



INSTALLATION INSTRUCTIONS
(D)IBD2G, (D)IBD2SSG, (D)IBD20G, (D)IBDTG
CURTAIN TYPE FIRE DAMPERS FOR GRILLE MOUNTING
1 1/2 HOUR UL555 CLASSIFIED

APPLICATION

The Model G curtain fire damper is designed to be mounted behind a grille in the wall or floor. Model G dampers are offset in the damper sleeve for appropriate damper placement within the wall or floor.

STATIC FIRE DAMPERS

Not for use in Dynamic (fans on) Systems.

MODEL IBD2G and IBD2SSG MAXIMUM SIZE

Single Section

Vertical - 48"w x 30"h (1219 x 762) or 33"w x 48"h or (838 x 1219) or 36"w x 36"h (914 x 914).

Horizontal - 30"w x 45 1/2"h (762 x 1156) or 33"w x 38"h (838 x 965).

Multiple Section Assembly

Vertical - 90"w x 48"h (2286 x 1219) or 48"w x 72"h (1219 x 1829).

Horizontal - 90"w x 48"h (2286 x 1219) or 48"w x 90"h (1219 x 2286).

MODEL IBD20G MAXIMUM SIZE

Single Section

Vertical - 48"w x 30"h (1219 x 762) or 33"w x 48"h or (838 x 1219) or 36"w x 36"h (914 x 914).

Horizontal - 30"w x 45 1/2"h (762 x 1156) or 33"w x 38"h (838 x 965).

MODEL IBDTG, IBDT1G and IBDT2G MAXIMUM SIZE

Single Section

Vertical - 40"w x 48"h (1016 x 1219).

Horizontal - 36"w x 36"h (914 x 914).

DYNAMIC FIRE DAMPERS

Use in Dynamic (fans on) or Static (fans off) Systems

MODEL DIBD2G MAXIMUM SIZE

Single Section

Vertical - 33"w x 36"h (838 x 914).

Horizontal - 24"w x 24"h (610 x 610).

Multiple Section Assembly

Vertical - 72"w x 48"h (1828 x 1219) or 48"w x 72"h (1219 x 1829).

MODEL DIBDX2G MAXIMUM SIZE

Single Section

Horizontal - 18"w x 24"h (457 x 610) or 24"w x 18"h (610 x 457).

Multiple Section

Horizontal - 36"w x 48"h (914 x 1219) or 48"w x 36"h (1219 x 914).

MODEL DIBD2SSG MAXIMUM SIZE

Single Section

Vertical or Horizontal - 24"w x 24"h (610 x 610).

Multiple Section Assembly

Vertical - 72"w x 48"h (1829 x 1219) or 48"w x 72"h (1219 x 1829).

MODEL DIBD20G MAXIMUM SIZE

Single Section

Vertical - 33"w x 36"h (838 x 914).

Horizontal - 24"w x 24"h (610 x 610).

MODEL (D)IBDTG, (D)IBDT1G and (D)IBDT2G MAXIMUM SIZE

Single Section

Vertical - 24"w x 24"h (610 x 610).

Notes:

- 1. Dimensions shown in parentheses ( ) indicate millimeters.
2. All multiple section dampers are constructed of equal single section sizes no greater than the maximum single section sizes indicated above.

INSTALLATION SUPPLEMENTS

Refer to the appropriate Ruskin installation instruction supplements for additional information or special requirements:

- Optional Sealant of Dampers in Fire Rated Wall or Floor Openings
• Transfer Openings and Duct Terminations
• Optional FireStop Material
• Extension of Fire and Combination Fire and Smoke Damper Sleeves
• Fire and Combination Fire and Smoke Dampers Installation in Concrete Floor with Steel Deck
• Drivemate No. 14880 Breakaway Connection
• Flanged System Breakaway Connections
• Cavity Shaft Wall Metal Stud Framing



SEE COMPLETE MARKING ON PRODUCT

California State Fire Marshal Listing No. 3225-245:0005

## 1. Opening Clearance

The opening in the wall or floor shall be larger than the damper/sleeve assembly to permit installation and expansion. The maximum opening size shall not exceed 1/8" (3) (3/16" for stn. stl.) per foot (3 per 305), nor shall be less than 1/4" (6) larger than the damper/sleeve assembly. The opening shall be a maximum of 1" (25) larger than the overall size of the damper/sleeve assembly.

