
Single Section Dampers



Multiple Section Dampers



Use the above multiple section configuration for IBD2

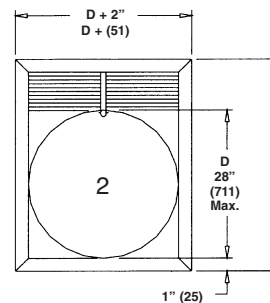
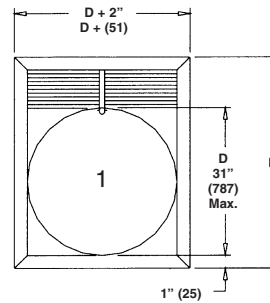


Use the above multiple section configuration for IBD23

Single Sections & Single High Assemblies		Double High Assemblies
D	H	H
3	(76)	59/4 (146)
4	(102)	69/4 (171)
5	(127)	79/4 (197)
6	(152)	89/4 (222)
7	(178)	99/4 (248)
8	(203)	109/4 (273)
9	(229)	119/4 (298)
10	(254)	129/4 (324)
11	(279)	139/4 (349)
12	(305)	154/4 (400)
13	(330)	169/4 (425)
14	(356)	179/4 (451)
15	(381)	189/4 (476)
16	(406)	199/4 (502)
17	(432)	209/4 (527)
18	(457)	219/4 (552)
19	(483)	229/4 (578)
20	(508)	239/4 (603)
21	(533)	249/4 (629)
22	(559)	264/4 (679)
23	(584)	279/4 (705)
24	(610)	289/4 (730)
25	(635)	299/4 (756)
26	(660)	309/4 (781)
27	(686)	319/4 (806)
28	(711)	329/4 (832)
29	(737)	339/4 (857)
30	(762)	349/4 (883)
31	(787)	359/4 (908)
32	(813)	379/4 (959)
33	(838)	389/4 (984)
34	(864)	399/4 (1010)
35	(889)	409/4 (1035)
36	(914)	419/4 (1060)
37	(940)	429/4 (1086)
38	(965)	439/4 (1111)
39	(991)	449/4 (1137)
40	(1016)	459/4 (1162)
41	(1041)	479/4 (1213)
42	(1067)	489/4 (1238)
43	(1082)	499/4 (1264)
44	(1118)	509/4 (1289)
45	(1143)	519/4 (1314)
46	(1168)	529/4 (1340)
47	(1194)	539/4 (1365)
48	(1219)	549/4 (1391)
49	(1245)	559/4 (1416)
50	(1245)	569/4 (1441)
51	(1295)	589/4 (1492)
52	(1321)	599/4 (1518)
53	(1346)	609/4 (1543)
54	(1372)	619/4 (1568)
55	(1397)	629/4 (1594)
56	(1422)	639/4 (1619)
57	(1448)	649/4 (1645)
58	(1473)	659/4 (1670)
59	(1499)	669/4 (1695)
60	(1524)	679/4 (1721)
61	(1549)	699/4 (1772)
62	(1575)	709/4 (1797)
63	(1600)	719/4 (1822)
64	(1626)	729/4 (1848)
65	(1651)	739/4 (1873)
66	(1676)	749/4 (1898)
67	(1702)	759/4 (1924)

