

## INSTALLATION INSTRUCTIONS 3 HOUR UL CLASSIFIED CURTAIN TYPE (D)IBD230, (D)IBD430, and (D)IBD630 FIRE DAMPERS WITH INTEGRAL SLEEVES

### APPLICATION

The (D)IBD230, (D)IBD430, and (D)IBD630 fire dampers include sleeves that are an integral part of the damper frame and are approved installation without the need for a supplemental, field-installed sleeve. Select the damper with sufficient length to permit attachment, with perimeter mounting angles, to ductwork to each side of wall or floor opening. The fire damper models shown on this sheet are marked with a 1½ hour fire damper label and are approved for use in fire walls or masonry floors with ratings of less than 3 hours. Static and Dynamic dampers must be installed with leading edge of the closed blades within the wall or floor.

### STATIC FIRE DAMPERS

Not for use in Dynamic (fans on) Systems

#### MODELS IBD230, IBD430, and IBD630 MAXIMUM SIZE

##### Single Section

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

Horizontal Installation – 30"w x 45½"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).

### DYNAMIC FIRE DAMPERS

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

#### MODELS DIBD230, DIBD430, and DIBD630 MAXIMUM SIZE

##### Single Section

Vertical Installation – 33"w x 36"h (838 x 914)

Horizontal Installation – 24"w x 24"h (610 x 610)

##### Multiple Section Assembly

Vertical Installation – 72"w x 48"h (1828 x 1219) or 48"w x 72"h (1219 x 1828) or 90"w x 24"h (2286 x 610)

#### MODELS DIBD230X, DIBD430X, and DIBD630X MAXIMUM SIZE

##### Single Section

Horizontal Installation – 18"w x 24"h (457 x 610) or 24"w x 18" h (610 x 457)

##### Multiple Section Assembly

Horizontal Installation – 36"w x 48"h (914 x 1219) or 48"w x 36"h (1219 x 914)

### 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 instructions supplements for additional information or special requirements:

- Optional Sealant of Dampers in Fire Rated Walls or Floor Openings
- Transfer Openings and Duct Terminations for 1½ Hour and 3 Hour Fire Dampers
- 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 Connections
- Flanged System Breakaway Connections



SEE COMPLETE MARKING  
ON PRODUCT

California State Fire Marshal Listing No. 3225-245:004

## 1. Opening Clearance

The opening in the wall or floor shall be larger than the damper/sleeve assembly to permit installation or expansion. The opening shall be a minimum of 1/8" per foot (3 per 305) larger than the overall size of the damper/sleeve assembly. The maximum opening size shall not exceed 1/8" per foot (3 per 305) plus 2" (51), nor shall the opening be less than 1/4" (6) larger than 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 3 and 4 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)    |                  |
| All 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 1/2" (13) long 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 5.

## 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) wide by 24" (610) 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 a factory installed access door. Sleeve may extend up to 16" (406) beyond the fire wall or partition on sides 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 models for proper damper orientation. For Static IBD models use only "Mount With Arrow Up" label on damper for proper damper orientation. Static and Dynamic dampers must be installed with leading edge of the closed blades within the wall or floor.

## 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) and must be attached only to the sleeve. Mounting angles must overlap the partition a minimum of 1" (25). Do not weld or fasten angles together at corners of dampers. Ruskin fire dampers may be installed using Ruskin PFMA.

### a. Mounting Angle Fasteners

Sleeve: #10 bolts or screws, 3/16" (5) steel rivets or 1/2" (13) long welds.

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

Wood/Steel Stud Wall: #10 screws

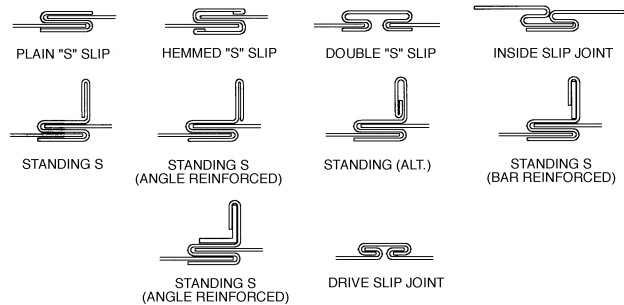
### b. Mounting Angle Fastener Spacing

Fasteners shall be spaced at 8" (203) o.c.