## 2. Fasteners and Multiple Section Assembly

Use No. 10 (M5) bolts or screws, 3/16" (5) rivets, tack welds or spot welds as depicted in figures 1 and 2 and spaced as follows when joining individual dampers to make multiple section damper assemblies or when fastening damper to the sleeve:

Vertical Mount (In wall)	
Galvanized steel dampers	12" (305) spacing
Stainless steel dampers	6" (152) spacing
Horizontal Mount (In floor)	
All dampers	6" (152) spacing

Multiple section horizontal mount dampers require a 14 gage thick x 4 1/2" (2 x 114) wide steel reinforcing plate sandwiched between the damper frames with No. 10 (M5) bolts or screws, 3/16" (5) rivets, tack welds or spot welds staggered intermittently and spaced on maximum 6" (152) centers. The reinforcing plate must be the same material as the dampers. The length must be equal to the damper width of two or more adjoining damper sections. Reinforcing plates are not required for assemblies consisting of two dampers attached end-to-end or three dampers attached side-to-side as depicted in figure 3.

## 3. Damper Sleeve

Sleeve thickness must be equal to or thicker than the duct connected to it. Sleeve gage requirements are listed in the SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems and in NFPA90A. If a breakaway style duct/sleeve connection is not used, the sleeve shall be a minimum of 16 gage (1.6) for dampers up to 36" (914) high and 14 gage (1.9) for dampers exceeding 36" (914) wide by 24" (610) high. Damper sleeve shall not extend more than 6" (152) beyond the fire wall or partition unless damper is equipped with installed access door. Sleeve may extend up to 16" (406) beyond the fire wall or partition on side equipped with a factory installed access door. Sleeve shall terminate at both sides of wall within dimensions shown.

## 4. Damper Orientation

Use "Air Flow" and "Mount with Arrow Up" labels on Dynamic DIBD and DIBDX models for proper damper orientation. For Static IBD models use only "Mount With Arrow Up" label on damper for proper damper orientation.

## 5. Mounting Angles

Mounting angles shall be a minimum of 1 1/2" x 1 1/2" x 20 gage steel (38 x 38 x 1.0). For openings in metal stud, wood stud walls or concrete/masonry walls and floors of sizes 90" x 48" (2286 x 1219) or 48" x 90" (1219 x 2286) and less. Mounting angles are only required on one side of the wall or topside of the floor and must be attached to both the sleeve and the wall or floor. Mounting angles need to overlay the wall or Floor by minimum of 1" (25). Mounting angles may be installed directly to the metal studs under the wall-board on metal stud installation only. For larger openings see "Transfer Opening and Duct Termination" installation supplement.

### a. Mounting Angle Fasteners

Sleeve: #10 bolts or screws, 3/16" (3) steel rivets or 1/2" (13) long or welds.

Masonry/Wall or Floor: #10 self-tapping concrete screws.

Wood/Steel Stud Wall: #10 screws

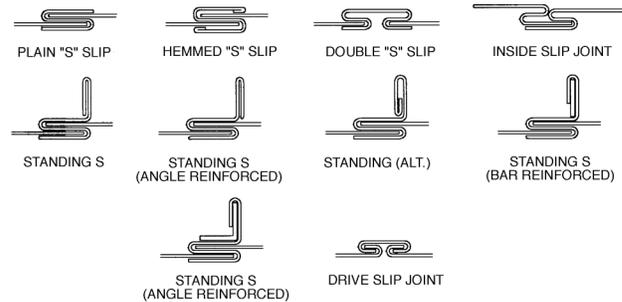
### b. Mounting Angle Fastener Spacing

Sleeve fasteners shall be spaced at 6" (152) o.c. and the wall or floor fasteners shall be spaced at 12" (305) o.c. with a minimum of 2 on each side, top and bottom. Screw fasteners used in metal stud must engage the metal stud a minimum of 1/2" (13). Screw fasteners used in wood stud must engage the wood a minimum of 3/4" (19). Screw fasteners used in masonry walls or floors must engage the wall a minimum of 1 1/2" (38).