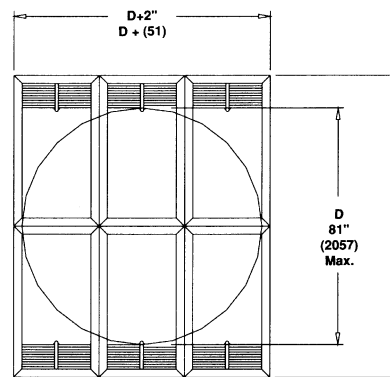
HORIZONTAL INSTALLATION

Single Section Dampers



1. Single section 1 pertains to model IBD2
2. Single section 2 pertains to models IBD2 and IBD23

Multiple Section Dampers

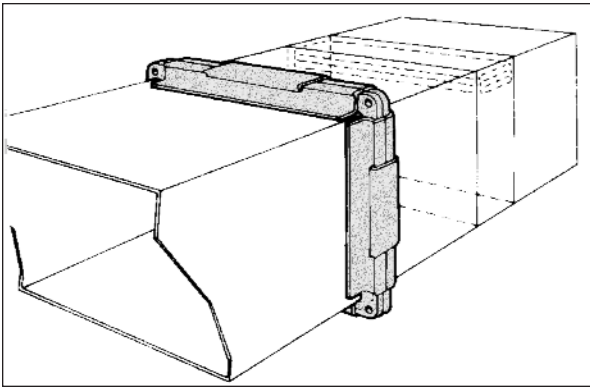


Use the above multiple section configuration for IBD2 and IBD23

D	H
3	(76) 59/4 (146)
4	(102) 69/4 (171)
5	(127) 79/4 (197)
6	(152) 89/4 (222)
7	(178) 99/4 (248)
8	(203) 109/4 (273)
9	(229) 119/4 (298)
10	(254) 129/4 (324)
11	(279) 139/4 (349)
12	(305) 159/4 (400)
13	(330) 169/4 (425)
14	(356) 179/4 (451)
15	(381) 189/4 (476)
16	(406) 199/4 (502)
17	(432) 209/4 (527)
18	(457) 219/4 (552)
19	(483) 229/4 (578)
20	(508) 239/4 (603)
21	(533) 249/4 (629)
22	(559) 269/4 (679)
23	(584) 279/4 (705)
24	(610) 289/4 (730)
25	(635) 299/4 (756)
26	(660) 309/4 (781)
27	(686) 319/4 (806)
28	(711) 329/4 (832)
29	(737) 339/4 (857)
30	(762) 349/4 (883)
31	(787) 359/4 (908)
32	(813) 379/4 (959)
33	(838) 389/4 (984)
34	(864) 399/4 (1010)
35	(889) 409/4 (1035)
36	(914) 419/4 (1060)
37	(940) 429/4 (1086)
38	(965) 439/4 (1111)
39	(991) 449/4 (1137)
40	(1016) 459/4 (1162)
41	(1041) 479/4 (1213)
42	(1067) 489/4 (1238)
43	(1082) 499/4 (1264)
44	(1118) 499/4 (1264)
45	(1143) 509/4 (1289)
46	(1168) 519/4 (1314)
47	(1194) 529/4 (1340)
48	(1219) 539/4 (1365)
49	(1245) 549/4 (1391)
50	(1245) 559/4 (1416)
51	(1295) 589/4 (1492)
52	(1321) 599/4 (1518)
53	(1346) 609/4 (1543)
54	(1372) 619/4 (1568)
55	(1397) 629/4 (1594)
56	(1422) 639/4 (1619)
57	(1448) 649/4 (1645)
58	(1473) 659/4 (1670)
59	(1499) 669/4 (1695)
60	(1524) 679/4 (1721)
61	(1549) 699/4 (1772)
62	(1575) 709/4 (1797)
63	(1600) 719/4 (1822)
64	(1626) 719/4 (1822)
65	(1651) 749/4 (1898)
66	(1676) 759/4 (1924)
67	(1702) 769/4 (1949)
68	(1727) 779/4 (1974)
69	(1751) 789/4 (1999)
70	(1778) 799/4 (2019)
71	(1803) 809/4 (2045)
72	(1829) 819/4 (2070)
73	(1854) 829/4 (2095)
74	(1880) 839/4 (2121)
75	(1905) 849/4 (2146)
76	(1930) 859/4 (2172)
77	(1956) 869/4 (2197)
78	(1981) 879/4 (2222)
79	(2007) 889/4 (2248)
80	(2032) 899/4 (2273)
81	(2057) 909/4 (2299)

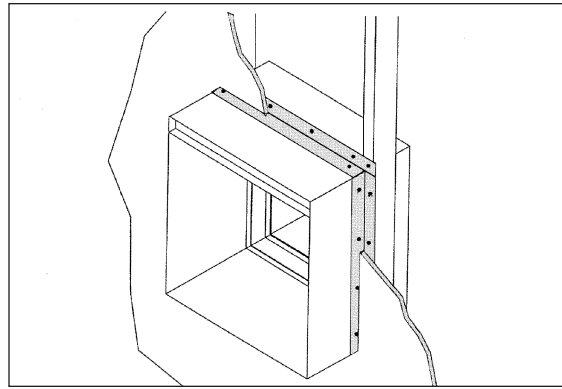
Dimensions shown in parenthesis () indicate millimeters.

LABOR SAVER OPTIONS



TDF OR DUCTMATE BREAKAWAY CONNECTIONS

Meet UL breakaway connection requirements without changing connectors. Ruskin fire dampers can be installed using non-matched flange connections for the breakaway requirement. Any flange connection can mate to a different type or model on Ruskin fire dampers.



FAST MOUNTING ANGLE

FAST mounting angles are used in lieu of conventional, eight piece mounting angles and are installed on only **one side of the wall** when used with Ruskin IBD2 fire dampers. The FAST angle can be fastened directly to the metal stud underneath the fire rated gypsum wallboard.

SUGGESTED SPECIFICATION FOR IBD2

Furnish and install, at locations shown on the plans, dynamic fire dampers tested, constructed and labeled in accordance with the latest edition of UL Standard 555. Dampers shall have a fire rating of 1½ hours and shall meet the requirements of the latest edition of NFPA90A.

Each damper shall include a 165°F (74°C) or 212°F (100°C) fusible link (**specifier select**) and shall be labeled for use in dynamic systems. Dampers labeled for use in static systems only are not permitted. The damper shall be rated for dynamic closure at 2000 fpm (10.16 m/s) and 4 inches w.g. (1 kPa) static pressure and shall be rated to close with airflow in either direction.

Each dynamic fire damper shall include a steel sleeve and mounting angles furnished by the damper manufacturer to ensure appropriate installation. Submittal information shall include the fire protection rating, maximum velocity/pressure ratings and the manufacturer's UL installation instructions. The dampers shall be installed in accordance with the manufacturer's UL installation instructions. Dynamic fire dampers shall be curtain type Ruskin model IBD2.

SUGGESTED SPECIFICATION FOR IBD23

Furnish and install, at locations shown on the plans, dynamic fire dampers tested, constructed and labeled in accordance with the latest edition of UL Standard 555. Dampers shall have a fire rating of 3 hours and shall meet the requirements of the latest edition of NFPA90A.

Each damper shall include a 165°F (74°C) or 212°F (100°C) fusible link (**specifier select**) and shall be labeled for use in dynamic systems. Dampers labeled for use in static systems only are not permitted. The damper shall be rated for dynamic closure to a minimum 2000 fpm (10.16 m/s) and 4 inches w.g. (1 kPa)

static pressure and shall be rated to close with airflow in either direction.

Each dynamic fire damper shall include a steel sleeve and mounting angles furnished by the damper manufacturer to ensure appropriate installation. Submittal information shall include the fire protection rating, maximum velocity/pressure ratings and the manufacturer's UL installation instructions. The dampers shall be installed in accordance with the manufacturer's UL installation instructions. Dynamic fire dampers shall be curtain type Ruskin model IBD23.

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