## 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 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 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.

**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

Damper is properly installed when leading edge of closed blade is within the wall.

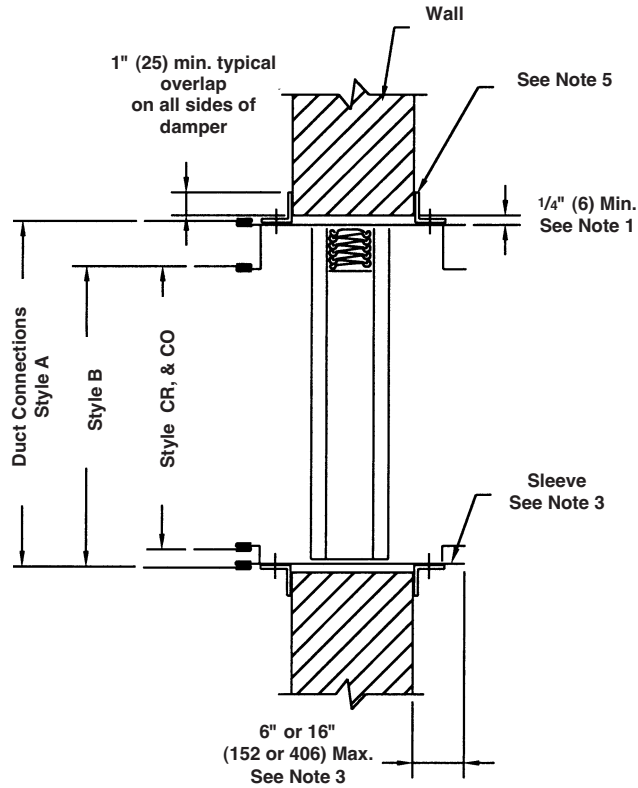


FIGURE 1

### HORIZONTAL INSTALLATION

Damper is properly installed when leading edge of closed blade is within the wall.

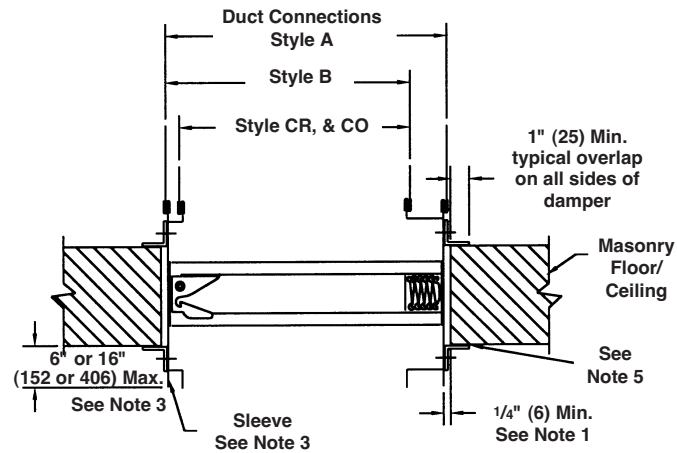
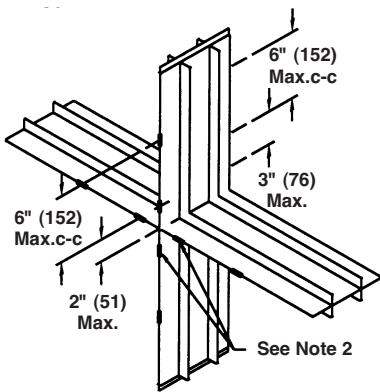