## 6. Duct/Sleeve Connections

### a. Break-away Duct/Sleeve Connections

Rectangular ducts must use one or more of the connections depicted: below:



A maximum of two #10 (M5) sheet metal screws on each side and the bottom, located in the center of the slip pocket and penetrating both sides of the slip pocket may be used. Connections using these slip joints on the top and bottom with flat drive slips up to 20" (508) long on the sides may also be used.

### b. Round and Oval Break-away Connections

Round and flat oval break-away connections must use either a 4" (102) wide drawband or #10 (M5) sheet metal screws spaced equally around the circumference of the duct as follows:

- Duct diameters 22" (559) and smaller – Maximum 3 screws.
- Duct diameters over 22" (559) and including 36" (914) – Maximum 5 screws.
- Duct diameters over 36" (914) and up to and including 191" (4851) total perimeter – Maximum 8 screws.

For flat oval ducts, the diameter is considered the largest (major) dimension of the duct. These connections are depicted in the SMACNA Fire, Smoke, and Radiation Damper Installation Guide.

**Note:** When optional sealing of these joints is desired, the following sealants may be applied in accordance with the sealant manufacturer's instructions:

Design Polymerics – DP 1010

Precision – PA2084T

Hardcast, Inc. – Iron Grip 601

Eco Duct Seal 44-52

### c. Flanged Break-away Style Duct Sleeve Connections.

Flanged connection systems manufactured by Ductmate, Nexus or Ward are approved break-away connections when installed as shown on the "Flanged System Breakaway Connections Supplement."

TDC and TDF roll-formed flanged connections using 3/8" (10) steel bolts and nuts, and metal cleats, as tested by SMACNA, are approved break-away connections when installed as shown on the "Flanged System Breakaway Connections Supplement."

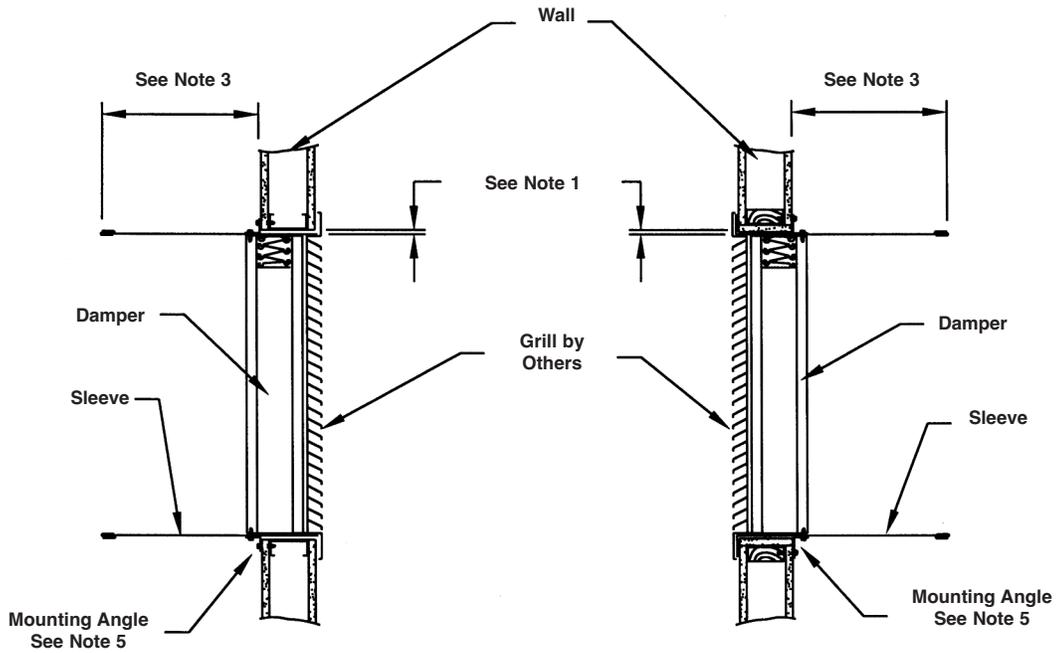
### d. Non-Break-away Duct/Sleeve Connections