FIGURE 2

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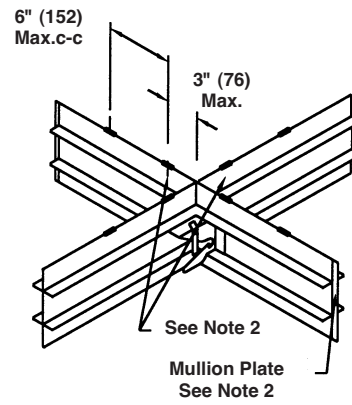
**FASTENER SPACING**

**VERTICAL INSTALLATION**



**FIGURE 3**

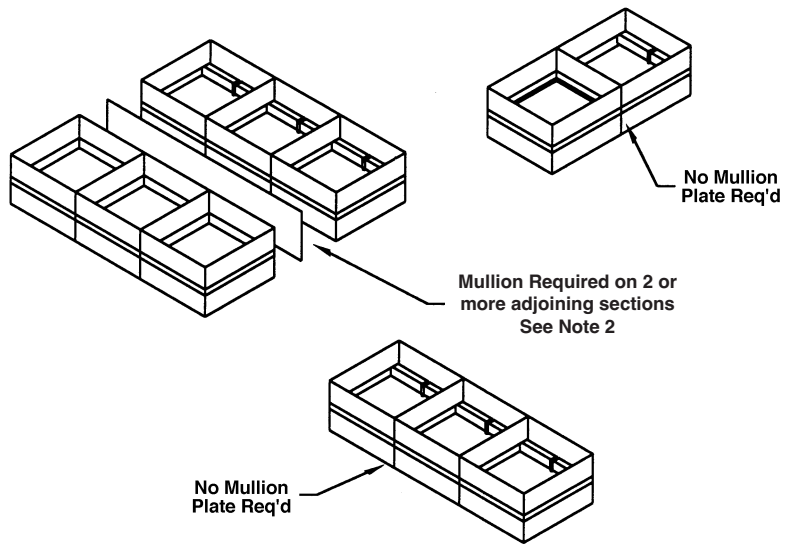
**HORIZONTAL INSTALLATION**



**FIGURE 4**

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**REINFORCING PLATE**