If other duct sleeve connections are used, the sleeve shall be a minimum of 16 gage (1.6) for dampers up to 36" (914) wide x 24" (610) high and 14 gage (2.0) for dampers exceeding 36" (914) wide x 24" (610) high.

## 7. Installation and Maintenance

To ensure optimum operation and performance, the damper must be installed so it is square and free from racking. Each fire damper should be maintained and tested on a regular basis and in accordance with the latest editions of NFPA 90A and local codes. Care should be exercised to ensure that such tests are performed safely and do not cause system damage.

## VERTICAL INSTALLATION



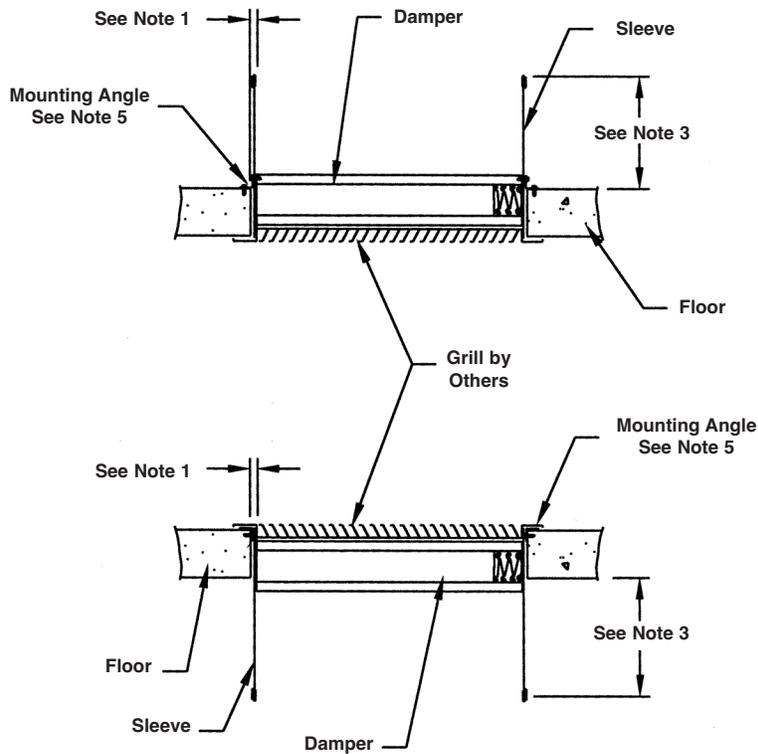
### STEEL STUD or MASONRY WALLS

Mounting angle may be located on top or underneath the wallboard (See note 5).

### WOOD STUD

Mounting angle to be mounted on top of wallboard (See note 5).

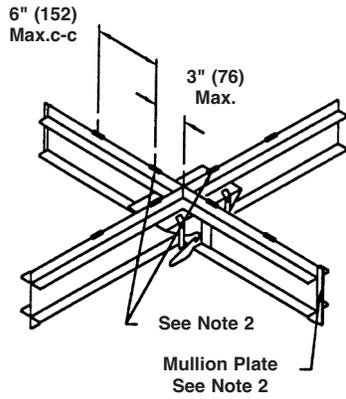
## HORIZONTAL INSTALLATION



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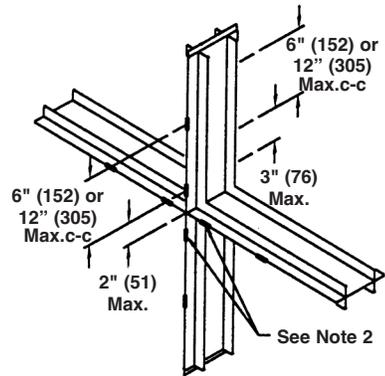
**FASTENER SPACING**

**HORIZONTAL INSTALLATION**



**FIGURE 1**

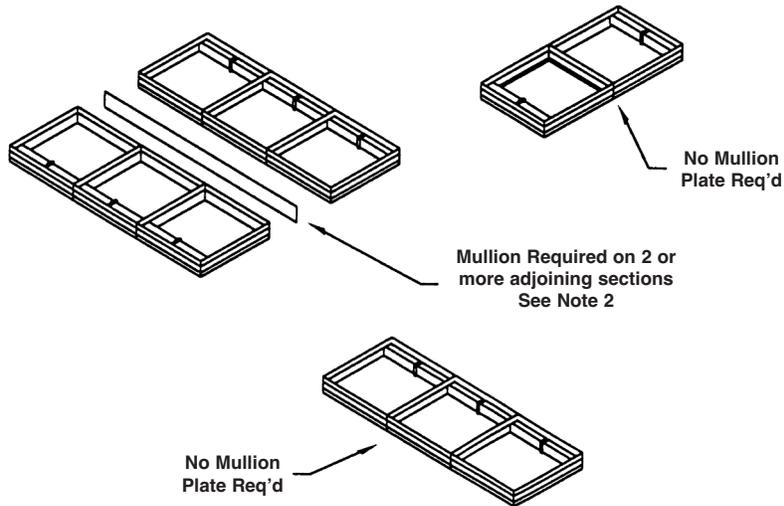
**VERTICAL INSTALLATION**



**FIGURE 2**

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**REINFORCING PLATE**



**FIGURE 3**

## RECOMMENDED FRAMING FOR OPENINGS IN WOOD AND METAL STUD WALLS

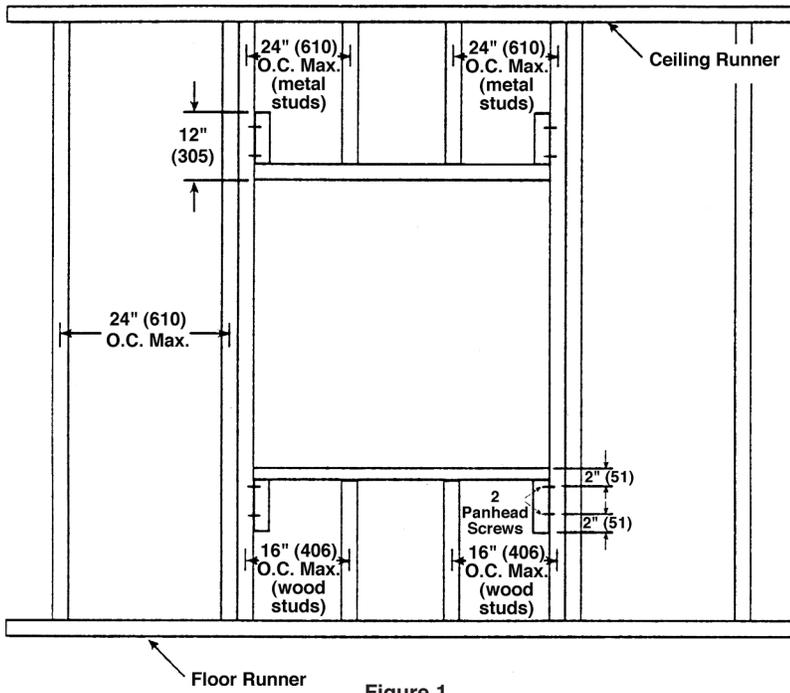


Figure 1

### INSTRUCTIONS

1. Frame wall openings as shown in figure 1 or 2.
2. Double vertical studs are not required for openings 36" w x 36" h (914 x 914) or smaller.
3. All construction and fasteners must meet the requirements of the appropriate wall design and/or local codes.
4. Consult the authority having jurisdiction for other acceptable framing methods.

### NOTE

The Metal Stud Construction and Wood Stud Construction figures at the bottom of the page depict mounting angles installed on both sides of the partition. A single angle may be sufficient. Refer to the instructions for single angle installation requirements.