**FIGURE 5**

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

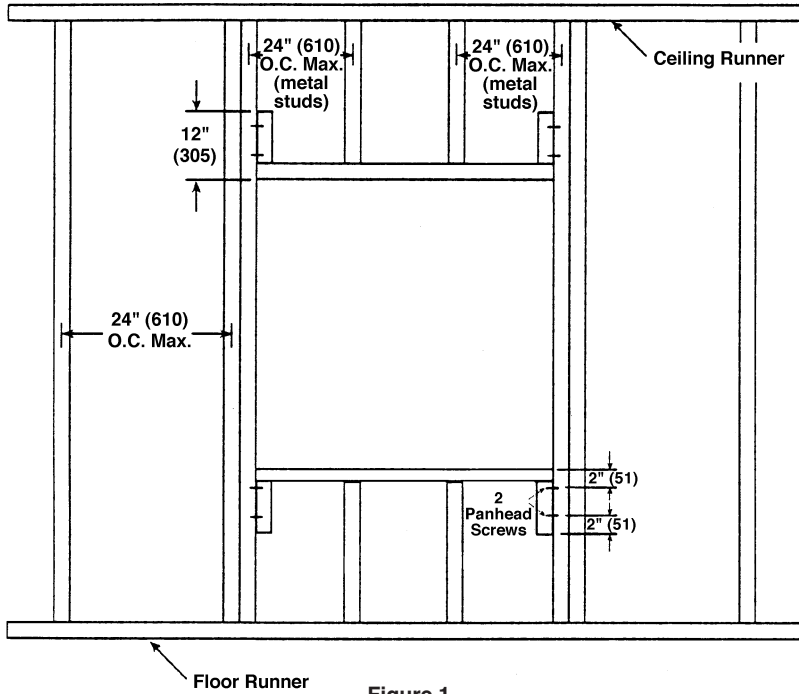


Figure 1

### 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.

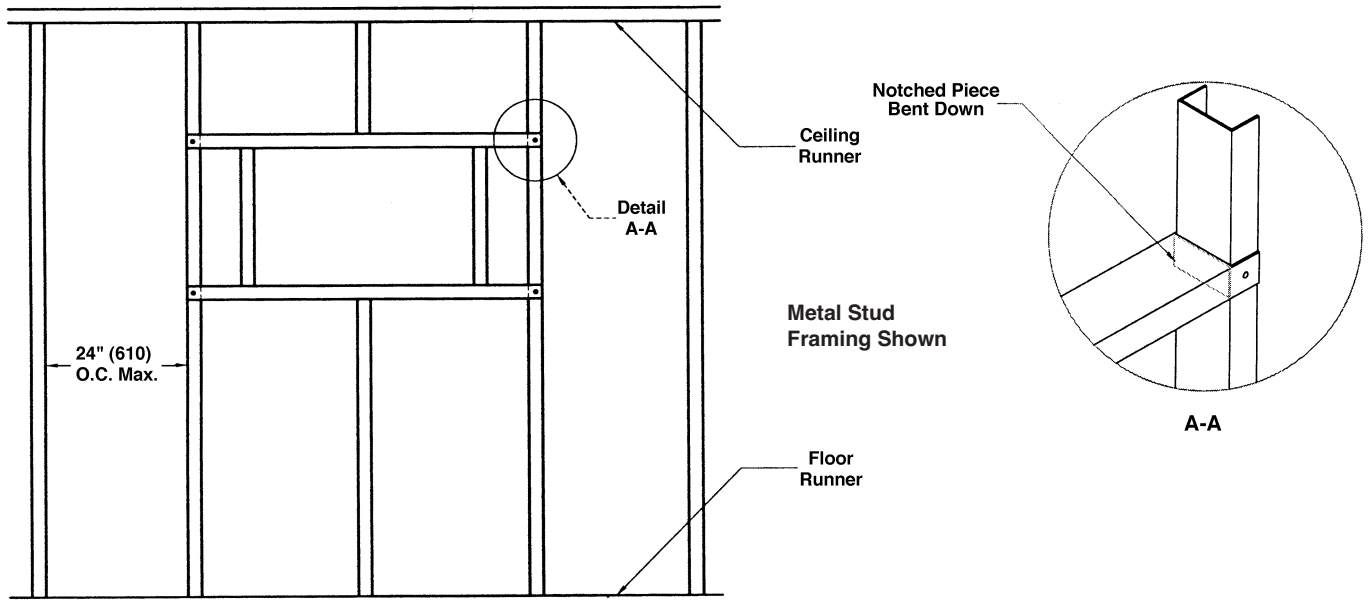
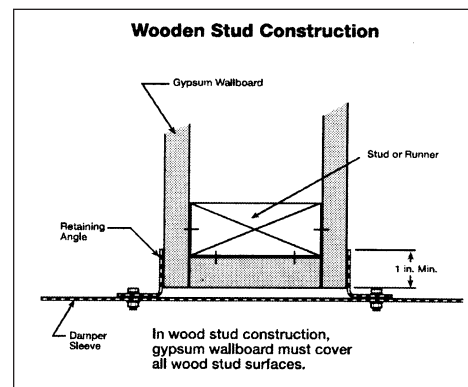
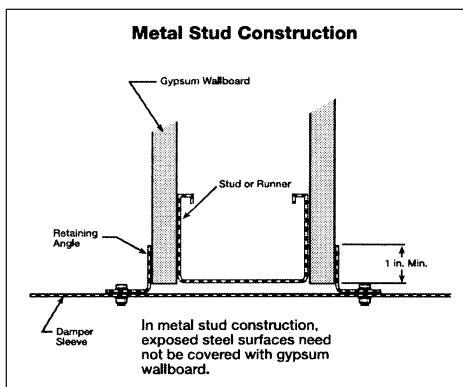


Figure 2



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