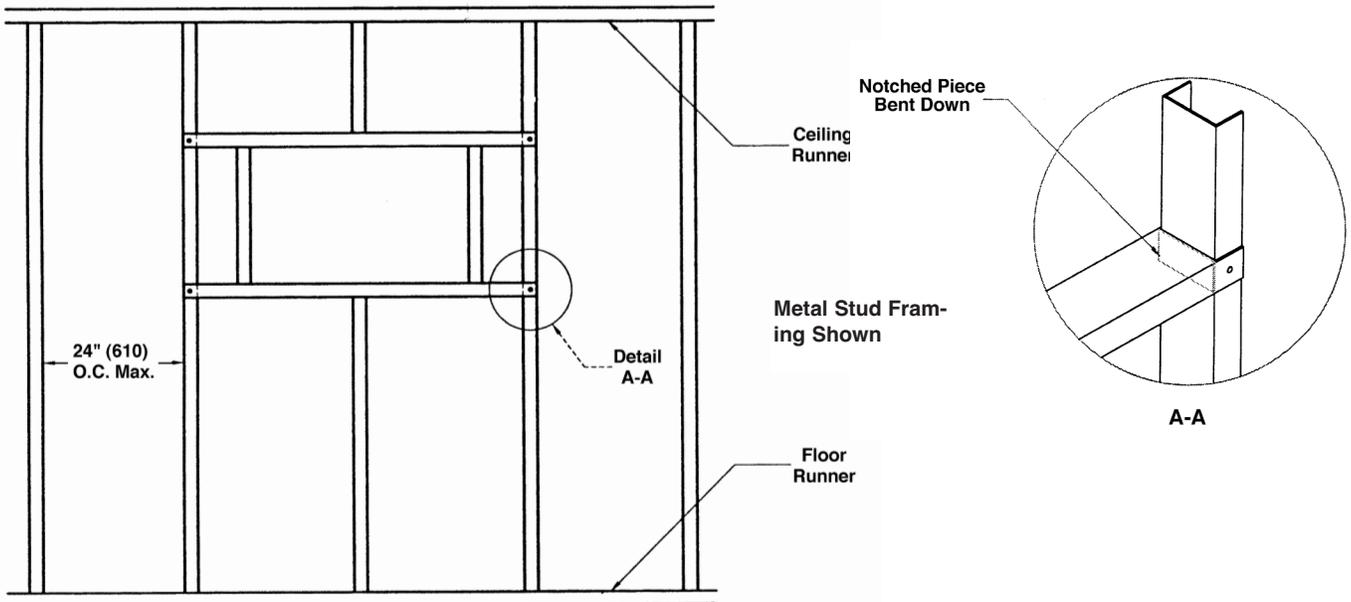
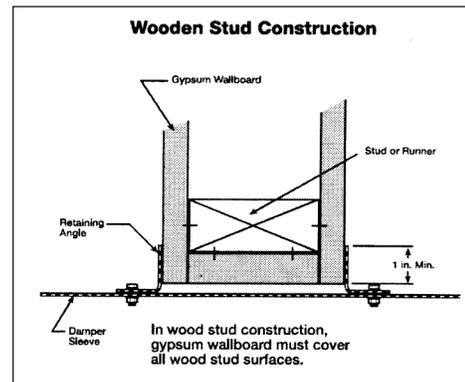
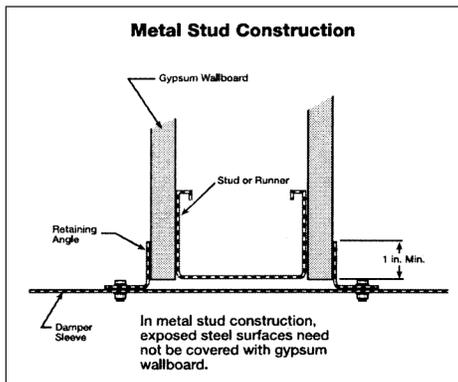


Figure 2





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